THE EFFECT OF NBE BILL ON THE PERFORMANCE OF COMMERCIAL BANKS

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Statement of Declaration

I, Lemma Alemayehu declare that this thesis entitled: *The effect of NBE Bill on the performance of commercial banks* submitted in partial fulfillment of the requirements for the Degree of Master of Science in Accounting and Finance, is the outcome of my work and has not been previously submitted at this or any university and the sources of materials used for the study have been duly acknowledged

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This is to certify that, the thesis is prepared by *Lemma Alemayehu* entitled: *The effect of NBE Bill on the performance of commercial banks* and submitted in partial fulfillment of the requirements for the degree of Master of Science in Accounting and Finance complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Abstract

This study assessed the effect of NBE bill on the performance of commercial banks. To achieve the overall objective, data were collected from annual report of the selected eight commercial banks. To determine the sample commercial banks, the study was used purposive sampling techniques. Accordingly; from sixteen total commercial banks, eight of them were selected, i.e. Four of them from middle peer group and Four of them from small peer groups, considering their establishment years, asset size, capital level, liquidity positions and profitability. As the study was aimed to assess the effect of NBE Bill Purchase on performance of commercial banks, trend analysis was applied. Accordingly, the study compares and contrasts performance of commercial banks based on annual report of each bank before and after the directive. The study also tests the relationship between dependent and independent variables using correlation and linear regression analysis. The result showed that, NBE bills purchase have negative and significant impact on profitability of the studied private commercial banks by reducing interest income. Similarly, purchasing NBE bills had negative and significant impact on liquidity of the studied commercial banks by reducing the liquid asset of the bank. In addition, the pre and post periods comparison revealed liquidity of private commercial banks decreased after requirement of the Bill. Thus, the NBE bills purchase directive has negative impact on almost all performances indicators of the studied commercial banks. Considering the output of the research, widening of income basis, introduction of new products to reach unbanked society, revision of government policy imposed on private banks in terms of tenure and interest rate and further exploration on the long run impact of the requirement is recommended.

Key Words, *NBE bill of Purchase, Profitability, Liquidity*

Acronyms

AfDB	African Development Bank
AIB	Awash Bank
BIB	Berhan International Bank
BIL	NBE Purchasing Bill
CAP	Capital Adequacy
CBE	Commercial Bank of Ethiopia
DB	Dashen Bank
GoE	Government of Ethiopia
GTP	Growth and Transformation Plan
IMF	International Monetary Fund
LG	Loan Growth
LIB	Lion Bank
LIQ	Liquidity
NBE	National Bank of Ethiopia
NIB	Nib International Bank
NIM	Net Interest Margin
OECD	Organization for Economic Co-operation and Development
OIB	Oromia International Bank
ROA	Return on Asset
UB	United Bank
UNDP	United Nations Development Program
WB	Wegagen Bank

CHAPTER ONE

Introduction

1.1 Background of the study

During the GTP I period, Ethiopia has maintained broad based and double digit economic growth with a stable economic environment. Besides, the inflation has remained in single digits for the last five years on account of tighter monetary policy and lower international commodity price. The strong economic growth in the past decade helped to reduce poverty significantly and become the second fastest rate of reduction in Africa. If the country can continue with its historically impressive growth performance, it could potentially reach middle income status by 2025 (World bank, 2015). The banking industry and its growing performance has been one of the major activities which contribute to the development. Financial intermediation is a driving force for economic development. The efficiency and performance of the banking system had been one of the major issues in the monetary and financial environment.

Modern banking in Ethiopia started late in nineteen's, the Ethiopian government established the 'State Bank of Ethiopia' in 1943 which was operating as commercial and central bank until 1963 then it dissolved into today's National Bank of Ethiopia (the central bank, reestablished in 1976) and the Commercial Bank of Ethiopia (CBE). In 1992, the Ethiopian government had allowed the establishment of private banks by private citizens (Tessema, 2003).

The National Bank of Ethiopia was created by order No 30/1963 and reconstituted by the Monetary and Banking Proclamation No 83/1994 as an autonomous organ, which is engaged in the provision of regular banking services to the government and other banks and insurance companies (NBE, 2008).

National Bank issued various proclamations, procedures, directives, manuals and guidelines on how to regulate and supervise the financial system. The various monetary policies which are adapted by national bank will have implications on bank performance. In April 01, 2011 National

Bank of Ethiopia introduced NBE Bill[1] purchase in order to mobilize resource from banks to finance some priority sectors identified as the dynamic forces for overall economic growth (Directive No. MFA/NBEBILLS/001/2011). It mainly purchased by private commercial banks from NBE equivalent to 27% of new loans and advance[2]. The NBE Bill has interest rate of 3% per annum and maturity period of Five years (Directive No. MFA/NBEBILLS/002/2011). This paper evaluates the effect of NBE bill on the performance of commercial banks; in addition, observe different researcher approach about the effects of policy on the performance of banks.

1.2 Statement of the Problem

Banks are like the heart which pumps blood to any economy of a given country (Iyade, 2006). Among the different financial institutions in the country, which includes insurance companies and microfinance institutions, Banks play a prominent role in allocation of resources by acting as intermediaries and also help boost the economy by means of a source funds. Hence the role of the commercial banks in the economy is currently an inimitable.

The resent economic development approach of Ethiopia which is directed towards transforming of agricultural based economy to building industry lead economy, which is calling Growth and Transformation Plan (GTP). The GTP is planned to address the following major development objectives. Which are rapid and equitable economic growth, sustaining agriculture as major source of economic growth, creating conditions for the industry to play key role in the economy, implementing sustainable development projects, (e.g., Grand Ethiopian Renaissance Dam). Therefore, in order to realize those development projects, particularly government planned to obtain financial resources from commercial banks by creating a Bill purchase frame work. This framework was issued by National Bank of Ethiopia (NBE) since April 01, 2011 and implemented by purchase of Bonds equivalent to 27% of new loan disbursement issued at 3% which is lower than the rate of 5% minimum saving deposit rate as per Directive No. MFA/NBEBILLS/001/2011.

According to the National Bank announcement, the NBE bill purchase enables the government to collect more than Birr 45 billion from commercial banks. On one hand, the government regulation

[1] NBE Bill-Mean long-term obligation of the NBE having maturity period of 5 years and sold to all banks (banks refer to All banks operating in Ethiopia except CBE and DBE) (Directive No. MFA/NBEBILLS/002/2011).
[2] Loans and Advance means any financial assets of banks (Directive No. MFA/NBEBILLS/002/2011).

regarding investment on bond (NBE Bills) which amounts to 27% of the loans & advance disbursement, specially the 40% minimum limit on portfolio share of short term loans had primary serious adverse impact to banks' liquidity as it boldly changes liquid asset to illiquid long-term investment (Fola, 2015). On the other hand, the NBE bill purchase is claimed by private banks as it assumed to bring alarming challenges on the activity of commercial banks, through negatively affecting their performance, on profitability level, liquidly positions, net interest incomes and expansion in loan book. Nevertheless, the magnitude is not severe. Instead the bill seems contributed positively to performance via moping the excess liquidity holding of banks or to invest excess funds in earning government securities than the customary practice of holding liquid asset in zero earning accounts at the NBE (Boru, 2014).

In line with the problem the previous studies are limited and the existed some researchers were focused on the general regulatory policy effect on the banks performance, hence the NBE bill purchases effect is not adequately assessed. In addition, based on the preliminary assessment result on the research topics shows the pervious few studies on the Bill purchase effect of banks performance are limited by scope, the period under reviewed and researchers have different arguments (Fola, 2015; Boru, 2014).

In relation to the above problem statement, the study was assessed several published studies conducted in Ethiopia, to reduce similarity of search areas. Accordingly, there were no adequate research's conduct related with the effect of NBE bills on the performance of commercial banks of Ethiopia. However, few studies were tried to conducted such as, Yosef (2016) were assessed several directives of NBE including NBE bill and the finding implied that the pre and post policy periods comparison revealed that a relatively better profitability record for private commercial banks during the time of policy restrictions by way of clearing the excess liquidity holding of banks. Boru (2014) also assessed government bill purchase and the studied finds that exposure to government bills has negative and significant relationship with the performance of private banks. In the same year Kebede (2014) examined the impact of National bank regulation and the result indicated that NBE Bill and Credit cap had negative and statistically significant impact on banks profitability but reserve requirement had negative and insignificant impact on profitability. Those few researchers play their own parts. Even though, assessing and understanding the implication of specific and relevant monetary policy instruments on banks performance and timely address the

issues become important to reduce unforeseen systematic risk (IMF report, 2013, 2014 cited in Lelise, 2015). The previous research time span was too short to conduct the effect of NBE bills on performance of commercial Banks and might lead to a negative conclusion. Therefore, this research paper tried to fill the gap.

1.3 Objective of the Study

1.3.1 General Objective

The general aim of this study is to assess the effects of NBE Bill on the performance of commercial banks in Ethiopia.

1.3.2 Specific Objectives

Specifically, this study intended to address the following objectives;

1. To investigate the effect of NBE bill on the profitability of commercial banks;
2. To examine the effect of NBE Bill Purchase directive on liquidity position of the banks
3. Forward possible recommendation from key findings that would improve the effectiveness of the NBE-bill purchase directive.

1.4 Scope and Limitation of the study

The scope of the study specified in the issues that were addressed, geographic location as well penal data analyzed in time bound. In this regard, the study was focused on assessing the effect of NBE bill on the performance of commercial banks in Ethiopia. The researcher dimension of study was, delimited to selected policy issued with reference to commercial banks; the NBE Bill Purchase Directive. Hence, the scope of this research is limited to the NBE Bills Purchase Directive implications on the performance of commercial banks in Ethiopia. The study was also delimited on eight selected private commercial banks. These are, United, Dashen, Wegagen and Nib Banks selected from medium peer group while, Bunna, Berhan, Lion and Oromia Banks selected from small peer groups, this is because some banks from small peer groups was established less than three years before the date of the NBE bill announcement and excluded from

the study. To be equally assessed the two peer groups, the study also excluded some banks from middle peer groups and also the sample banks are fairly representing their corresponding peer banks positions in terms of asset size, capital level, liquidity positions and profitability.

