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Determinants of the Financial Performance of Private Commercial Banks in Ethiopia: Bank Specific Factors Analysis

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I. Introduction

a) Background of the Study

Financial institutions play a dynamic role in economic resource distribution of countries. They channel funds from depositors to investors continuously, that is effectively realized when income is generated enough to cover operation cost. For sustainable mediation functions, financial institutions need to be profitable. Financial performance also has critical implication for economic growth of countries. Good financial performance rewards investment, while poor financial performance can lead to institutional failure and crisis which affects economic growth. Financial performance of a firm can be affected by internal and external factors, while internal factors are individual characteristics; external factors are macroeconomic to the institutions. Financial performance is the reflection of efficiency and effectiveness of the management in making use of the resources of the company as expressed in the form of sales turnover, employment, or sock prices. Financial performance also plays a crucial role for organizational performance. (Okumu and Oyugi, 2016)

According to Dakito (2015), the growth and stability of the financial condition of a country depends on the soundness of its banking sector. The decisiveness of the banking system is an important concern for regulatory authorities, bank customers and shareholders. To avert the financial disaster of the banking activity is profoundly controlled all over the world. This involves controlling of bank risk taking and ensuring compliance with set of prudential regulations set by central banks such as the liquidity requirement, capital adequacy rules and risk management tools. Ongore and Gemechu (2013) also stated that the role of commercial banks in the resource allocation of the country is indispensable. They cannel funds from depositors to investors continuously. For this purpose, banks have to generate sufficient income that can cover their operational costs they incur in the due course. On the other hand, poor banking performance can lead to banking failure and crisis which have negative consequence on the economic growth of the country.

Proclamation No. 84/1994 permitted the private sector to involved in the banking sector. This marked the opening of a new era in the Ethiopian banking sector. Subsequent to this proclamation, Ethiopia witnessed an expansion of domestic private banks. Currently, the number of private commercial banks reached fourteen with a total of 394 branches. Private bank in Ethiopia recorded very strong advancement in 2010 in all three banking operations: mobilizing deposit, providing loans and dealing in foreign exchange. (Admassu and Asayehgn, 2014)

b) Statement of the Problem

A sound financial system is indispensable for a healthy and thrilling economy. The performance of any economy is to largest extent dependent on the performance of the banking sector (Ermias, 2016).The African banking system and regulation relative to other parts of the world shows that the banking environment

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(encompassing depth, efficiency, penetration, innovation and competition), as well as regulation and supervision standards is relatively shallow and less penetrated. The difficulties in creating borrowers' ability and willingness to repay, and lack of legal support for creditor rights limit banks' lending schemes, which contributes to shallow financial development. For example, in East and West Africa, the percentage of adults in public credit registry remains low on average, accounting for less than 1% and 3% of adult population respectively. Besides, in Africa, there is also low financial penetration. Less than a quarter of sub-Saharan Africa's population has access to a formal bank account. This indicates that (i) there is less financial inclusion particularly in low income communities and (ii) the degree to which private individuals can access financial services is limited. In sub-Saharan Africa, only 21% of the adult population has bank account which is the lowest level of financial penetrations. (Eugene and Mouhamadou, 2015).

Admassu and Asayehgn (2014) stated that at present-day, Ethiopian banking sector is in a rudimentary and fragile state. It is relatively underdeveloped, small, closed and characterized by a huge share of state ownership. The commercial banks owned by the state account around two-third of the banking sector assets. The financial intermediation level in Ethiopia is very low, partially due to the public's lack of confidence in the banking sector. Besides, the problem of non-performing loan was wide spread among state owned banks in the early 1990s that contributed for their insolvency. It was also identified that the major determinants that led banks to insolvency were ineffective supervision, mismanagement and political interference with credit decisions.

To date, though different reforms have been made by the government, the banking sector, yet is not competitive and efficient, nor is it capable of accelerating the economic growth of the country which remains marginal. In the Ethiopian banking sector, loans are not priced competitively by taking into consideration the risk of the borrower and the return of the loan to the lending bank. This practice inevitably denies capital to efficient firms and contributes to the build-up of non-performing loans in the state owned bank's portfolio. (Admassu and Asayehgn, 2014)

According to Nada Dreca (2012) cited in Muhabie (2015), the banking sector is affected by the global financial crisis. He argued that this crisis produces many adverse effects towards banks. Some to mention, 'stagnation of the sector, decline in profitability, increase of the non-performing assets and loans, past due receivables, loan loss provision and deterioration of other key indicators of banks` performance'.

Furthermore, the financial performance analysis was made by different previous researchers on long aged banks by giving less attention for of the banks that were emerged on latter periods. So, this study tried to give equal attention for newly emerged and long aged banks. Evaluation of financial performance of banks generally in the world particularly in Ethiopia has attracted augmented attention over the past periods. Meanwhile, little has been done. (Muhabie, 2015). In the Ethiopia, however, existing literatures did not show accurately what the financial performance and determinant factors influence performance of private commercial banks. It was still arguing issue among different researchers. This study, therefore, aimed at evaluating the firm specific factors that can affect selected private commercial banks of Ethiopia.

c) The Study Objectives

In this study, the following objectives were attained:

1. To depict the effect of capital adequacy on the financial performance of private commercial banks of Ethiopia.
2. To evaluate the influence of asset quality on the financial performance of private commercial banks of Ethiopia.
3. To analyze the influence of management efficiency on the financial performance of private commercial banks of Ethiopia.
4. To analyze the influence of size of banks onthe financial performance of private commercial banks of Ethiopia.
5. To depict the effect of liquidity management on the financial performance of private commercial banks of Ethiopia.

