

## DETERMINANTS OF THE FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN ETHIOPIA: SPECIAL EMPHASIS ON PRIVATE COMMERCIAL BANKS

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### ABSTRACT

*The purpose of study was to investigate the bank specific factors and macroeconomic determinants of private commercial banks performance in Ethiopia. Seven private commercial banks were purposely selected based on availability of the required data and audited financial data of those banks for the period of 2010-2019 were analyzed. For this purpose, descriptive statistic, Pearson Correlation Coefficient and Multiple Linear Regression Analytical approaches were applied.*

*In this study, returns on equity, return on asset and net interest margin are used as the dependent variables. The independent variables categorized into internal determinants and external determinants. Bank specific factors (internal determinants) are banks size, liquidity management, asset quality, management efficiency and capital adequacy where as inflation is used as macroeconomic determinants.*

*Any autocorrelation problem was checked. The results indicated that capital adequacy, management efficiency and size of banks have positive and statistically significant effect on financial performance of private commercial banks of Ethiopia measured by ROA, ROE and NIM. But, liquidity management and inflation have negatively significant impact on financial performance of the banks (ROE) and ROA. Finally, the study also depicted that asset quality was not statistically significant determinant of sound financial performance of private commercial banks in Ethiopia. Therefore, appropriate attention required to be given in ensuring capital adequacy, optimum liquidity, efficient expense management system and adequate size of assets by commercial banks for better performance.*

**KEYWORDS:** *Ethiopia, Commercial Banks, Determinants, Financial Performance*

### INTRODUCTION

Financial institutions play significant role for economic development of nations in general and of developing countries like Ethiopia in particular, where the financial system as a whole is bank dependent due to poor development or even absence of the stock market. Banks are one of the deposit taking financial institutions that play pivotal role for financial stability and are also engines for economic development of a given nation (Al-Karim and Alam, 2013).

In Ethiopia the banking industry play a vital role in mobilizing savings, allocating capital, overseeing the investment decisions of corporate managers, and in providing risk management vehicles hence the existing financial system in Ethiopia is bank based. They are achieving great prominence in the country economic environment and play major role in granting credit facilities.

The overall operation of the economy of developing countries is dependent on well-functioning of their commercial banks. If not, the entire economy will be illiquid, saving and investment will be unconnected which could result in further economic stagnation (Elshaday and Kenenisa, 2017).

A well-functioning financial system were facilitates efficient intermediate of financial resources to the economy. The more efficient the financial system in resource generation and allocation is the greater in its contribution to economic growth (Mohan, 2005). Specifically, financial institutions play a key role in economic growth and development because they supply money for individuals, business sectors, lend government organizations. Furthermore, they help the government in assessing and bearing out the monetary and economic policies, and provide a wide variety of economic services such as money transfer, foreign exchange, facilitate international trade, market stabilization and other related activities (Scott & Timothy, 2006).

The current Ethiopian economic policy liberalizes the investment scheme of commercial banks to domestic investors; as a result, many investors have been involved in the banking sector. Results revealed that banks had better profitability business organizations in Ethiopia (Kiyota et. al, 2007). Consequently, the number of commercial banks in the country is increasing from time to time. Thus, the intensity of competition among the commercial banks in Ethiopia has increased tremendously.

Investigating the determinants of commercial banks performance is vital for further improvement especially under the dominance of the globalization of the banking system. Investigating the determinants of commercial banks performance is essential because of banks play an important role as financial intermediaries, (remittance of fund, Accepting deposits and lend to different sector, facilitate the international trades etc). Furthermore, the commercial banks performance indirectly affects the whole country's economy. The study also, contributes empirical investigations on the determinants of Ethiopian commercial banks performance.

### **Statement of the Problem**

Financial Institutions provide a framework for carrying out economic transactions and monetary policy and help channel savings into investment, thereby supporting economic growth. Problems of financial systems are not only interrupt financial intermediation, but they can also undermine the effectiveness of monetary policy, aggravate economic recessions, trigger capital flight and exchange rate pressures, and create large fiscal costs related to rescuing troubled financial institutions (IMF, 2019).

In African, banking system and regulation relative to other parts of the world shows that the banking environment (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 instance, 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 (Abdu, 2019).

There is also low financial penetration hence less than a 25% 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.

Various influences bottlenecked the operation of the financial system in general and the bank industry of developing countries like Ethiopia in particular. These factors are classified as internal and external factors. The internal factors are termed as micro or bank-specific factors like bank lending, bank size, efficiency of the management, deposit volume, bank liquidity, bank capitalization level and bank growth. The external factors are macroeconomic variables that are not related to bank management but reflect the monetary, economic and legal environment that affect the operation and performance of financial institutions (Gaiotti and Secchi, 2006).

Bank performance could also be affected by external factors as social, economic, political and technological environments. It would be difficult to manage banks and enjoy their benefits to the economy without understanding and managing such determinants of bank financial performance. Assessment of financial performance of commercial banks in general and commercial banks in Ethiopia in particular has attracted augmented attention over the past periods. 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. Therefore, this study is intended to investigate the determinants of commercial banks performance by determining key variables that could affect the financial performance of private commercial banks in Ethiopia.