1.5 Significance of the Study

There are several arguments on the impact of current bill purchase requirement. The regulators argue that there is no or little impact on performance of private banks. While the representatives of private banks including bankers' association were raising their concerns. Therefore, the study tries to empirically examine the effect of this controversial provision on the performance of private banks. Apart from that, the study will help the regulatory bodies by providing insight to examine its policy measures in banking supervision pertaining to private banks. In addition, there is no sufficient research in Ethiopia with the objective of investigating the effect of NBE bill purchase on the profitability and liquidity of private commercial banks in Ethiopia. As a result, this study makes a number of contribution to other researchers as a source of reference and as a stepping stone for those who want to make further study on the area afterwards.

1.6 Organization of the paper

The research paper organized into five chapters. Chapter one presents an introduction, background of the study, a statement of the problem, objectives of the study, research questions, scope and limitation, and significance of the study. Chapter two brings the theoretical and empirical literature review on the banks performance indicator and NBE bills. Chapter three presents Materials and Methodology. Chapter Four includes data analysis and interpretation. Finally, Chapter five presents the conclusions and recommendations.

CHAPTER TWO

Literature Review of the Study

2.1 Introduction

This chapter presents what other scholars have written about the Banks directives and their effect on financial performance. Accordingly, study tried to indicate some of the theoretical and empirical related literatures which defined and elaborates the theories about each dependent and independent variables. In addition, the study also analyzed empirical literature review on the area.

2.1.1 Concept of Commercial Banks Regulation

Harvey (2012) defines regulation as the formulation and issuance by authorized agencies of specific rules or regulations, under governing law, for the conduct and structure of banking. Given inter-connectedness of banking industry and the reliance that the national economy hold on banks, it is important for regulatory agencies to maintain control over the standardized practices of banking institutions.

A central bank, reserve bank, or monetary authority is an institution that manages a state currency, money supply, and interest rates. Central banks also usually oversee the commercial banking system of their respective countries. In contrast to a commercial bank, a central bank possesses a monopoly on increasing the amount of money in the nation, and usually also prints the national currency, which usually serves as the nation's legal tender (IMF, 2014).

The primary function of a central bank is to manage the nation's money supply (monetary policy) through active duties such as managing interest rates, setting the reserve requirement, and acting as a lender of last resort to the banking sector during times of bank insolvency or financial crisis. Modern central banks are normally responsible for monetary control and, in addition, may be involved in prudential regulation and placing government debt on the most favorable terms possible (Shelagh, 2005).

2.1.1.1 Types of Financial Regulations

Financial regulations can be categorized based on their aims and functions. As Williams (1996) outlines, regulations can be classified as structural, prudential and monetary.

Structural Regulation- is regulations that place boundary to commercial banks determining the activity in which they can participate from those they can debarred. For example, licensing of commercial banks and prohibition from engaging in other commercial activities (NBE, 1996).

Prudential Regulation- is part of regulation that emphasizes on the control of systematic risk principally balance sheet constraints such as capital adequacy and permissible bank concentration ratios. For example, NBE set single borrower limit to 25% of the bank paid up capital and reserve (NBE, 2002). Prudential regulation protect consumers of financial services such as investors or depositors and maintain the integrity and stability of financial system (Panagiotis, 2012).

Monetary Regulation- is the process of setting monetary directive designed to bring the desired macroeconomic outcome by focusing on interest rate, credit control and reserve requirement. The monetary regulation has its own impact on deposit taking, and lending activities of commercial banks. For example, 27% NBE bill purchase requirement on each loan disbursed (NBE, 2011).

2.1.1.2 The purpose of financial regulation

Spong (2000) stated that although banks are operated for profit and bankers are free to make many decisions in their daily operations, banking is commonly treated as a matter of public interest. Banking laws and regulations extended to many aspects of banking, including who can open banks, what products can be offered, and how banks can expand. The following sections focus on several of the more commonly accepted goals of bank regulation. Also, because of the potential for conflict among regulatory goals, special attention is given to what banking regulation should not do.

A. Protection of Depositors

The most basic reason for regulation of banking is depositor's protection. Pressure for such regulation arose as the public began making financial transactions through banks, and as businesses and individuals began holding a significant portion of their funds in banks. Bank depositors may have more difficulty protecting their interests than customers of other types of businesses. While depositors could conceivably make general judgments about the condition of banks, the task would still be difficult, costly, and occasionally prone to error. These facts,

especially when combined with the history of depositor losses before federal deposit insurance, explain much of the public pressure for banking regulation to protect depositors (George,2014). Depositors' protection aims preserving the liquidity and safety of deposits, whilst financial stability aims keeping systematic risk under control (Dimond and Dybvig, 1983).

B. Monetary and Financial Stability

Apart from just being concerned about individual depositors, banking regulation must also seek to provide a stable frame work for making payments. With the vast volume of transactions conducted every day by individuals and businesses, a safe and acceptable means of payment is critical to the health of a given economy. As pointed out in Herring and Litan (1995), in some countries central banks under certain conditions guarantee the settlement risk involved in the funds transfer system by bearing of the risk of nonpayment's. In fact, it is hard to envision how a complex economic system could function and avoid serious disruptions if the multitude of daily transactions could not be completed with a high degree of certainty and safety.

C. Efficient and Competitive Financial System

Another aspect of a good banking system is that customers are provided quality services at competitive prices. One of the purposes of bank regulation, therefore, is to create a regulatory framework that encourages efficiency and competition and ensures an adequate level of banking services throughout the economy. The promotion of an efficient and competitive banking system carries a number of implications for regulation. Competition and efficiency depend on the number of banks operating in a market, the freedom of other banks to enter and compete, and the ability of banks to achieve an appropriate size for serving their customers.

D. Consumer Protection

Another goal of banking regulation is to protect consumer interests in various aspects of a banking relationship. The previous regulatory objectives serve to protect consumers in a number of ways, most notably through safeguarding their deposits and promoting competitive banking services. However, there are many other ways consumers are protected in their banking activities. Consumer protection objectives are generally consistent with good banking principles. In fact, credit and deposit disclosures and informed customers should be of most benefit to bankers offering

competitive services. Likewise, equal and nondiscriminatory treatment of borrowers is necessary for any banker aiming to maximize profits.

2.1.2 Concept of Profitability

The concept of profitability is very important for a business or company to ensure that a company can be survive. According to economic theory, profitability is derived from the total revenue minus total cost. Profitability is also known as the net amount of fixed costs and variable costs which derived from sales in which is known as the excess of revenue after deducting the expenses and costs. According Borhan & Towpek (2006), profitability can be defined as revenue or proceeds from an activity, such as companies, businesses and others in excess of capital and all other related expenses.

Profitability is essential for a bank to maintain ongoing activity and for its investors to obtain fair returns; but it is also crucial for supervisors, as it guarantees more resilient solvency ratios, even in the context of a riskier business environment. The main drivers of banks' profit are earnings, efficiency, risk-taking and leverage. Measuring a bank's performance in terms of its capacity to generate a sustainable profit is taken as a good measure because, profitability is a bank's first line of defense against unexpected losses, as it strengthens its capital position and improves future profitability through the investment of retained earnings (Fola,2015).

Bank will use funds collected from depositors and lending to customers by charging a higher interest rate than the rate of interest of depositors. Here the bank will profit the difference between the interest charged to the depositor. This means that the profits generated through interest on loans less interest on deposits (Borhan & Towpek, 2006).

Rasiah (2010) who studied the reviews of the theoretical advantage of commercial banks define profits as the difference between total revenue and total costs. Since the ultimate purpose of any profit-seeking organization is to preserve and create wealth for its owners, the bank's return on equity (ROE) needs to be greater than its cost of equity in order to create shareholder value (European Union bank performance report,2010). Gruening and Bratanovic (2000) believe that profitability is an indicator of a bank's capacity to carry risk and/or to increase its capital. They also think that profitability is a revealing indicator of a bank's competitive position in banking market and quality of its management.

There are various methods used to measure profitability. The term is often used to measure profitability are Return on Assets and Return on Equity. ROA is an indicator of management efficiency. It shows how bank management ability to convert assets to net profit. ROE is a measure of the return flow to the shareholders of the bank. This is important for shareholders of the bank for this amount reflects the gain or loss on their investment.

Profitability based measurement can serve as a more robust and inclusive means to measure the performance by gauging the extent of operational efficiency as well as capturing the nuances of bank's diversifying earnings through non-interest income activities and management of their costs (PWC,2011).

In addition to the use of ROA and ROE as a proxy of profits, use of return on deposits, ROD (return on deposits) and net interest margin, NIM (net interest margin). ROD is the ratio of income resulting from the deposits to total assets. ROD shows the use of funds raised by the bank where showed the ability of banks to use deposits effectively (Azura & Ghafar, 2005). Profit before tax to total assets, BTP / TA (BEFORE tax profit over total assets) reflects the ability of banks to generate profits by diversifying the portfolio (Hassan & Bashir, 2003).

The association of profitability of banking sector and business cycle is important in order to appraise the soundness and steadiness of the banking sector (Albertazzi & Gambacorta, 2009). The study on the determinants of profitability for the banking sector of a country is emphasized by virtue of the fact that the majority of countries have a financial system that is based on banking system.

The size of ROA and ROE as a measure of profitability used is influenced by factors such as capital, loans, deposits and other overhead expenses significantly affect the ROA, while the size factor, equity and spending overhead significantly affect the ROE (Alkasim, 2005).

Profitable in the banking sector is better capable to endure negative distress and adds to the strength of the economic system (Aburime, 2009). A profitable and sound banking sector is in a superior position to endure negative upsets and add to the permanence of the financial system (Athanasoglou, Brissimis & Delis, 2008).

2.1.3 Concept of Liquidity

According Towpek and Borhan (2006), one of the objectives of the establishment of the bank is to maintain liquidity. A bank can be said to be diluted if the banks can meet the obligations to pay back all deposits and loan demand customer without delay occurs (Rindhatmono, 2005).