II. Empirical Review of Literatures

Căpraru and Ihnatov (2014) tried to assess main determinants of banks' profitability in five selected Central and Eastern European Countries over the period from 2004 to 2011. They used return equity (ROE) as proxy measuring the profitability of banks calculated as a ratio of the net profit to total equity; the return on assets (ROA) calculated as a ratio of the net profit to the total bank assets and net interest margin (NIM) computed as a ratio of the difference between interest income and interest expense to the total assets of the bank. They also considered three determining factors of banks' profitability: bank-specific factors (bank size, financial structure, credit risk taken, liquidity risk, business mix, structure of income expenditure and capital adequacy); industry specific (market concentration, financial intermediation etc.) and macroeconomic elements (e.g. economic growth and inflation). The results showed that the management efficiency and capital adequacy growth influence the bank profitability for all performance proxies, while credit risk and inflation determine only the ROA and ROE.

Okumu and Oyugi (2016) studied on the factors influencing financial performance of saving and credit cooperative Societies (SACCOs) in Kisumu County, Kenya using CAMEL approach (i.e. capital adequacy,

asset quality, corporate management efficiency and liquidity management) as independent variable and ROA as proxy for measuring the financial performance of the selected institutions as a dependent variable. The result showed that financial performance of SACCOs in Kisumu County is influenced by capital adequacy, asset quality, management efficiency and liquidity management.

There are many factors that can be customized to measure performance of banks in a typical developing economy and from which is profitability. Echekoba et.al (2014) tried to identify the determinants of Bank's performance using Profitability as a proxy in Nigeria: Using Camel Rating Model (2001-2010) using ordinary least square estimation method. The result of this study indicates that liquidity management has significant effect on the profitability of banks. But, capital adequacy, assets quality, management efficiency and earning did not. The study of Dawit (2016) also tried to evaluate important factors of financial performance of Ethiopian private commercial banks using the random effect model on both firm specific and external factors. The internal factors used in this study include capital adequacy, asset quality, earning ability, liquidity management and bank size, whereas, the external factor is foreign exchange rate. Moreover, ROA, ROE and NIM were used as dependent variable to measure the financial performance. Based on the regression result; asset quality, earning ability and bank size have a significant influence on the financial performance of Ethiopian commercial banks measured by return on asset, return on equity and net interest margin.

Melaku (2017) sought to analyze the overall performance of six sampled private commercial banks in Ethiopia using CAMEL rating approach with panel regression model to measure the impact of CAMEL elements (asset quality in terms of fixed assets / total assets, loan loss provision/ total loans; capital adequacy through total capital/total asset and total debt/total equity; liquidity management using liquid asset/total deposit, and management efficiency measured by non-interest expense/ gross expense and net profit/ employee) as predictors on bank performance using ROA (net income / total assets) and ROE (net income / total capital) as dependent variables.

Ongore and Gemechu (2013) depicted the determinants of financial performance of commercial banks in Kenya using explanatory study based on secondary data obtained from published statements of accounts of all commercial banks in Kenya for ten years (2001 to 2010). They used ROA, ROE and NIM as dependent variable and bank specific factors such as capital adequacy, asset quality, management efficiency and liquidity management and macroeconomic variables like GDP growth rate and inflation rate as explanatory variable. The study showed that capital adequacy, asset quality and management efficiency significantly affect the performance of commercial banks. However, the effect of liquidity on the performance of commercial banks is not strong.

a) Indicators and Financial Performance Determinants of the Banks

i. *Indicators of Financial Performance of Commercial Banks.*

The main goal of commercial banks is mostly the profit that they generate. All the strategies designed and activities performed thereof are meant to realize this magnificent objective though they have other goals. There are different ratios that can be adopted to measure the profitability of commercial banks of which return on asset, net interest margin and return on equity are the major ones (Murthy and Sree, 2003; Alexandru et al., 2008 as cited on the study of Ongore and Gemechu (2013).

Tigist (2014) examined the factors that can affect ethipian commercial banks' using panel data of the banks for the period of 2002-2013 using the fixed effect regression model ROA and NIM were used as the performance measure. Andebet (2016) studied the performance of private commercial banks in Ethiopia using bank profitability as dependent variable which in turn measured using return on assets (ROA) measured by net profit/total assets, return on equity (ROE) measured by net profit/ total equity, and net interest margin (NIM) measured by interest income- interest expense/total loans and advances.NIM is also measured by net interest income/Total loan and advances (Tigist, 2014). Mulualem (2015) analyzed the financial performance of fourteen Ethiopian commercial banks using fixed effect multiple linear regression model for two profitability measures: ROE which reflects the profit earned per birr of capital invested and measured by net profit after tax/total shareholders' equity, and ROA which reflects the ability of banks management to generate profits from the bank's assets and measured through net profit after tax/total asset of banks.