## **OBJECTIVE OF THE STUDY**

- The core objective this study is to examine the determinants of financial performance of private commercial banks in Ethiopia. Specifically, the study is expected to achieve the following objectives.
- To examine the impact of bank specific factors (i.e. bank size, asset quality, leverage ratio, capital adequacy, and management efficiency) on performance of private commercial banks in Ethiopia
- To examine the effect of macroeconomic factors (i.e. inflation and real GDP) on performance of private commercial banks in Ethiopia

## **REVIEW OF LITERATURE**

Athanasoglou et al. (2005) examined the effect of bank specific and macroeconomic determinants of bank profitability by using data that covers the periods from 1985 – 2001. In the study, independent variables like Capital adequacy, credit risk, productivity, expense management, size, ownership, concentration, inflation and business cycle were used. The study result indicated that capital has positively related with bank profitability and that there is negative relationship between asset quality (credit risk) and banks profitability. Additionally, operating expenses are negatively and strongly linked to banks profitability. On other hand, the study reveals the size and ownership status of the banks is insignificant in explaining profitability indicating that private banks do not in general make relatively higher profits, at least during the period under consideration.

The study made by Anna and Hoi (2008) was examined the impact of bank-specific, macroeconomic and financial structure factors in the variation of profitability across banks in Macao by Utilizing bank level data for the period 1993-2007. The researchers were considered variables such as capital ratio, asset composition, fund source, asset quality, expense management, fee based services and tax and market share including external variables like GDP growth rate, real interest rate and inflation. They used ROA as a measure of banks profitability. The study reveals that capital strength of the bank positively affects profitability. On the other hand, the asset quality affects the performance of banks adversely. With regard to macroeconomic variables, only the rate of inflation reveals a significant relationship with banks' performance

Dietrich and Wanzenried (2011) examined the determinants of the banking profitability for the Swiss banking market. They found that well capitalized bank seems to be more profitable and similarly, the impact of banks loan volume on bank profitability is positive. The study also determined the impact of GDP growth rate, effective interest rate and market concentration rate on banks profitability. Accordingly, it found that growth domestic product growth affects the bank profitability positively, and the effective tax rate and the market concentration rate have negative and significant impact on bank profitability.

Kumbirai and Webb (2010) studied on the performance of South Africa's commercial banking sector for the period 2005- 2009. They employed financial ratios to measure the profitability, liquidity and credit quality performance of five large South African commercial banks. The study found that overall bank performance increased significantly in the first two years of the analysis. A significant change in trend is noticed at the beginning of the global financial crisis in 2007, reaching its peak during 2008-2009. This caused in decreasing profitability, low liquidity and deteriorating credit quality in the South African Banking sector.

Habtamu (2012) investigated the determinants Ethiopian private commercial banks profitability for the years 2002 to 2011. Return on assets, return on equity and net interest margin were used as measurement of banks performance. The finding shows that Gross Domestic Product has positive effect on the three measurements of profitability. Capital adequacy has negative relation with both return on assets and net interest margin but has no significant effect on return on equity. Management efficiency and bank size have positive consequence on both return on assets and return on equity but have no significant influence on net interest margin. Assets quality have negative relation with net interest margin but have no effect on the return on asset and return on equity.

Yadollahzadeh, Ahmadi, and Soltan (2013) were examined factors affecting the performance of commercial banks in Iran considering nine commercial banks during 2006- 2010. They considered Return on asset and return on equity as dependent variables which are separately examined by explanatory variables including bank's size, gearing ratio, nonperforming loans, asset management, operating efficiency and capital adequacy ratio. Their research results indicate that the bank's size, management efficiency and capital adequacy ratio have a positive effect on the performance of commercial banks while operating efficiency, gearing ratio and non-performing loans have a negative effect on the performance.

Moreover, Tesfaye (2014) studied the determinants of Ethiopian Commercial Banks Profitability in view of bank specific and external variables for the 1990 to 2012 periods. Return on Assets (ROA) was used to measure the banks' performance. The result showed that management efficiency, expressed by non-interest expense to total expense has negative and significant relation with profitability. Result also revealed that capital adequacy serves for providing assurance for liquidity position of banks than enhancing profitability and that liquid asset to total deposit have no significant effect on profitability. From the external determinants of profitability identified by the researcher, the inflation has been observed to have significant effect on profitability. Bank size and real GDP have got no significant effect on profitability.

Tilahun and Chawla (2016) investigated the determinants of commercial banks' profitability in Ethiopia for the years 20001 to 2013. Net Interest Margin (NIM) were used as proxy of profitability while; number of branches, ownership structure, loan to deposit ratio and bank size were used as independent variables in their study. The regression result

indicated that loan to deposit ratio, branch size, and ownership have significant effect on NIM; while bank size has no significant effect.

Lemma and Rani (2017) investigated the determinants of financial performance of commercial banks in Ethiopia using data from nine commercial banks. Return on assets was used as a measure of financial performance whereas the internal and external factors were considered to analyze the factors. The finding shows that liquidity and earnings ratio have positive relation with return on assets. The findings also indicate that CAR, the ratio of non-performing loan to total loans, and industry growth has negative relation with profitability.