Liquidity, in general, is defined as a measure of the relative amount of asset in cash or which can be quickly converted into cash without any loss in value available to meet short term liabilities. Bank liquidity, in particular, refers to the ability of the bank to ensure the availability of funds to meet financial Commitments or maturing obligations at a reasonable price at all times. Banks should be liquid enough to satisfy the withdrawal needs of depositors and credit demand of borrowers. It is the bank's ability to immediately meet cash, cheques, other withdrawal obligations and legitimate new loan demand while abiding by existing reserve requirements (Agabada and Osunji, 2013). Managing liquidity risk and market liquidity risk is integral to the role that banks play in maturity transformation, which is in turn, a fundamental aspect of intermediation between savers and borrowers that contributes to the efficient allocation of resources in the economy. If funding liquidity risk and market liquidity risk are not adequately managed, they can lead to severe liquidity spirals. (Tamara and Khan, 2011). Hence, Commercial Banks should check their liquidity position in short time interval as the survival of commercial banks depends greatly on customer's confidence that can easily eroded due to illiquidity (Adeyanju, David, and Oluwayinka 2011).

An important component of the supervision of banking institutions concerns their liquidity position (Goacher, 1999). All banks should be able to meet their obligations when they are due. In order to achieve this, banks must hold cash or other liquid assets and be aware that their value may vary due to fluctuations in market prices. Another approach would be to attempt to match the maturity characteristics of assets with the maturity characteristics of the deposit base, so that there is an appropriate cash flow from maturing assets (Howells and Bain, 1999).

2.1.4 NBE Regulatory Directives

In order to accelerate the economic growth process, the current government of Ethiopia has embarked on a number of reforms to improve the efficiency and competitiveness of the banking sector (Admassu and Asayehgn, 2014). Reform measures undertaken by government to date include addressing the wide-spread problem of non-performing loans experienced by state

owned banks; reconstituting both the Development Bank of Ethiopia and the Construction and Business Bank as Commercial banks; opening up the banking sector to private domestic investment; and introducing a new banking act to give more autonomy to the National Bank of Ethiopia (ibid).

Even though the banking sector has grown somewhat since 1994 when the above stated reform measures were implemented, the banking sector still remains monopolistic, inefficient, and is incapable of improving the intermediation of private saving sectors (Admassu and Asayehgn, 2014). As a consequence, the contribution of the banking system to facilitating the economic growth of Ethiopia is marginal. One of the basic reasons that contribute to immaterial contribution of banking sector to the economic growth is that government's implementation of misguided policies that negatively impact the performances of private banks and weaken them. The NBE bills purchase directive is one of the repressive policies of government issued and implemented so far. The National Bank issued this directive on April 6, 2011 ordering private commercial banks to buy government bond worth of 27 percent of the fresh loan disbursement. This policy set to earn 3 percent interest while deposit rates set by National Bank stands at 5 percent.

The impact of this policy (directive) has been pinpointed on various reports. Access Capital Research report for instance stated that the NBE bills Purchase directive is having an increasingly material impact on private banks Access Capital, 2012). The report stated that looking at the stock of NBE Bills, an equivalent of 38 not just 27 percent as is commonly assumed is now held in the form of such low-yielding government paper. More strikingly, an amount equal to 61 percent of all new private bank deposits mobilized this past year has gone towards buying new NBE Bills Birr 10 billion of new deposits were collected in FY 2011/12 while an extra Birr 6 billion in new NBE Bills was purchased during the same period. Seen differently, although in place for just 16 months, the accumulated stock of NBE Bills bought by private banks (Birr 12.6 billion) has now effectively absorbed the entire pool of new deposits (Birr 10 billion) that was collected by private banks in the just completed fiscal year.

Moreover, IMF (2012) report uncovered the impact of NBE bills purchase directive on private banks by stating that NBE bills purchase directive introduced in April is having tangible impacts on banking sector, including maturity mismatch and less profitability. This implies NBE bills purchase directive has a sizable implication (impact) on the development of private

commercial banks. Thus, this study aims assessing the implications of NBE bills purchase Directive on the performance of commercial banks in Ethiopia.

2.2 Empirical Literature

In this part the study was tried to review several empirical results related with the study area that are conducted whether in Ethiopia or outside of Ethiopia. The following are some of the empirical studies procedures and findings analysis:

Demirguc-Kunt (2004) investigate the impact of bank regulations, market structure, and national institutions on the cost of intermediation as measured by accounting ratios (net interest margin and overhead costs). Information on commercial bank regulations is obtained from Barth et al. (2001; 2003) databases for a sample of 1400 banks operating in 72 countries. The time span considered is 1995 to 1999. Their evidence indicates that tighter regulation on banking services and activities boost the cost of financial intermediation. A result in line with the view that by allowing banks to engage in a broad range of activities one might expect better diversified and more stable banking institutions.

In accordance with foreign bank entry restriction, Claessens and Laeven (2004) suggested that foreign bank entry limitations obstruct competition and is an effective competition restricting instrument. On the other hand, Vives (2011) argues that countries with weak institutional structure should moderate the intensity of competition, which can be done by restrictions of competition.

In similar period James et al. (2001) examines financial regulation and performance of banks across 50 countries. The study examines three questions. First, do countries with relatively weak government/bureaucratic systems impose harsher regulatory restrictions on activities of banks? Second, do countries with more restrictive regulatory systems have poorly functioning banking systems? Third, do countries with more restrictive regulatory systems have a lower probability of suffering a banking crisis? They find that, Countries with weak government/ bureaucratic systems tend to impose harsher regulatory restrictions on the activities of banks. There is mixed evidence regarding the impact of regulatory restrictions on bank performance. Finally, they find that countries that restrict securities market activities tend to have more fragile banking systems.

Besides Klomp and Haan (2011) used quartile regressions to examine the impact of bank regulation and supervision on banking risk. The analysis is based on a sample of 200 banks from 21 OECD countries covering the period 2002-2008. Their findings are supervisory control, capital regulations, and market entry regulations have a significant effect on 'capital and asset risk', while supervisory control and regulations on activity restrictions, private monitoring, and market entry restrictions, have a significant effect on 'liquidity and market risk'. Their most important finding, however, is that the impact of bank regulation and supervision on banking risk is not uniform. Therefore, they suggest that regulation and supervision do not have much effect on low-risk banks, while most of their measures for the various dimensions of bank regulation and supervision do have a highly significant effect on high-risk banks.

Rauch et al. (2009) examines the way in which macroeconomic factors and central bank‘s monetary policy influence the creation of liquidity in German saving banks. They measure the liquidity created and its determination using GMM framework focusing on bank specific factors as well as macroeconomic factors and found that over the period from 1997 to 2006 the total amount of liquidity created in German saving banks increased by 51%. They also found that liquidity creation in German saving banks depend negatively on monetary policy indicators. A tightening of monetary policy induces decrease in liquidity creation. In addition to this the research of Aspachs et al. (2005), proxies monetary policy with short-term interest rate and found it significant in liquidity measures. The outcome obtained negative relationship, signifying when interest rates are high, banks tend to hold less liquid assets and vice versa. Vodova (2013) also declares the same findings. In another research, by Pecaric & Viskovic (2013) analyze the effects of prudential policy on financial stability of post-transition bank-oriented countries using panel data analysis approach.They found that these measures generally reduce the level of non-performing loans, increase the level of profitability, partially affect banking system liquidity.
Yodit (2012) assess the implication of NBE bill purchase on the performance of private commercial banks in Ethiopia using qualitative research method and she concluded that the performances of private banks are affected because of the requirement of NBE bill purchase.

Yoseph (2013) assess the NBE bill purchase policy on commercial banks in Ethiopia at the time before and after the implementation of the study and data from 2007/8-2011/12 of seven banks. The result indicated that NBE bill purchase policy negatively affects liquidity and lending capacity of commercial banks and the impact on profitability is insignificant. Further, in his limitation, as

NBE bill purchase is a recent development the time covered in the model is short and the analysis could have been more thrilling if the time could have been a bit longer.

Tesfaye (2014) in his study finds that exposure to government bills has negative and significant relationship with performance. Nevertheless, the magnitude is not severe. Even the pre and post policy periods comparison revealed a relatively better profitability record for private banks during times of policy restrictions.

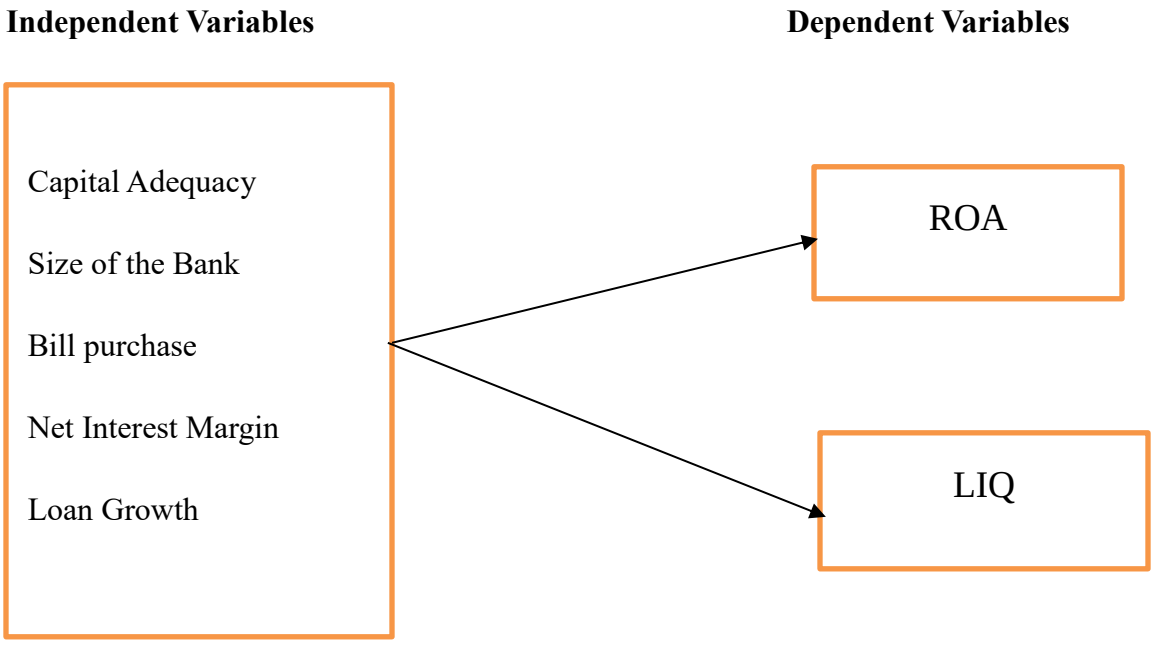
In the same year Eden (2014) examine the impact of NBE regulations on private banks performance through the significant regulatory variables explaining the NBE directives, using bank-specific and macroeconomic variables as control variables. Balanced fixed effect panel regression was used for the data of six private commercial banks in the sample covered the period from 2004 to 2013. The results of panel data regression analysis showed that NBE Bill and Credit cap had negative and statistically significant impact on banks profitability but reserve requirement had negative and insignificant impact on profitability. While measuring banks cost of intermediation through Net Interest Margin three of the regulatory variables (i.e. NBE Bills, Reserve requirement and credit cap) had negative and statistically significant effect on net interest margin.