The study of Dawit (2016) also employed ROA (Net income after tax to its total asset), ROE (Net Income after Taxes divided by Total Equity Capital) and NIM (Interest Income) minus the interest paid on borrowed funds (Interest Expense) divided by the average amount earning assets (Loans and Advances)) as dependent variables to measure the financial performance of commercial banks in Ethiopia. Muhabe (2015) also depicted that profitability is the most common method of financial ratios which is used to measure the performance of banks. Profitability enables to evaluate how well the bank is performing in terms of profit. It is mostly measured using return on asset, return on equity and net interest margin. According to his study, 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. It also

indicates how effectively the bank's assets are managed to generate revenues, although it might be biased due to off-balance-sheet activities. It can be computed as: ROA equals to net profit after tax/total assets. The other measure of profitability is ROE that indicates the profitability to shareholders of the firm after all expenses and taxes are satisfied. It can be computed as: ROE equals to net profit after tax / shareholders' equity. The last measure of financial performance of banks is NIM which is the difference between interest income and interest expenses as a percentage of total loans and advances which includes deposits with foreign banks, treasury bills and other investments. It can be computed as NIM equals to (interest income – interest expense)/total assets.

ii. *Financial Performance Determining Factors of Commercial Banks*

1. Capital Adequacy (CA)

Capital is one of the important determinant of financial performance of banks. It is evaluated through debt to equity ratio and indicates the bank's financial leverage. There is no standard norm for goodness of debt to equity ratio in the case of commercial banks. (Srinivas an and Saminathan, 2016). Capital adequacy comprises different crucial components such as capital adequacy ratio, debt equity ratio, total advances to total assets ratio (Muralidhara and Lingam, 2017). Mulualem (2015) also measured it using gross capital or shareholders' capital/total assets and the higher the ratio indicates the bank is relatively better than the other banks having lower ratio. As it was reflected on the study of Mulualem (2015), capital adequacy ratio is positively correlated with return on asset and return on equity and statistically significant at 10%. Thus, it implies that banks with larger capital have potential of spreading their business operations by strengthening their ability to assume risk and attract low cost, which in turn will enhance their liquidity position (Ermias, 2016). But, Dawit (2016) evaluated it using total capital to total asset and it shows a negative relationship with return on equity of sampled Ethiopian commercial banks. This is because when the assets of the banks are more financed by capital in return the income expected form each birr in banks share is decreased. It has positive and statistically significant effect on NIM indicating that a bank with high capital adequacy ratio has high finical performance (NIM).Samuel (2015) and Dakito (2015) identified as there exists positive relationship between capital adequacy and banks performance. But, no asset quality indicators were significant in determining the profitability ratios in the study of Melaku (2017). This implies that there is inconsistency among researchers.

2. Asset Quality (AQ)

The quality of assets is significant aspect to assess the degree of financial strength of a bank. The principal purpose of measuring the assets quality is to determine the composition of non-performing assets (NPAs) as a percentage of the total assets (Aspal and Dhawan, 2016). Thus, lowest non-performing loan shows that the good health of the portfolio of asset at banks. The lower the ratio the better the bank performing (Sangmi and Nazir, 2010). It is a method of measuring the banks' financial performance using Non-Performing Assets / Net advances (the lower the better) and standard advances (net of total advances and gross NPAs) / total advances (the higher the better) (Srinivasan and Saminathan, 2016). Muralidhara and Lingam (2017) also measured asset quality in terms of institution's total non-performing asset and their ratio to total net asset: net NPA to net advances, net NPA to net assets and owners total investment to total assets. In addition, Mulualem (2015) measured it by the ratio of provisions of loan to total loan provided and the lower the loan loss provision to total loan ratio indicate the quality of the asset of the bank is relatively better than the other banks. As Mulualem (2015) clearly showed, asset quality has positive correlation with return on equity and return on asset. Tadios (2016) stated that the prime objective of measuring the assets quality is to ascertain the component of nonperforming assets (NPAs) as percentage of the total assets. Tadios (2016) measured it by total loans and advances to total assets ratio (loans and advances/ total assets) and total investments to total assets ratio (total investment/total asset).

Asset quality assesses the perils linked with the bank's asset portfolio i.e. the quality of loans issued by the bank. Quality of asset of banks will be measured using loan reserve (provision) to total loans ratios (Andebet,2016).According to the study of Ermias (2016), asset quality has a negative but statistically significant effect on bank's profitability (ROA). This implies that management can enhance its profitability by carefully watching the health status of its assets (loans and advances). Dawit (2016) measured it by non-performing loans to total loans and the result indicated as it has a negative effect on ROA signifying that that a bank which has high non-performing loans has low finical performance (ROA) and indicating that a bank which has high non-performing loans has low finical performance (ROE) and it has insignificant but negative impact on NIM indicating that the collectivity of disbursed loans is very small with their interest income according to the schedule in Ethiopian commercial banks. It is similar with the result of Iheanyi (2017) and Yiregalem (2015) which means assets quality has a negative impact on that profit of the bank.

3. Management Efficiency

It is another method of determining the financial well-being of banks. It is related with the capability of the management to use its resources efficiently, income intensification, decreasing operating costs that can be measured by different financial relationships or ratios. It

is also used to find out whether a bank is relatively over or under staffed. In addition, it checks efficiency of bank in maximizing profits per employee. It is also measured using total advances/total deposit, total advances and total deposits /no of employees and profit / no of employees (Srinivasan and Saminathan, 2016). Though there are not confined parameters to evaluate the management efficiency, the CAMEL approach gives insight a few ratios which can show the management efficiency of banks such as business per employee, Profit per Employee and Net Interest Income. (Muralidhara and Lingam, 2017). Tadios (2016) measured the management efficiency by total interest expenses to total deposits ratio (interest expense/total deposit), total loans and advances to total deposits ratio (loans and advances, deposits) and return on net worth (profit after tax /net worth).

As depicted by Mulualem (2015), the management efficiency ratio is the highest negatively correlated variable with return on asset and return on equity. Management efficiency is another vital component of the CAMEL model that ensures the survival and growth of a bank. So as to see better picture in this regard, non-interest expense to gross expense ratio, total advances to total deposits ratio, and interest income over total assets ratios are considered. (Ermias, 2016). It can also be measured by total advances to total deposits and interest income to total advance (Aspal and Dhawan, 2016). It can also be measured through total advances to total deposits (TA/TD) ratio that measures the efficiency and ability of the bank's management in converting the deposits available with the bank into high earning advances (include the receivables) (Reddy and Prasad, 2011). Managerial efficiency of the banks has statistically significant and positive relationship with banks' profitability as depicted on the study of Yiregalem, (2015).Even though different researchers used different ratios to measure it, the most important method of ratio used as a proxy of management efficiency is expense to asset ratio. The ratio of operating expenses to total asset has negative effect on performance of banks (Athanasoglou et al. (2005) as cited by Mohammed (2015)). This indicates that different types of financial ratios are used to study the asset quality of banks by different scholars.

4. Liquidity Management

Liquidity for a bank is an important facet which represents its capacity to satisfy its financial requirements. It designates potential of banks to satisfy their deposit liabilities with available liquid funds. Different scholars used different measurements in measuring liquidity ratios. For example, Mulualem (2015), Ongore and Gemechu (2013) and (Dawit, 2016) measured it by total loan/total customers deposit, and the higher this ratio indicates that bank has relatively better liquidity position than the other competitor bank. Another scholar (Ermias, 2016) measured liquidity of banks using liquid assets to total assets, liquid assets to total deposits, and liquid assets to demand deposits. Srinivasan and Saminathan (2016) also evaluated liquidity position of banks by the ratio of cash to total asset and the ratio of total liquid assets to total deposit. In addition, Muralidhara and Lingam (2017) evaluated the liquidity of banks through current ratio/ quick ratio and liquid assets to total assets. Liquidity also be evaluated by liquid assets to deposit ratio (liquid asset/total deposit), loans to total asset ratio (loans/total assets) and loans to deposit ratio (loans/total deposits)(Mulualem, 2015). But,the most common financial ratios that reflect the liquidity position of a bank according to Samad (2004) as cited on the study of Ermias (2016)are customer deposit to total assets and total loans to customer deposits.

As it was reflected on the study of Samuel (2015), Tesfaye (2013) and Mulualem (2015), liquidity ratio is negatively correlated with return on asset. This is in line with the result depicted by Dawit (2016) that indicated as there is insignificant negative relationship between liquidity management and return on asset of sampled Ethiopian commercial banks but negative and significant relationship with ROE, and it has a positive and statistically insignificant effect on the computed net interest margin of these sampled banks. Yiregalem (2015) and Ongore and Gemechu (2013) tried to depict that liquidity management represented by liquidity ratio which was found to have no significant effect on the banks.

5. Bank size

The bank size is an important determinant of profitability. It is a natural logarithm of total assets (Khaled Mahmud, et.al, 2016) and (Dawit, 2016). It is used to assess whether the bank's size is related to their performance. It has positive relationship with ROA that could be accredited to that in Ethiopian banking industry with the large bank size performs better than the smaller banks due to the existence of economies of scale and it has significant positive impact on ROE and NIM(Dawit, 2016). But, Tigist (2014), Tesfaye (2013) and Khaled Mahmud, et al. (2016) depicted as the size of the banks is a statistically significant variable that negatively affects the performance of banks. It implies that due to management inefficiencies, the large banks are facing diseconomies of scale which reduces the performance. This study is supported by the study of Mohammed (2015) that revealed as bank size has a negative and significant effect on profitability in terms of ROA and ROE at 1% and 10% significant level respectively suggesting that larger banks tend to earn lower profits.

b) Formulation of Hypothesis

Based on literatures reviewed above, the following hypotheses have been formulated:

1. *H1:* Adequacy of Capital has statistically significant and positive impact on the financial performance of private commercial banks in Ethiopia.
2. *H2:* Asset quality has statistically significant and positive influence on the financial performance of private commercial banks in Ethiopia.
3. *H3:* Banks size has statistically significant and positive impact on the financial performance of private commercial banks in Ethiopia.
4. *H4:* Management efficiency has positive and statistically significant effect on the financial performance of private commercial banks in Ethiopia.
5. *H5:* Liquidity management of banks has statistically significant and negative effect on the financial performance of private commercial banks in Ethiopia.

III. Methodology of the Study

a) Research Design

This study employed explanatory type of research design with quantitative data analysis research approach.

b) Sources of Data and Methods of Data Collection

The source of data was totally secondary that was obtained particularly from the seven years (2011-2017 (G.C)) of bank's annual audited financial reports. Therefore, there was critical review of the secondary data obtained from annual audited financial statements of banks of the seven years' periods as well as different researches related to the current study.