Lelise (2015) assess the NBE bill purchase directive and credit performance of new entrant Banks. Specifically, the study focused on six banks joining the bank industry the last six years. Descriptive research design was used for the sample banks from 2012-2014. The primary and secondary data were analyzed and presented. The result indicated that the NBE bill directive affects the liquidity position of the new entrant private banks as the bill shows steady growth where as slow pace is exhibited in deposit growth.

2.3 Conceptual Framework

The conceptual framework is developed from the review of literature discussed above and presented in the following Figure (Figure 1). It shows the relationship between the dependent (Return on Asset and Liquidity) and independent variables (Capital Adequacy, Size of the Bank, Bill purchase effect, Net interest Margin and Loan Growth).

Figure 2.1: Relationship between Dependent and Independent Variables



2.4 Conclusions and Knowledge Gap

To understand how well a bank is doing, we always try to measure bank performance by using various ways. Different literature suggested that commercial banks performance can be affected by different factors such as bank specific, macroeconomic and regulatory factors (Dumičić, 2012). Boru (2014) selects appropriate variables on the basis of previous literatures and the thought of the researcher which are Return on Asset (ROA), Net Interest Margin (NIM) and bank liquidity to see the effects of the regulation.

According to theoretical as well as empirical review of literatures, there are different rules and regulations which are imposed on banks activity by regulatory body for the purpose of controlling the economic activity of the countries. National Bank issued various proclamations, procedures, directives, manuals and guidelines on how to regulate and supervise the financial system. The various monetary policies which are adapted by national bank will have implications on bank performance. This study suggests that the national banks regulations, purchasing of NBE bill which is equivalent to 27% of new loan and advance disbursement (Directives No. MFA/NBEBILLS/001/2011) have major effect on the commercial banks performance. Hence, this study focused on some of determinates of bank performances that are Return on Asset (ROA) and Bank Liquidity (LIQ) to see the effects of the regulation.

Even if it is a current issue which have major impact on banking industry there are little research is done. Review most of the empirical studies were done on the area of impact of national bank regulation in general and suggest that additional investigation on specific issues (Kebede, 2014). NBE bill purchase is a recent development the time covered in the model is short and the analysis could have been more thrilling if the time could have been a bit longer (Yoseph, 2013).

An important gap still exists in the empirical literature about the directive is supposed to push commercial banks to purchase more NBE bills worth 27 percent of the loans disbursed. Some researchers were focused on the general regulatory policy effect on the banks performance; hence the NBE bill purchases effect is not adequately assessed. In addition, based on the preliminary assessment result on the research topics shows the pervious few studies on the Bill purchase effect of banks performance are limited by scope and the period under reviewed.

CHAPTER THREE

Research Methodology

This section discusses on the research hypothesis, approach and techniques adopted for the study with the aim of achieving the research objectives. The process of research usually entails problem identification, making hypothetical statements, collecting relevant data and then analyzing the data using the relevant and appropriate statistical tools. This section explains the research design and provides details regarding the population, sample and sampling technique, the research instruments used in collecting data for the study and the data collection and data analysis methods. It also discusses about the model and the components of the model both the dependent and the independent variables.

3.1 Research Design

The study used descriptive and explanatory research. As the study deal on the effect of NBE Bill of Purchase Regulatory on commercial banks performance, it is necessary describing performance of commercial banks using banks profitability and liquidity and other explanatory variables such as, capital adequacy, bank size effect, bill purchase effect, net interest margin and loan growth effect by comparing commercial banks performance after the directive and before the directive. Therefore, to describe commercial banks performance the study prefers to use descriptive research design on one hand, and on the other hand as the objective of the study reveals, the very purpose of this research also to find out the relationship between regulatory measures and the performance of private commercial banks. For this reason, the research also used explanatory research design to test the cause – effect relationship between dependent and independent variables.

3.2 Source and Method of Data Collection

In order to carry out any research activity information should be gathered from proper sources. Consistent and reliable research indicates that research conducted by using appropriate data collection instruments increase the credibility and value of research findings (Koul, 2006). The sources of data for this research are secondary sources. Bank specific data were collected from audited financial

statements (i.e. Balance Sheet and Profit & Loss Statement) of each selected commercial banks from NBE. The data were collected from 2008 to 2016.

3.3 Population and Sampling Technique

In this research, the target population is the banking sector in Ethiopia. Ethiopia consists of 18 Commercial banks. Commercial Bank of Ethiopia (CBE), Development Bank of Ethiopia(DBE)), Dashen Bank S.C (DB), Awash Bank S.C (AIB), Wogagen Bank S.C (WB), United Bank S.C (UB), Nib International Bank S.C (NIB), Bank of Abyssinia S.C (BOA), Lion International Bank S.C (LIB), Cooperative Bank of Oromia S.C (CBO), Berhan International Bank S.C (BIB), Buna International Bank S.C (BUIB), Oromia International Bank S.C (OIB), Zemen Bank S.C (ZB), Abay Bank (AB), Addis International Bank (ADIB), Debub Global Bank (DGB) and Enat Bank (EB).

Commercial Banks of Ethiopia categorized into three peer groups. It is based on the establishment period and asset sizes of the banks. A large bank is the first category, there is only one banks is Commercial Bank of Ethiopia (CBE), The second peer group is middle banks, under this category there is six medium banks which are Awash, Dashen, Abyssinia, Wegagen, United and Nib Banks. The final peer group is small banks; this group is relatively small in asset size, which is Cooperative Bank of Oromia, Oromia International, Lion, Zemen, Bunna, Berhan, Abay, Addis, Enate and Debub Global Banks. As the study took place on NBE bill Regulation effect the study exclude CBE from the sample so that, the study only consider private commercial banks, accordingly, from sixteen total private commercial banks eight of them were selected based on their experience (establishment years), accordingly, United, Dashen, Wegagen and Nib Banks selected from medium peer group while, Bunna, Birhan, Lion and Oromia Banks considered from small peer groups, this is because some banks from small peer groups was established less than three years before the date of the NBE bill announcement and excluded from the study. To be equally assessed the two peer groups, the study also excluded some banks from middle peer groups and also the sample banks are fairly representing their corresponding peer banks positions in terms of asset size, capital level, liquidity positions and profitability.

3.4 Methods of Data Analysis

After the data were collected, it was organized and financial ratios were computed for each bank specific variables. And then, the next step was analyzing and interpreting them accordingly to achieve the stated objectives. In this study two type of statistical analysis were used. These are descriptive statistics and inferential statistics/multiple regression analysis to see the effect (relationship) of explanatory or independent variables on the dependent variable. The descriptive statistics of both dependent and independent variables were calculated over the sampled periods. This helps to convert the raw data in to a more meaning full form which enables the researcher to understand the ideas clearly. And then interpret with statistical description including standard deviation, mean, and minimum & maximum. Then, correlation analyses between dependent and independent variables were made and finally a multiple linear regression analysis was used to determine the relative importance of each independent variable in influencing performance of the studied commercial banks.

3.5 Variable Definition & Hypotheses of the Study

According to Creswell (2009), the variables need to be specified in quantitative researches so that it is clear to readers what groups are receiving the experimental treatment and what outcomes are being measured. Accordingly, the study identified both dependent and independent variables. Below the definition of the dependent and independent variables discussed.

3.5.1 Dependent Variables

Bank performance is the dependent variable. In the context of this study, bank performance is Measured by profitability and liquidity.

Return on Asset (ROA)

The ROA reflects the ability of a bank's management to generate profits from the bank's assets. It shows the profits earned per birr of assets and indicates how effectively the bank's assets are managed to generate revenues. This is probably the most important single ratio in comparing the efficiency and operating performance of banks as it indicates the returns generated from the assets that bank owns (Getahun, 2015). There are different accounting based measures for bank profitability. For instance, Return on Equity (ROE), Return on Assets (ROA), the Return on

Equity (ROE) Profit Earning Ratio (PER) and Net Interest Margin (NIM). In this study ROA used to measure profitability of the studied banks.

Bank Liquidity

Effective liquidity management seeks to ensure that, even under adverse conditions, a bank will have access to the funds necessary to fulfill customer needs, maturing liabilities and capital requirements for operational purposes. Without the required liquidity and funding to meet short-term obligations, a bank may fail. For the purpose of this research, liquidity positions of private commercial banks are used as a measure of bank performance. And hence, the following liquidity ratio was used;

The liquidity ratio should give us information about the general liquidity shock absorption capacity of the bank. As a general rule, the higher the total loan in the banks deposit the lower the banks capacity to absorb liquidity shock, given that market liquidity is the same for all banks in the sample. Nevertheless, lower value of this ratio may also be interpreted as inefficiency; since liquid asset yield lower income liquidity bears higher opportunity cost for the bank. It is necessary to optimize the relation between liquidity and profitability.

3.5.2 Independent Variables

This section describes the independent variables that determine the dependent variables under the study. The following are the dependent variables that the study focused on.