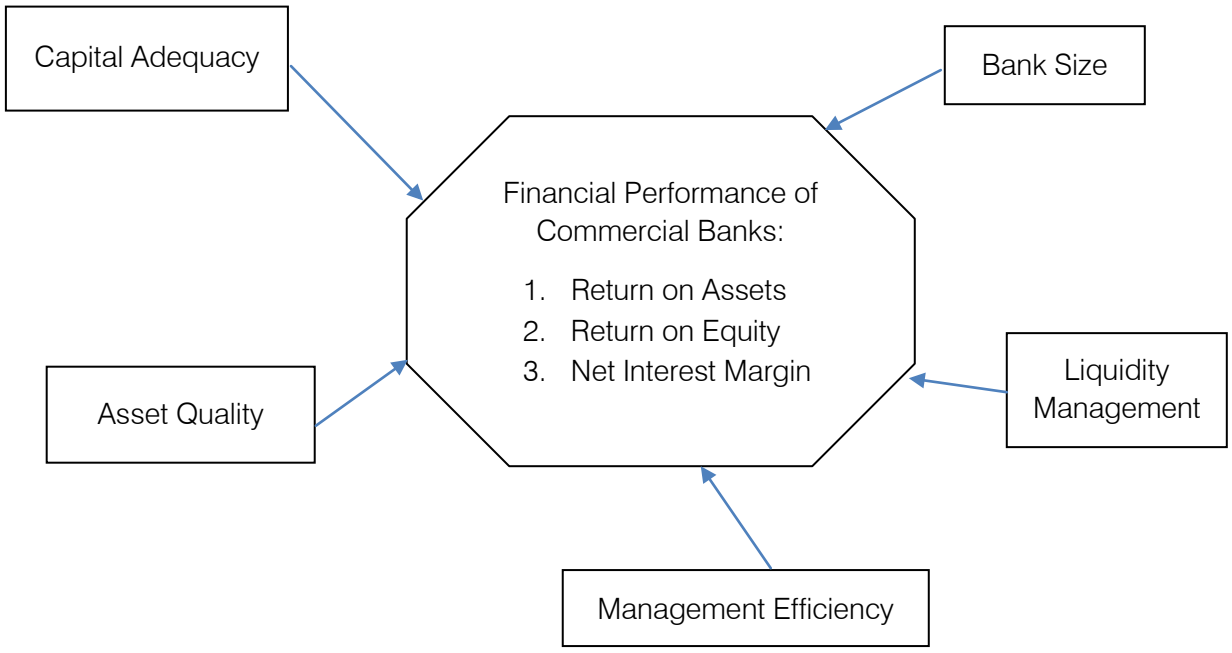
c) Sample Size and Sampling Techniques

The Seven Years (2011- 2017 (G.C)) of data was selected from audited financial reports of six purposively selected private commercial banks (Berhan Bank (BB), Dashen Bank (DB), Wegagen Bank (WB), Abay Bank (AB), Zemen Bank (ZB) and Oromia International Bank (OIB)). These banks were purposively selected from 16 private commercial banks of Ethiopia because of presence of well-organized audited financial statement in these selected study periods.

d) Methods of Data Analysis and Interpretation

After the data collection process has been accomplished, descriptive statistic, linear multiple regression model and Pearson correlation analytical methods were adopted. SPSS version 21 software was used for processing and analyzing the data. F-test and multicollinearity tests were performed for testing the statistical significance power of the factors at 5 percent level of significance.

e) The Conceptual Structure of the Study



Source: Researcher's Own formulation (2018)

Figure 1.1: Bank specific factors that can affect financial performance of Private Commercial Banks

Table 1: Definition of variables and their expected sign

	Independent Variables			
S. No	Explanatory Variables	Description of Measurement (proxies)	Conception	Expected sign
1	Capital Adequacy	shareholders' equity/ total assets	CA	+
2	Asset Quality	Provision for doubtful debts and advances/Net loans and advances	AQ	+
3	Management efficiency	Operating expenses/net operating income.	MGTE	+
4	Liquidity Management	Loan deposit ratio (Total loan/total customers deposit)	LQTM	-
5	Bank size	Natural logarithm of Total Assets (log of assets)	BS	+
Dependent Variables : related to financial performance (Profitability)				
1	Return on Assets	Net profit/Total asset	ROA	
2	Return on Equity	Net profit/ Shareholders equity	ROE	
3	Net interest margin	Interest income – interest expense/Total assets of the bank or NIM= net interest income/Total loan and advances	NIM	

Source: Researcher own formulation (2018)

f) Regression Model Specification

In order to evaluate the financial soundness of private commercial banks in Ethiopia, three models have been developed and each of them has one dependent variable and five alike independent variables as illustrated below. As presented below, Multiple regression analysis was adopted to show the bank's specific factors affecting the profitability of banks;

Model: $Y = \beta 0it + \beta 1X1it + \beta 2X2it + \beta 3\ X3it + \beta 4\ X4it + \beta 5\ X5it + \epsilon it$

$ROA_{it} = \beta 0 + \beta 1\ CA_{it} + \beta 2\ AQ_{it} + \beta 3\ MGTE_{it} + \beta 4\ LM_{it} + \beta 5\ BS_{it} + \epsilon_{it}$------1

$ROE_{it} = \beta 0 + \beta 1\ CA_{it} + \beta 2\ AQ_{it} + \beta 3\ MGTE_{it} + \beta 4\ LM_{it} + \beta 5\ BS_{it} + \epsilon_{it}$------2

$NIM_{it} = = \beta 0 + \beta 1\ CA_{it} + \beta 2\ AQ_{it} + \beta 3\ MGTE_{it} + \beta 4\ LM_{it} + \beta 5\ BS_{it} + \epsilon_{it}$-----3

Where:

ROA_{it} = Represents Return on Asset of the bank i at time t, ROE_{it} = Return on Average Equity of Bank i at time t and NIM_{it} = Net interest margin of Bank i at time t

β0= Constant, Y intercept

Єit =Error term where *i*is cross sectional at*t* time period.

β1, β2, β3 and β4 Coefficient indicating rate of change of financial performance as of the independent variables.

CA*it*=Capital adequacy for bank *i* in year *t*

AQLTY*it* =Asset quality for bank *i* in year *t*

MGTE*it*=Management efficiency for bank *i* in year *t*

BS*it*=Bank's size for bank *i* in year *t*

LM*it*=Liquidity management for bank *i* in year *t where t=2011-2017*

IV. Result and Discussion

This part of the study depicts the inferential analysis that shows the empirical evidence on the bank's specific financial performance determinants of private commercial banks in Ethiopia.

a) Descriptive Statistic Analysis

This section depicts the number of the observation based on the data that was being collected and the result of descriptive statistic of the tested variables involved which were return on asset, return on equity, net interest margin, banks size, liquidity management, capital adequacy and management efficiency of the data that being run over the entire time period from 2011 to 2017.