Capital Adequacy (CPA): Banks performance can be measured by a preditor variables such as, capital is the amount of own fund available to support the bank's business and act as a buffer in case of adverse situation (Athanasoglou et al. 2005). Capital of a bank includes paid up capital, undistributed profit (retained earnings), legal reserve or other reserves and surplus fund which are kept aside for contingencies. Regulators in most countries define and monitor CAP to protect depositors, thereby maintaining confidence in the banking system. Various literatures, for example Kopecky and Van Hoose (2005); Thakor (1996); Santos (2001) argued that productivity can also be influenced through the impact of capital requirements on the liability side of banks' balance sheets. This is based on the fact that deposits and equity may be alternative sources of funds for banks. However, because capital is more expensive than deposits, banks will generally choose to operate with the

minimum capital level specified by regulators. Nevertheless, banks may be forced to substitute equity for deposits and issue new equity to meet capital adequacy requirements. Indeed, Santos (2001) in his research findings the case of Switzerland points out that even though an increase in capital standards may improve bank stability, it may not be desirable since it decreases deposits. Obviously, this decrease in the level of deposits can have an impact on productivity

Loan Growth of the Bank (LG): According to NBE directive No. SBB/43/2008, loans & advances means any financial asset of a bank arising from a direct or indirect advances fund by a bank to a person that is conditioned on the obligation of the person to repay the fund on a specified date or on demand with interest. Loans & advances are the major earning asset of the bank. Loans & advances are granted to customer from the amount collected from depositors of the bank. In this regard, when banks transform short term deposits to long term loans, which have a maturity mismatch, they will be vulnerable to liquidity problem**.** Therefore, the increase in loan means increase in illiquid assets and decrease in short term/liquid assets. As it was discussed in the literature review part, it is expected that, there is a negative relationship between bank loan growth and liquidity. For this study loan growth is measured by the annual growth rate of outstanding gross loans & advances of the bank.

Size of the Bank (SIZE): The bank's total asset is another bank specific variable that affects the profitability and liquidity of a bank. Bank size measures its general capacity to undertake its intermediary function. There are two opposing arguments regarding to the relationship between bank liquidity and bank size. The first view is the “too big to fail” hypothesis which considers negative relationship between bank size and liquidity whereas; the second view considers there is a positive relationship between bank size and liquidity (LAŠTŮVKOVÁ, 2016). In this study, bank size is measured by the natural logarithm of total asset of the bank and it is expected positive relationship between bank size and liquidity.

Net Interest Margin (NIM): Bank performance also can be measured by net interest margin (NIM), the net interest income (the difference between interest income and interest expenses) as a percentage of total assets. As referred by Dumicic, Claeys and Vander Vennet, (2008) higher net interest margins usually imply lower banking sector efficiency, marked by higher costs due to inefficient control of operating expenses, and have a negative impact on financial developments, resulting with lower investments and slower economic activity. They might also reflect a high risk

signal due to inappropriate regulation of the banking sector or a significant information asymmetry. In Schweiger and Liebeg, (2009) lower net interest margins usually mark deeper and more developed financial markets, encourage investment activities and support economic growth

NBE bill (BIL): The NBE bills purchase directive is one of the repressive policies of government issued and implemented so far. The National Bank issued this directive on April 6, 2011 ordering private commercial banks to buy government bond worth of 27 percent of the fresh loan disbursement. This policy set to earn 3 percent interest while deposit rates set by National Bank stands at 5 percent. As much as the study concern is to analyze the effect of the NBE bill directive on the financial performance of the commercial banks the directive taken as determent factors that affect profitability and liquidity position of the studied banks.

3.6 Model Specification

The model is used to show the effect of NBE bill purchase on the performance of commercial banks with the profitability measure of Return on Asset (ROA) and Liquidity (LIQ).

3.6.1 Model used to show the relationship between ROA and NBE bill purchase

The model presented below was used by Tesfaye (2014) to examine the impact of policy measure (government bill purchase requirement) on the performance of Ethiopian private Banks using panel data from 2007 to 2013.

$$\mathbf{Perf_{it} = \beta_i + \beta 1\ Bill + \beta_k \sum X_{it} + Bz\ DUM + \varepsilon_{it}}$$

Where $Prof_{it}$ is the dependent variable explaining performance of bank i at time t, with i=

1….N; t=1…T, β_i is a constant term, X_{it} are k explanatory variables and ε_{it} is the disturbance term. A Dummy variable is added to the model to classify the periods in to two: before and after the bill purchase policy. A variable 1 is assigned to represent the period after the bill purchase requirement, and 0, otherwise. The theoretical econometric model can be expressed incorporating the identified variables as follows:

$$ROA_i = (b_0 + b_1\ CAP + b_2\ SIZE_{i2} + b_3\ BIL_{i3} + b_4\ IRM_{i4} + b_5\ LG_{i5}) + \varepsilon_i \ldots\ldots\ldots\ldots\ldots (1)$$

Where

CAPit: *is capital adequacy ratio of* i_{th} *bank on the year "t"*

SIZEit: *is the size of* i_{th} *bank on the year "t"*

$\boldsymbol{BIL_{i,T}}$ *Measures the exposure level to government bill which will be Used to finance mega projects like the millennium dam of* i^{th} *Bank at time t the proxy is log of total NBE bill*

IRMit: *is interest rate margin of* i_{th} *bank on the year "t*

LGit: *is the loan growth rate of* i_{th} *bank on the year "t".*

3.6.2 Model used to show the relationship between liquidity and NBE bill purchase

The model presented below used by Timbergen (1956), Aneke (1999) and Rauch et.al (2010).is a panel data that determine liquidity factors of commercial banks in Nigeria and Malaysia.

$$y_{i,t} = \beta_0 + \sum_{i-1} \beta_i X_{i,t} + u_{i,t} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where;

$Y_{i,t}$= The measure of liquidity which is the ratio of total loan and advance to deposit

βo= The intercept of the equation.

β_i= The change co-efficient for X_{it}variables.

$X_{i,t}$ is vector of explanatory variables for bank *i* in time *t*,.

i = the number of the independent variable which will measure the liquidity banks within the period under review i.e., i = 1, 2, 3, … n (in this study n=6)

t = The time period i.e. t = 1, 2, 3, ….t (in this study t=8 years).

The above general least square equation with specified variables will form equation (2) thus

$$LIQ = b_0 + b_1\ CAP + b_2\ SIZE_{i2} + b_3\ BIL_{i3} + b_4\ IRM_{i4} + b_5\ LG_{i5}) + \varepsilon_i \ldots\ldots\ldots\ldots\ldots\ldots (2)$$

CHAPTER FOUR

Data Analysis and Interpretation

This core chapter deals with the discussion and analysis of data collected from the sampled banks annual publications of the national bank of Ethiopia (NBE) and each commercial banks audited annual reports. The audited financial statements of the banks over the study period has been obtained from National Bank of Ethiopia, (which is responsible for maintaining the audited financial statements of all banks operating in the country and regulate their operating activities), the country's central bank. Basically, the balance sheet and income statements were the main sources of the relevant data to address the stated objectives of the study. Based on this, the study was analyzed in two major sections. The first section describes the effect of NBE bill on financial performance of commercial bank and the second section was presented the correlation and regression analysis to determine cause effect relationship between dependent and independent variables.

4.1 The Description of NBE bills Purchase Directive

NBE bills purchase directive is a regulatory policy issued by National Bank of Ethiopia in April 2011. The directive requires private banks to purchase NBE bills equivalent to 27% of any new disbursements. The bills have annual interest rate of 3% and maturity period of five years. According to the report NBE (2012) the directive's main Objective was to get adequate funds for priority sectors' project to bring about sustainable economic development. However, prominent officials from private banks sectors complaining the directive; this is because it influences their profitability. Therefore, the main objective of study is to see the effect of NBE bill on performance of commercial banks by assessing the determinant variables that were hypothesized in the previous section.

4.1.1 NBE bills Purchase trend of Private commercial banks (2011 - 2016)

Starting the directive of NBE bill 2011, private commercial banks purchase 27% their new loan disbursement. Since 2011 to 2016 private banks purchase the bill according to their wealth. Accordingly, the study was assessed trends of private commercial banks bill purchasing practice

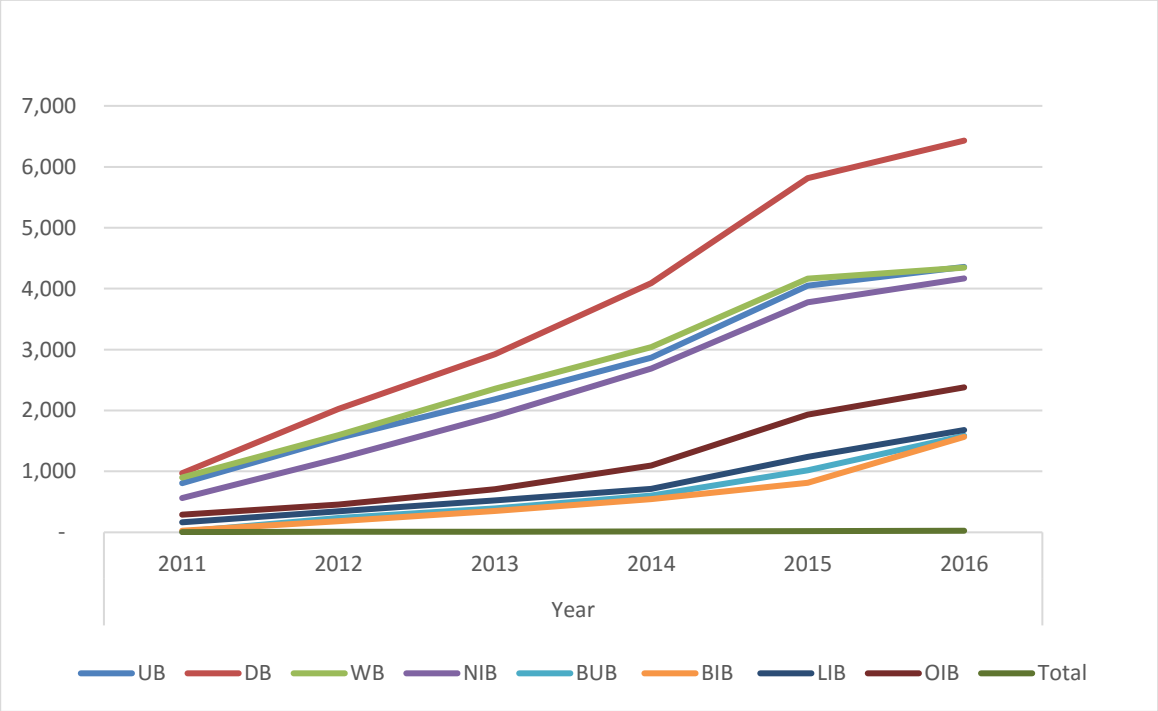
in the past six years. The following table unveiled the amount of NBE bills purchased by private commercial banks (volume of loanable fund reduced) during the last six fiscal years.

Table 4.1: NBE bills Purchase amount of Private commercial banks in millions of birr

Bank	Year					
	2011	**2012**	**2013**	**2014**	**2015**	**2016**
UB	807	1,546	2,185	2,867	4,051	4,357
DB	971	2,025	2,923	4,090	5,812	6,430
WB	900	1,597	2,359	3,040	4,163	4,345
NIB	563	1,211	1,911	2,686	3,775	4,168
BUB	11	236	393	605	1,019	1,586
BIB	27	182	349	547	814	1,567
LIB	165	347	523	716	1,237	1,679
OIB	290	457	708	1,095	1,932	2,380
Total	**3.7 billion**	***7.6 billion***	***11.4 billion***	***14.9 billion***	***21.7 billion***	***26.1 billion***

Sources Each Banks Annual report (2018)

Chart 4.1: NBE bills Purchase amount of Private commercial banks in millions of birr



As portrayed in the above Table, private commercial banks purchased NBE bills increasing from time to time in which it was birr 3.7 billion in 2011 while, 7.6 billion in 2012 in this time the growth rate were high which is around 104%, however the latter consecutive years from 2013 –

2016 the average purchasing rate growth seems slow such as, in 2013 (11.4 billion - 49%), 2014 (14.9 billion - 31%), 2015 (21.7 Billion – 46%) and 2016 (26.1 billion – 20%); the trend indicate that the amount of Loanable fund, which is directly reduced from the loans and advance accounts of the private commercial banks during these respective years. This clearly indicates that private commercial banks' Loanable fund volumes have been reduced by considerable amount which, in turn, have direct chained implications on interest income.

4.1.2 The Effect of NBE bills Purchase Directive on income of Commercial Banks

The NBE bills purchase directive have a negative foremost effect on the income of private commercial banks by reducing private banks' interest income, market share income as well as reducing their overall income. Regarding the effect of NBE Bill Purchase and its effect on income status of the studied commercial banks the study was compute six years' income status from annual report of each of the studied banks as follow:

Table 4.2: Interest income foregone because of purchasing NBE bills in millions of birr

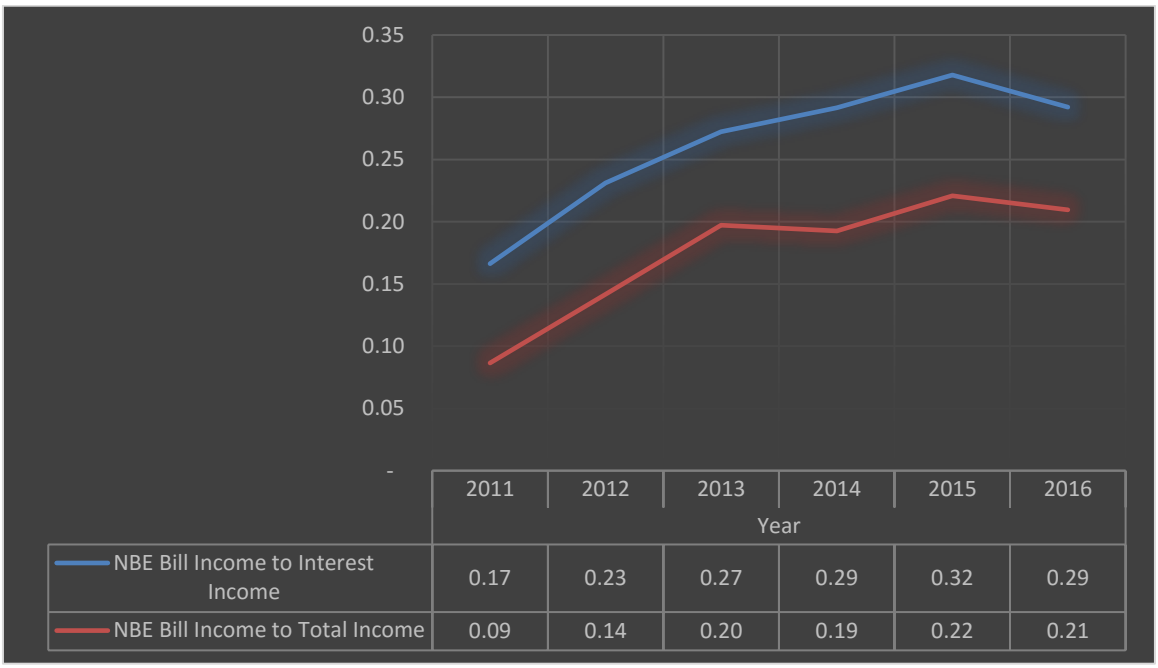
Bank	Interest income loss of the banks After the directive of the Bill (in million)					
	2011	2012	2013	2014	2015	2016
UB	64.56	123.68	174.80	229.36	324.08	348.56
DB	77.68	162.00	233.84	327.20	464.96	514.40
WB	72.00	127.76	188.72	243.20	333.04	347.60
NIB	45.04	96.88	152.88	152.88	214.08	302.00
BUB	0.88	18.88	31.44	48.40	81.52	126.88
BIB	2.16	14.56	27.92	43.76	65.12	125.36
LB	13.20	27.76	41.84	57.28	98.96	134.32
OIB	23.20	36.56	56.64	87.60	154.56	190.40
Total	***298.72***	***608.08***	***908.08***	***1,189.68***	***1,737.12***	***2,089.52***

Sources each banks annual report and own computation

As implied from the above table the commercial banks income regarding interest reduced consecutively from 2011 to 2016, this is because due to NBE bills purchase. The studied banks lost interest income amounted to be birr 298.72 million in 2011 which was 9% of the total income of the studied banks, consecutively the banks lost Birr 608.08 million in 2012 (14%) of the total income, Birr 908.08 million in 2013 (20% of the total income), Birr 1,189.68 billion in 2014 (19% of the total income), Birr 1,737.12 billion in 2015 (22% of

the total income) and birr 2,089.52 billion in 2016 (21% of the total income). As implied the banks loss of interest constantly increase throughout the years. Generally, between the last six years the studied commercial banks loss income interest birr 6.83 billion. This clearly indicates that, NBE bills purchase directive have a sizable negative impact on income of private commercial banks via diminishing their interest income which is the basic reason the very existence of banking businesses. The following graph illustrates the percentage share of income lost by private commercial banks from year to year because purchase of NBE bills.

Chart 4.2: Share of income lost by private commercial banks because of purchase of NBE bills



Source: Private Banks Annual reports of 2011 – 2016 and Own Computation

One of the reason that the banks loss considerable amount of income due to NBE bill purchase is that, the NBE bills price is very low (3% per annum) compared to market price of Loans (around 11% on average) so that private banks are losing considerable amount of interest income. This has, direct effect on interest, overall income and market share of income in the banking industry. Based on this it can be inferred that NBE bills purchase directive reduced the interest income of commercial banks. Based on the income interest trends of commercial banks the study tried compare and contrast income interest of the studied banks before and after the Bill purchasing.

Table 4.3: Average growth rate of private banks income before and after the directive

Banks	*Average growth rate of loan interest income Before the directive (2008 - 2010)*	*Average growth rate of loan interest income after the directive(2011-2016*	*Average growth rate change*
UB	0.32	0.23	(0.09)
DB	0.32	0.29	(0.03)
WB	0.19	0.17	(0.02)
NIB	0.21	0.10	(0.09)
BUB	0.26	0.12	(0.14)
BIB	0.38	0.19	(0.19)
LIB	0.84	0.81	(0.03)
OIB	0.67	0.55	(0.12)
Average	***0.39***	***0.23***	***(0.16)***

Source: Annual Report of each banks and own calculation

As implied in the above table the growth rate of income of private commercial banks demonstrated lesser growth rate after the endorsement of the directive when compared with previous years (before the directive implementation). The growth rate of the interest before the endorsement of the directive was 3.9% on average per annum, however, the growth rate was decreased after the endorsement of the directive which went down to 2.3% after the directive enactment showing 1.6 % declines.

4.1.3 The Effect of NBE bills on Liquidity Position of the studied banks

Below the table implied that, The NBE bills purchase directive has negative impact on the liquidity position of the studied commercial banks by reducing the liquid asset of the banks to repay their liability. Regarding liquidity position of the studied banks attempts had tried to compare and contrast Loan to Deposit ratio of the studied banks before and after the endorsement of the directives. Below the table implied the liquidity ratio before and after the directives.

Table 4.4: Average liquidity ratio before and after NBE bills purchase directive

Banks	*Average growth rate of Liquidity ratio before the directive(2008- 2010)*	*Average growth rate of liquidity after the directive(2011-2016)*	*Average growth rate change*
UB	0.61	0.93	0.32
DB	0.59	0.81	0.22
WB	0.65	0.95	0.30
NIB	0.72	0.94	0.22
BUB	0.80	0.87	0.07
BIB	0.64	0.76	0.11
LB	0.62	0.88	0.25
OIB	0.52	0.71	0.19
Average	***0.60***	***0.86***	***0.21***

Source: Private commercial banks annual reports and Own computation

The studied banks was computed using Loan/Deposit ratio before the directive enactment (2008-2010) and Loan+NBE Bill/Deposit ratio after the directive enactment (2011-2016).to show how well the bank able to pay its debt it better to include NBE bill for liquidity computation. As implied from the above table, liquidity ratio of the studied banks after the directive enactment was higher than before the directive enactment; and that reflect the reduction of liquid asset of banks to repay its liability. It was 60%, on average before the enactment of the directive and 86% on average after the enactment of the directive. As implied by the average difference rates the banks liquidity position comparatively reduced by 21% in the past six years. From the result it can be understood that NBE bills purchase directive has adverse implication on liquidity of private commercial banks via reducing their liquid asset that they used for repayment their liability.