Table 2: Result of Descriptive Statistics

	ROA	ROE	NIM	BS	LM	CA	MGTE	AQLTY
Observation	42	42	42	42	42	42	42	42
Minimum	-0.0241	-0.0241	0.0083	8.6598	0.1172	0.0955	-3.5381	0.0048
Maximum	0.3109	0.3567	0.4109	10.539	8.1924	1.6734	3.7828	0.0969
Mean	0.05047	0.18563	0.04637	9.73756	0.69092	0.21135	1.23057	0.0235
Std. Deviation	0.05874	0.07483	0.07939	0.4648	1.19878	0.27076	1.03774	0.02092

Source: Researcher own computation, 2018

As the table above depicts, all the dependent and explanatory variables are having range of 42 observations. The average value of return on asset is 0.05047 which shows that percentage of ROA is 5 % which is very low having -0.0241 of minimum and 0.3109 maximum values with 0.05874 standard deviation. The ROE has a mean value of 0.18563 (18.5 %) with -0.0241 of minimum and 0.3567 maximum value and 0.07483

standard deviation. The Net Income Margin (NIM) is 0.04637 on average, which shows that percentage of NIM is 4.6 % with 0.0083 minimum and 0.4109 maximum value with the standard deviation of 0.07939. Further, Bank size (BS) measured as Ln of total assets has very high mean of 9.73756 this shows that percentage is more than 100 with a range of 8.6598 minimum and 10.539 maximum values while standard deviation is 0.4648.

The mean of Liquidity management (LM) is 0.6909 this shows that percentage of LM is 69 % which is slightly high and the standard deviation is also very high 1.19878 which shows that percentage is more than 100. The mean value of Capital Adequacy (CA) is 0.21135 that shows that percentage of CA is 21 % with a minimum value of 0.0955 and maximum value 1.6734 and 0.27076 value of standard deviation. While the mean for Management Efficiency (MGTE) 1.23057; this shows that percentage of MGTE is 123% which is very high and more than 100 and ranging between -3.5381 of maximum and 3.7828 of minimum value with high standard deviation of 1.03774. On average, Asset Quality (AQLTY) is 0.0235; this shows that percentage of MGTE is 2.35 % which is very low and its standard deviation is 0.02092 and ranging between 0.0048 minimum value to 0.0969 maximum values.

b) Test of Multi Collinearity

The test of multi-collinearity problems of explanatory variable of private commercial banks in Ethiopia (asset quality, capital adequacy, management efficiency, bank size and liquidity management effectiveness of banks) was made using VIF and Tolerance. As explained by Addisu (2015), tolerance is an indicator of how much of the variability of the specified explanatory variables is not explained by the other independent variable in the model formulated and it is computed using the formula of $1\text{-}R^2$ for each independent variable. Accordingly, to him, if this value is very small (less than .10), it indicates that the multiple correlation with other variables is high, suggesting the possibility of multicollinearity. Similarly, Addisu also stated that the value given for the VIF (Variance inflation factor) is just the inverse of the tolerance value (1 divided by Tolerance). If the value of VIF is above 10, it indicates existence of multicollinearity.

Table 3: Collinearity statistics

Variables	Tolerance	VIF
BS	.728	1.374
LM	.986	1.014
CA	.832	1.202
MGTE	.833	1.201
AQLTY	.936	1.069

Source: Researcher's own computation, 2018

As table 3shows, since the tolerance limit is greater than 0.10, and the variance inflation factor is below 10 (cut off VIF), multi-collinearity problem doesn't exist. Therefore, the model if free from multicollinearity problems.

c) Correlation Matrix of the Study

Pearson correlation coefficients show whether dependent and independent variables are correlated and how much they are correlated each other.

Table 4: Correlation Statistics

Variables	ROA	ROE	NIM	BS	LM	CA	MGTE	AQLTY
ROA	1							
ROE	-.045	1						
NIM	.781**	-.010	1					
BS	-.291	.436**	-.264	1				
LM	.049	-.311*	.012	-.005	1			
CA	.791**	-.104	.930**	-.402**	-.009	1		
MGTE	.170	.196	.148	.341*	.030	-.063	1	
AQLTY	-.051	.148	-.055	.048	-.116	-.020	-.194	1
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								

Source: Researcher's own computation, 2018

As is observed on table 4, ROA has negative relationship with ROE, banks size and asset quality of banks while it has positive correlation with NIM, adequacy of capital, liquidity management and management efficiency of banks. This implies that with increase in NIM, liquidity management, capital adequacy and management efficiency, the efficiency of banks in generating ROA on their asset invested will be boosted. The result also showed that when the rest of the variables are decreasing, ROA will be increased. Moreover, ROE has negative relationship with ROA, NIM, liquidity management and capital adequacy of banks while it has positive correlation with that of size of banks, asset quality and management efficiency of banks. This designates that with decrease in ROA, net interest margin, liquidity management and capital adequacy, the efficiency of banks in generating return on their equity will be enhanced. The results also show that when the rest of the variables are increasing, there can be increase in ROE.

Furthermore, NIM has negative relationship with ROA, size of banks and asset quality of banks and it has positive correlation with ROE, capital adequacy, management efficiency and liquidity management of Ethiopian private commercial banks. This shows that as with increase in ROA, net interest margin, liquidity management and capital adequacy, the efficiency of generating net of the interest margin of banks will be improved. The result also shows that with increasing of the rest of the variables, there can be increase in NIM.

d) Regression Analysis of the Study

This section depicts the regression model analysis of financial soundness determinants of private commercial banks of Ethiopia.