4.2 Correlation Analysis

To find out the effect of NBE purchasing on the performance of commercial banks the study analyzed the dependent and independent variables using, Pearson correlation coefficient (r) were applied that measures the strength and direction of a linear relationship between two variables. Values of Pearson's correlation coefficient are always between -1 and +1. A correlation coefficient of +1 indicates that two variables are perfectly related in a positive sense; a correlation coefficient of -1 indicates that two variables are perfectly related in a negative sense, and a correlation coefficient of 0 indicates that there is no linear relationship between the two variables. A low correlation coefficient; 0.1 - 0.29 suggests that the relationship between two items is weak or non-existent. If r is between 0.3 and 0.49 the relationship is moderate. A high correlation coefficient i.e. >0.5 indicates a strong relationship between variables. The direction of the dependent variable's change depends on the sign of the coefficient. If the coefficient is a positive number, then the dependent variable will move in the same direction as the independent variable; if the coefficient is negative, then the dependent variable will move in the opposite direction of the independent variable. Generally, in this section the correlation between performance measures; return on asset (ROA) and liquidity (LIQ) with explanatory variables; Capital adequacy, bank size, NBE bills, net interest margin and loan growth have been presented and analyzed. A correlation matrix is used to ensure the correlation between explanatory variables.

4.2.1 Correlation analysis ROA

The ROA reflects the ability of a bank's management to generate profits from the bank's assets and this profitability measure is correlated with other explanatory variables either positively or negatively. In table 10 below, the correlation analysis was undertaken between profitability measures; return on asset (ROA) and explanatory variables such as, Capital Adequacy (CPA), Size (SIZE), NBE bills (BIL), Net Interest Income (NIM) and Loan growth (LG).

As it can be seen from the table, there was a negative correlation between return on asset and NBE Bills. This means that when amount of NBE bills purchase increase, the ROA will decreases.

Table 4.5: Correlation Matrix of ROA

Dependent	Independent					
	ROA	**CAP**	**SIZE**	**BIL**	**NIM**	**LG**
ROA	1					
CAP	0.614	1				
SIZE	0.647	0.271	1			
BIL	-0.791	0.381	0.713	1		
NIM	0.723	0.437	0.023	-0.471	1	
LG	0.613	0.311	0.021	0.512	0.631	**1**

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Source: SPSS output from private banks financial statements

The result of correlation coefficient shows that the bank's Profitability negatively and highly affected by BIL (NBE bill purchase) at -0.791. However, NIM (Net Interest Margin) at 0.723, followed by Size of the banks at 0.647, CAP (Capital Adequacy) at 0.614 and LG (loan Growth) at 0.613 are statistically significant and positively correlated with ROA. The correlation between the dependent and independent variables implies that, change made in one of the independent variables can change organization performance and profitability efficiency. Thus from this result the study confirmed that, all of the independent variables significantly affect financial performance of the studied banks as expected.

4.2.2. Correlation analysis LIQ

The correlation analysis is undertaken between dependent variable Liquidity (LIQ) and explanatory variables such as, Bank Size (SIZE), Capital Adequacy (CPA), NBE bills (BIL), Net Interest Margin (NIM) and Loans growth (LG). Liquidity is measured by the ratio of loan to deposit. Hence, the results have to be interpreted in reverse: positive sign of the coefficient means negative linear relationship with liquidity and conversely.

Table 4.6: Correlation Matrix of LIQ

Dependent	Independent					
	LIQ	**CAP**	**SIZE**	**BIL**	**NIM**	**LG**
LIQ	1					
CAP	0.254	1				
SIZE	-0.547	-0.51	1			
BIL	0.710	0.341	0.4138	1		
NIM	-0.682	0.297	-0.023	-0.471	1	
LG	- 0.431	0.372	0.071	-0.531	0.371	**1**

Source: SPSS output from private banks financial statements

As per the table above, the correlation coefficient between bank liquidity and NBE bill purchase (BIL) correlated at 0.710 which mean that when private commercial banks bill purchased increases the percentage of loan to deposit ratio also increases which is an indication of bank liquidity problem. The result also implied that, commercial banks liquidity position also affected by Net Interest margin (NIM) at – 0.682, Bank Size (SIZE) at - 0.547 and Loan growth (LG) which is a measure of earning source from total asset at - 0.431. This indicated that the more the portion of loan from total asset, the less the bank liquidity ratio will be. However, the correlation between Capital adequacy ratio (CAP) and bank liquidity shows correlation coefficient of 0.254 which is the smallest correlation as compared with other variables.

4.3 Regression Analysis

Regression analysis was employed to examine the effect independent variable over the dependent variable. As the study test the effect of NBE bill on the performance of commercial banks, the study select Profitability (ROA) and Liquidity (LIQ) as dependent variables while, Capital Adequacy (CPA), Bank Size (SIZE) NBE bills (BIL), Net Interest Income (NIM) and Loans growth (LG) as independent or explanatory variables of commercial banks performance. Therefore, below the study, analyzed linear regression analysis both ROA and LIQ.

4.3.1 Multicollinearity Test ROA

According to (Dillon, 1993) when independent variables are highly correlated, there is overlap or sharing of predictive power. This may lead to the paradoxical effect, whereby the regression model fits the data well, but none of the predictor variables has a significant impact in predicting the dependent variable (Robert, 2006). This is because when the predictor variables are highly correlated, they share essentially the same information. Thus, together, they may explain a great deal of the dependent variable, but may not individually contribute significantly to the model. The impact of multicolinearity is, therefore, to reduce any individual independent variables predictive power by the extent to which it is associated with the other independent variables (Beyan, 2014). Before conducting the regression analysis Tolerance and Variance Inflation Factor (VIF) values were calculated to check multicollinearity. According to (Robert, 2006) Tolerance value is an indication of the percentage of variance in the predictor that cannot be accounted for by the other.

Table 4.7: Multicollinearity Test ROA

Model		Collinearity Statistics	
		Tolerance	VIF
1	Constant		
	CAP	.751	1.494
	SIZE	.603	1.034
	BIL	.708	1.889
	NIM	.598	1.132
	LG	.709	1.095

a. Dependent Variable: ROA

The calculated Tolerance value of the dimensions of the independent variable is ranging between 0.598 and 0.751 it indicate all the Tolerance values are within the acceptable level of greater than 0.1, whereas the VIF values are also less than the cut of value of 10 which is possible to continue test of multiple regression

4.3.2 Regression Analysis ROA

To examine the relationship between profitability measures and explanatory variables regression analysis were done. The first regression analysis was undertaken to investigate the relationship between ROA and independent variables after the bill purchase regulatory measure was imposed. Thus below the regression analysis of the study summarized as follow:

Table 4.8: Model Summary of the study

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.936[a]	.858	.857	.37891

a. Predictors: (Constant), CAP, SIZE, BIL, NIM, LG

As it can be depicted from the table there is a positive and statistically significant Relationship between the independent variables and the dependent variable. In overall, the results revealed that all independent variables accounted for 85.8% of the variance ($R^2 = 0.858$). This indicates that the changes in the independent variables (CAP, SIZE, BIL, NIM and LG) collectively explain 85.6% of the changes in the dependent variable (ROA) and the remaining 15.4% of changes was explained by other variables which are not included in the model. Therefore, these explanatory variables together, are good explanatory variables of the profitability of the studied private commercial banks in Ethiopia.

Table 4.9: ANOVA Result of the study

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	92.608	6	15.4347	107.484	.000[b]
	Residual	13.065	91	.1436		
	Total	105.673	97			

a. Dependent Variable: ROA

b. Predictors: (Constant), CAP, SIZE, BIL, NIM, LG

The result in the ANOVA table confirmed the significance of the overall model by p- value of 0.000 which is below the alpha level, i.e. 0.05, which means, the independent variables taken together have statistically significant relationship with the dependent variable under study.

Table 4.10: Coefficients Analysis of the study

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.146	.149		7.666	.000
	CAP	.363	.090	.293	9.612	.531
	SIZE	.572	.046	.695	-3.776	.001
	BIL	-.691	.160	-.712	-.5718	.032
	NIM	.654	.076	.622	-2.025	.000
	LG	.593	.192	.563	1.003	.000

a. Dependent Variable: ROA

In the table 4.10 above, coefficients indicated how much the dependent variable varies with an independent variable, when all other independent variables are held constant. The beta coefficients indicated that how and to what extent the independent variables influence the dependent variable. Accordingly, all of the dependent variables positively correlated with the dependent variables. However, the coefficient beta and sign value implied extent of explanatory variables effect on profitability of the studied banks, Accordingly, the effect of NBE Bill purchase (BIL) at beta = -0.712, t = -0.5718 has negative and statistically significant on ROA at 5% level of significance. Because, p value < 0.05 i.e., P value is 0.032. However, SIZE of the bank at beta value of 0.695 with p value of 0.001, NIM at beta value 0.622 with a p value of 0.000 and LG at 0.563 with p value of 0.000 influenced highly and positively. Beside others, the effect of CAP on profitability of the studied banks was insignificant as implied by a beta value 0.293 with a p value of 0.531 which is greater than 5% level of significance.

4.3.3 Multicollinearity Test LIQ

The study were test an assumption Multicollinearity Test of before the process of multiple regression results

Table 4.11: Multicollinearity Test LIQ

Model		Collinearity Statistics	
		Tolerance	VIF
1	Constant		
	CAP	.673	1.095
	SIZE	.754	1.802
	BIL	.578	1.309
	NIM	.508	1.031
	LG	.601	1.682

a. Dependent Variable: LIQ

Similar to ROA in this section Multicollinearity test also allowed to test multiple regression results.

4.3.4 Regression analysis LIQ

The second regression analysis also done to investigate the effect of NBE Bill Purchase on the performance of the studied banks. Accordingly, the study used liquidity position as independent variables investigate position of the studied banks Liquidity position as a dependent available while Capital adequacy, Lon growth, Bank Size, NBE bill as well as Net interest margin considered as independent variables. Accordingly, below the table implied the regression analysis of the studied banks.