A. Analysis of Regression of ROA

1. Model Fit test of ROA

As depicted below, R square and adjusted R square were addressed to evaluate whether the formulated model can fit, overall, in measuring financial soundness of the banks.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.824[a]	.679	.634	.0355121
a. Predictors: (Constant), AQLTY, CA, LM, MGTE, BS				

Source: Researcher's own computation (2018)

As depicted in table 5 above, the adjusted R-square value is 63.4 % and from this it is concluded that 63.4 % of the variation in the dependent variable (ROA) of commercial banks is explained by the independent variables (asset quality, capital adequacy, management efficiency bank size and liquidity management efficiency). This indicates the regression model can strongly explain the dependent variables.

The outcomes of the model, as whole, which was depicted by analysis of variance (ANOVA) also indicated that it has a significant good degree of prediction of the dependent variable (ROA).

Table 6: ANOVA[a] Analysis

Model		Sum of Square	Df	Mean Square	F	Sig.
1	Regression	.096	5	.019	15.233	.000[b]
	Residual	.045	36	.001		
	Total	.141	41			
a. Dependent Variable: ROA						
b. Predictors: (Constant), AQLTY, CA, LM, MGTE, BS						

Source: Researcher's own computation (2018)

As it was portrayed on table 6 above, the value of F-statistics is 15.23 and is significant as the level of significance is less than 5%. The result indicated that the developed regression model is statistically significant that it can be relied upon to describe the influence of the specific factors on performance of the private commercial banks. That means, asset quality, capital adequacy, liquidity management, management efficiency and size of the banks are significant measures of financial well-being of Ethiopian private commercial banks appraised by return on asset (ROA).

2. Regression Coefficients of ROA

It is observed in the table below that the coefficients of the repressors showed how much ROA changes as a change in quality of asset, capital adequacy, management efficiency, banks size and liquidity management of the banks.

Table 7: Analysis of Regression Coefficients[a] of ROA

Model		Unstandardized Coefficients		Unstandardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.068	.135		.503	.618
	BS	-.008	.014	-.060	-.541	.592
	LM	.003	.005	.051	.540	.593
	CA	.170	.022	.783	7.563	.000
	MGTE	.014	.006	.242	2.344	.025
	AQLTY	.059	.284	.020	.207	.837
a. Dependent Variable: ROA						

Source: Researcher's own computation (2018)

The regression result shown on table 7 above showed as capital adequacy and management efficiency of the banks are significant measures of the financial welfare of Ethiopian private sector commercial banks evaluated by return on asset (ROA) of banks. Accordingly, keeping other factors constant, a unit increase in capital adequacy and management efficiency of the banks led to 0.170 and 0.014 increase in ROA of banks respectively over the study periods of 2011-2017 which was consistent with the hypothesis.

B. Analysis of Regression of ROE

1. Model Fit Test of ROE

It was illustrated below that R square and adjusted R square were addressed to evaluate whether the formulated model can fit, overall, in measuring financial soundness of Ethiopian private sector commercial banks.

Table 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.552[a]	.305	.208	.0665761
a. Predictors: (Constant), AQLTY, CA, LM, MGTE, BS				

Source: Researcher's own computation (2018)

Table 8 above depicted that the adjusted R-square value is 20.8 % and from this it is concluded that 20.8 % of the variation in the dependent variable (ROE) of commercial banks is explained by the independent variables (asset quality, capital adequacy, management

efficiency, bank size and liquidity management efficiency). This indicates that it has not a strong explanatory power of the regression model.

The result of analysis of variance (ANOVA) also indicated whether the model, overall, results in a significant good degree of prediction of the outcome variable (ROE).

Table 9: ANOVA[a] Analysis

Model		Sum of Square	Df	Mean Square	F	Sig.
1	Regression	.070	5	.014	3.158	.018[b]
	Residual	.160	36	.004		
	Total	.230	41			
a. Dependent Variable: ROE						
b. Predictors: (Constant), AQLTY, CA, LM, MGTE, BS						

Source: Researcher's own computation (2018)

As it was described on table 9 above, the value of F-statistics is 3.158 and is significant at the level of significance less than 5%. The result indicated that the developed regression model is statistically significant that it is possible to relied upon to describe the effect of the bank specific factors the financial reliability of private commercial banks. That means, asset quality, management efficiency, adequacy of capital, size of the bank and liquidity management efficiency are significant measures of the financial performance of the banks denoted by return on equity (ROE).

2. Regression Coefficients of ROE

As it is observed in the table below, the coefficients of the repressors indicate how much ROE changes when there is a change in the asset quality, management efficiency, adequacy of capital, size of the bank and liquidity management efficiency.

Table 10: Regression Coefficients[a] of ROE

Model		Unstandardized Coefficients		Unstandardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.497	.254		-1.958	.058
	BS	.069	.026	.429	2.637	.012
	LM	-.019	.009	-.297	-2.125	.040
	CA	.020	.042	.073	.479	.635
	MGTE	.006	.011	.085	.555	.582
	AQLTY	.412	.533	.111	.772	.445
a. Dependent Variable: ROE						

Source: Researcher's own computation (2018)

Table 10 above revealed that banks size and liquidity management of banks have a statistically significant negative and positive impact of the financial soundness of private commercial banks measured by return on equity respectively. Accordingly, keeping other factors constant, a unit increase in size of banks led to 0. 069 increase in ROE. But, a unit increase in liquidity management of banks, keeping other factors constant, directed to a decrease in ROE of banks by 0.019 over the study periods of 2011-2017 which is consistent with the hypothesis.

C. Analysis of Regression of NIM

1. Model Fit Test of NIM

The table below presented that R square and adjusted R square were used to evaluate whether the formulated model can fit, overall, in measuring the financial performance of Ethiopian private commercial banks.

Table 11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.954[a]	.911	.898	.0253337
a. Predictors: (Constant), AQLTY, CA, LM, MGTE, BS				

Source: Researcher's own computation (2018)

As depicted in table 11above, the value of adjusted R-square is 89.8 % and from this it is concluded that 89.8 % of the deviation in the dependent variable (NIM) of commercial banks is explained by the independent variables (asset quality, capital adequacy, management efficiency bank size and liquidity management efficiency). This indicates descriptive robust descriptive power of the regression model.

The result of ANOVA (analysis of variance) also indicated whether the model, overall, results in a significant good degree of prediction of the outcome variable (NIM).

Table 12: ANOVA[a] Analysis

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.235	5	.047	73.323	.000[b]
	Residual	.023	36	.001		
	Total	.258	41			
a. Dependent Variable: NIM						
b. Predictors: (Constant), AQLTY, CA, LM, MGTE, BS						

Source: Researcher's own computation (2018)

As it was illustrated on table 12 above, the value of F-statistics is 73.323 and is significant at the level of significance less than 5%. This implies that the developed regression model is statistically significant that it can be reliant upon to describe the outcome of the bank specific factors on the financial soundness of the banks. That means, capital adequacy, asset quality, bank size, management efficiency and liquidity management efficiency are significant measures of the financial performance Ethiopian private commercial banks evaluated by NIM.

2. Regression Coefficients of NIM

The table below portrayed the coefficients of the repressors which indicated how much NIM changes when there is a change in the capital adequacy, asset quality, management efficiency, bank size, and liquidity management of the banks.

Table 13: Regression Coefficients[a] of NIM

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.133	.097		-1.373	.178
	BS	.010	.010	.061	1.037	.307
	LM	.001	.003	.015	.305	.762
	CA	.283	.016	.966	17.687	.000
	MGTE	.014	.004	.188	3.439	.001
	AQLTY	-.001	.203	.000	-.005	.996
a. Dependent Variable: NIM						

Source: Researcher's own computation (2018)

As observed from table 13 above, capital adequacy and management efficiency of the banks have positive and statistically significant impact on the financial efficiency of the commercial banks of Ethiopia measured by net interest margin (NIM) of the banks. Accordingly, keeping other factors constant, a unit increase in capital adequacy of banks led to 0. 283 rise in NIM. In addition, a unit increase in management efficiency of banks, keeping other things remain constant, led to an increase in NIM of banks by 0.014over the periods of 2011-2017 which is consistent with the hypothesis.

Table 14: Summary results for determinants of financial performance of private commercial banks in Ethiopia

Variables	ROA			ROE			NIM		
	+significant	-significant	Insignificant	+significant	-significant	Insignificant	+significant	-significant	Insignificant
BS			√	√					√
LM			√		√				√
CA	√					√	√		
MGTE	√					√	√		
AQLTY			√			√			√

"+Significant" designates that the variable is statistically significant and positively affect the bank's profitability; "–Significant" shows that the variable is statistically significant and negatively affect the bank's profitability; "insignificant" represents that the variable is statistically not significant affect the bank's profitability; ROA: Return on Asset, ROE: Return on equity, NIM: Net interest margin, CA: Capital adequacy, AQLTY: Assets quality, BS: Bank size, LM: Liquidity Management, MGTE: Management Efficiency".

Source: Researcher's own computation (2018)

V. Conclusion and Recommendations

The study was intended to investigate the bank specific factors of the financial performance of commercial banks in Ethiopia by using secondary data of 2011-2017. The multiple regression analysis was made using three dependent variables (ROA, ROE and NIM) and five independent variables (asset quality, capital adequacy, management efficiency bank size and liquidity management efficiency). The regression result clearly showed that size of banks is statistically significant determining factor that positively boost the financial soundness of the selected commercial banks in Ethiopia as it can help banks to realize economic scale. It was also indicated that capital adequacy is statistical and positively affect the financial performance of the banks. That means, the higher equity capital the banks have, the more the banks become financially sound.

Further, the study showed that liquidity management of banks has statistically negative impact on the financial soundness of private commercial banks of Ethiopia, i.e, the higher liquid the banks are the lesser their ability they generate profit. Management efficiency of banks has positive and statistically significant impact on the financial efficiency of the privet commercial banks. That means operational expenses inefficiency shrinks the return on asset and interest margin of the banks in Ethiopia. The result also depicts as quality of assets of banks is statistically insignificant factor for the financial performance of private commercial banks in Ethiopia.

Therefore, the commercial private banks in Ethiopia should create enough capital through issuance of shares, investment, and retained earnings to run their business in healthy way since greater capital reduces the chance of distress and it boasts their profit. The banks should also increase their size to certain extent by increasing their asset level to achieve economies of scale which in turn reduces the costs of operation so that their financial performance (ROE) will be induced. Moreover, managerial efficiency should be given due consideration in order to minimize operating expenses, deploy their resources efficiently and intensify their income to enhance their profitability so as to stay competitive and more resilient to economic tremors. Lastly, the liquidity of private commercial banks should be managed wisely to obtain optimal amount of liquid assets to avoid mismatch between profitability and risk of short term insolvency since it has reverse movement with profitability. Liquidity management should aim at a tradeoff between profit and risk of insolvency.

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