Table 4.12: Regression analysis result LIQ

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.12	.849		7.312	.011
	CAP	.421	.090	.531	9.612	.417
	SIZE	.512	.046	-.619	-4.212	.000
	BIL	-.626	.160	.024	.2321	.001
	NIM	.572	.076	-.534	.7455	.006
	LG	-835	.192	-.721	.4483	.002
R-square	.825					
Adjusted R-square	.843					
S.E. of regression	.24911					
Prob. (F-statistic)	0.000					

a. Dependent Variable: LIQ

In the above table coefficient, standard error, t-value, and p-value for all explanatory variables and the value of R-squared, adjusted R-squared, S.E of regression and F- statistics with p-value analyzed as follow:

The R-squared statistics and the Adjusted-R squared statistics of the model was 82.5% and 84.3% r espectively. This indicates that the changes in the independent variables (CAP, SIZE, BIL, NIM and LG) collectively explain 84.3% of the changes in the dependent variable (liquidity) and the remaining 15.7% of changes is explained by other factors which are not included in the model. Thus these variables collectively, are good explanatory variables of the liquidity of commercial banks Ethiopia. The null hypothesis of F-statistic (the overall test of significance) that the R2 is equal to zero was rejected at 1% as the p-value was sufficiently low. Prob (F-Statistic) 0.000 indicates strong statistical significance, which enhanced the reliability and validity of the model.

The dependent variable (liquidity) in the study model was measured by the ratio of loan to deposit. Consequently, results of the explanatory variables interpreted in reverse: positive sign of the coefficient means negative impact on liquidity and conversely. As per the finding of the correlation analysis Bank Size, Net Interest Margin and Loan Growth are positively correlated with performance measure of liquidity. However, Capital adequacy and NBE bill are negatively correlated.

4.4 Discussions of the Results

In this section, the relationship between the dependent variable and each independent variable were discussed on the basis of the findings on this study with others similar studies.

Capital Adequacy (CPA) capital adequacy was measured by the ratio of total capital of the bank to total asset of the bank and it was hypothesized that capital adequacy has positive relation with bank's liquidity and profitability. Correlation result, capital adequacy was statistically insignificant impact on the determination of liquidity of the studied commercial banks which was measured by Total loan /Total deposit. While the coefficient sign of 0.254 reveals that, there is a positive relation between liquidity of private commercial banks measured Total loan /Total deposit and capital adequacy of banks. This indicates that, when capital to total asset is increases by 1 unit, the liquidity of Ethiopian private commercial banks is also increased by 0.254 units being other variables remains constant this idea were similar with study took place by Vodova (2013) on Hungary commercial banks. Therefore, capital adequacy has positive and statistically insignificant impact on liquidity which was measured by Loan /Deposit.

Bank size: As the result described in the same table 4.10 Size of the private commercial banks in Ethiopia has a positive and statistically significant impact on return on asset at 1% confidence level with coefficient of 0.695. It could be stated that all other variables holding constant, a 1% increase/decrease in bank size would lead to increase/decrease in profitability (ROA) by 0.695 units. The result is in accordance with efficiency theory of profitability of Athanasoglou et al. (2006). This indicated that larger firms can obtain lower unit cost and higher profits through economies of scale. This enables large firms to acquire market shares, which may manifest in higher concentration and then profitability. In addition, bank profitability is influenced by market share. It assumes that only large banks with differentiated products can influence prices and increase profits. They are able to exercise market power and earn non-competitive profits Tregenna (2009).

NBE bill (BIL): As indicated in the Table 4.10 the coefficient estimates of NBE bill is -0.712. This means holding other factors constant, a 1% increase in investment in NBE Bill would lead to reduces return on asset by 0.719 units and the p value of NBE bill (i.e.0.032) reveals that it is statistically significant at 5% level of significance. This result was consistence with the study

of Tesfaye (2014) and Eden in the same year. Unlike Tesfaye (2014) and Eden, the magnitude of the impact of NBE bill is highly affected profitability of commercial banks.

As depicted in Table 4.12 the coefficient estimates of NBE bill is 0.024 with p-value of 0.001. This means holding other factors constant, a 1% increase investment in NBE Bill would lead a decline in liquidity by 0.024. the requirement of purchasing NBE bill creating maturity mismatches because Private Banks collect savings mostly at two to three-year maturity and even shorter in some cases and Fulfilling the 27 percent requirement means that they have to freeze these resources for 5 years.

Net Interest Margin (NIM): The researcher find net interest margin had a negative and statistically significant impact on the liquidity of private commercial banks at 5% level of significance, which was in line with the researcher prior expectation. As indicated in the Table 4.12 the coefficient estimates of return on asset was 0 .534 with a p-value of 0.006. This implied that, holding other variables constant a unit increase in net interest margin would lead to 0.534 unit declines in liquidity of private commercial banks. Loans and advances are the main source of income for banks. As the loan increases the Net interest matgine also increases and as a result, the share of liquid assets is decreasing. This supported by Angbazo (1997) and Drakos (2003) where their studies reveal that when a bank needs to sacrifice liquidity to achieve a higher profitability which in turn increases the liquidity risk and liquidity ratio. Liquidity need is actually a constraint for a bank from investing all its cash as profit comes from either bank lending activities or by investing it.

Loan Growth Rate (LG): The result of the study indicated that, loan growth had a negative and statistically significant impact on liquidity of private commercial banks. The negative relation and statistically significant impact of loan growth on liquidity was in line with hypothesis. The negative impact of loan growth on liquidity was based on the argument that, when loans & advances of a bank increases, the amount of illiquid asset in the total asset portfolio would also increases and leads to reduction on the level of liquid asset position of the bank. This negative sign of the coefficient indicates an inverse relationship between loan growth and liquidity. According to the regression result, a one percent change in the loan growth rate, keeping other things constant, had resulted in 0.721 change on the level of liquidity of commercial banks.

CHAPTER FIVE

CONCLUSIN AND RECOMENDATION

5. 1 Conclusion

The major objective of the study was to analyses the effect of NBE bill on commercial banks performance. The study was analyzed in to two parts; in the first part the collected data from each banks annual report were analyzed using descriptive approach and in the second part the study tried to analyze using inferential statistics such as, testing the relation between dependent and independent variables using correlation and linear regression. Based on this the major finding of the study conclude

NBE bill had a negative and significant impact on the profitability of private commercial banks because they have been offered very low interest rate (3%) by NBE which is less than cost of collecting saving 5% NBE (2011 - 2016). This even makes private commercial banks to incur net loss of 2 %. Not only incurring a net loss of 2 % but also the interest rate calculated on the bills is far less than the market lending rate which is 11 % on average.

The NBE bills purchase directive have a negative foremost effect on the income of private commercial banks by reducing private banks' interest income. As per the finding implied the studied commercial banks average income regarding interest before and after the Bill purchase reduced by 1.6%. Accordingly, the studied commercial banks foregone interest income due to NBE Bill directives exhibited birr 6.83 billion in the last six years. This clearly indicates that, NBE bills purchase directive have a sizable negative impact on income of private commercial banks

The NBE bills purchase directive has negative impact on the liquidity position of the studied commercial banks by reducing the liquid asset of the banks. liquidity ratio of the studied banks after the directive enactment was higher than before the directive enactment; and that reflect the reduction of liquid asset of banks to repay its liability. It was 60%, on average before the enactment of the directive and 86% on average after the enactment of the directive. As implied by the average difference rates the banks liquidity position comparatively reduced by 21% in the past six years

The result of correlation coefficient shows that the bank's Profitability negatively and highly affected by BIL (NBE bill purchase) at -0.791. And further the study revels, the effect of NBE Bill purchase (BIL) at beta = -0.712, t = -0.5718 has negative and statistically significant on ROA at 5% level of significance. Because, p value < 0.05 i.e., P value is 0.032.

The dependent variable (liquidity) in the study model was measured by the ratio of loan to deposit. Consequently, results of the explanatory variables interpreted in reverse: positive sign of the coefficient means negative impact on liquidity and conversely. As per the finding of the correlation analysis Bank Size, Net Interest Margin and Loan Growth are positively correlated with performance measure of liquidity. However, Capital adequacy and NBE bill are negatively correlated.

The result of correlation coefficient between bank liquidity and NBE bill purchase (BIL) shows correlated at 0.710. Which mean that when private commercial banks bill purchased increases the percentage of loan to deposit ratio also increases and the ability to pay their obligation decreases. Which is an indication of bank liquidity problem. Further, the coefficient estimates of NBE bill is 0.024 with p-value of 0.001. This means holding other factors constant, a 1% increase investment in NBE Bill would lead a decline in liquidity by 0.024. the requirement of purchasing NBE bill create maturity mismatch because Private Banks collect savings mostly at two to three-year maturity and even shorter in some cases and fulfilling the 27 percent requirement freeze these resources for five years.

5.2 Recommendation

NBE bills purchase directive had adverse impact on the profitability of commercial banks via diminishing their profits and consequently hinder the banks mission maximizing profit. Therefore, it is better for the policy makers to minimize either the percentage of the requirement to purchase the NBE bill from newly disbursed loans or increase the interest rate paid for the bill. Now days, the deposit rate increases from 5% to 7%, the magnitude in the future also sever if the NBE will not increase the interest rate of 3% accordingly.

Another major problem which the researcher has identified is the liquidity problem because of maturity mismatch. Private Banks collect savings mostly at two to three-year maturity and even shorter in some cases and fulfilling the 27% requirement means that they have to freeze these resources for 5 years. Hence, it is better if policy makers decrease tenure years for the collection of principal of the bills purchased by private commercial banks.

In relation to liquidity, commercial banks maximize their effort to deal with long term fixed time depositors to extend the maturity date instead of making aggressive competition by paying higher interest for shortly maturing fixed time deposit because this create maturity mismatch between their asset and liability.

The study also recommends that, management bodies of commercial banks should strive to strengthen and widening other income generating sources such as Mobile banking and Agent Banking to reach untapped market, short term credit card facilities, paperless service to decrease the service delivery process and others creative activities.

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