## **METHODOLOGY**

### **Research Design**

Explanatory research design with quantitative approach was used to achieve the objective of the study. All private commercial banks in Ethiopia were used as population of the research. Non probability sampling (i.e. Purposive sampling) was used to intentionally select sample banks based on the selection criteria set by the researcher. Therefore, out of sixteen private commercial banks, seven banks were purposively selected as a sample based on year of establishment, bank size and the availability of data during the years 2010 to 2019. Accordingly, Awash Bank (AIB), Bank of Abyssinia (BoA), Dashen Bank (DB), Nib International Bank (NIB), United Bank (UB) and Wegagen Bank (WB), and Cooperative Bank of Oromia (CBO) were selected as the sample for this particular study. The research was mainly depend on Secondary data collected from the audited financial statements of each bank and obtained from website of the National Bank of Ethiopia (NBE) and those data was used to see the effect of the independent variables on dependent variable. The collected data were analyzed using descriptive statistics, correlations and multiple linear regression analysis data for the years 2010 to 2019. Random effect regression was carried out using E-views 9 econometric software package, to test the casual relationship between the independent variables and ROA, ROE and NIM.

### **Study Variables**

Return on assets expressed as the ratio of net profit after tax to average total assets, return on equity measured by the ratio of net profit after tax to shareholders' equity and net interest margin are the dependent variables of this research. Whereas, capital adequacy ratio-measured by paid up capital to total assets, Nonperforming loan ratio which is ratio of nonperforming loan to total loan and advance, leverage ratio-the proportion of total debt to total equity, operating cost efficiency (management efficiency)- the ratio of expenses to revenue, bank size -which is the logarithm of total assets, and macroeconomic factors that is, inflation and real GDP are the explanatory variables for the study.

### **Model Specification**

The model used in this study was as follows

- $ROA_{it} = \alpha + \beta_1(CAR)_{it} + \beta_2(NPL)_{it} + \beta_3(LR)_{it} + \beta_4(OCE)_{it} + \beta_5(SIZE)_{it} + \beta_6(GDP)_{it} + \beta_7(Infl)_{it} + \epsilon_{it}$
- $ROE_{it} = \alpha + \beta_1(CAR)_{it} + \beta_2(NPL)_{it} + \beta_3(LR)_{it} + \beta_4(OCE)_{it} + \beta_5(SIZE)_{it} + \beta_6(GDP)_{it} + \beta_7(Infl)_{it} + \epsilon_{it}$
- $NIM_{it} = \alpha + \beta_1(CAR)_{it} + \beta_2(NPL)_{it} + \beta_3(LR)_{it} + \beta_4(OCE)_{it} + \beta_5(SIZE)_{it} + \beta_6(GDP)_{it} + \beta_7(Infl)_{it} + \epsilon_{it}$

Where

- $ROA_{it}$ =Return on Asset for bank i in year t
- $ROE_{it}$ : Return on Equity of bank i at year t  $NIM_{it}$ =Net Interest Margin for bank i in year t
- $CAR_{it}$ : is the Capital Adequacy ratio of bank i at year t
- $NPL_{it}$ : is the Non-performing Loan ratio of bank i at year t
- $LR_{it}$ : is the Leverage ratio of bank i at year t
- $OCE_{it}$ : is the Operational Cost Efficiency of bank i at year t
- $SIZE_{it}$ =bank size for bank i in year t
- $GDP_{it}$ =real GDP growth for bank i in year t
- $Infl_{it}$ =inflation rate for bank i in year t
- $\beta$  1- $\beta$ 7=the coefficient of the explanatory variables  $\epsilon_{it}$  =the error term

## RESULTS AND DISCUSSION

### Descriptive Statistics

**Table 1: Provides a Summary of the Descriptive Statistics of the Dependent and Independent Variables for Seven Private Commercial Banks From the Year 2010 To 2019.**

Variables	Observation	Mean	Max	Min	Std. Dev.
ROA	70	0.038841	0.065274	0.013472	0.012160
ROE	70	0.257810	0.712041	0.19693	0.143252
NIM	70	0.064782	0.094522	0.029541	0.016876
CAR	70	0.130485	0.317743	0.026023	0.025540
NPL	70	0.041805	0.071466	0.013250	0.008910
LR	70	7.149805	13.47861	0.124580	3.012822
OCE	70	0.640995	2.314000	0.321650	0.524806
SIZE	70	24.70258	33.45231	20.18943	0.982957
GDP	70	0.096200	0.114000	0.077	0.011779
In fl	70	0.098480	32.01000	-27.79	0.147237

Table 1 show that the mean value of dependent variable that is return on asset was 3.9% with a minimum of 1.3% and a maximum of 6.5%. This implies that during the period under consideration sampled banks earned an average of 3.9 percents of profit before tax for a single birr invested in their assets. The standard deviation for ROA was 0.012 which indicates that the profitability variation between the selected banks was very small. The mean value of the second dependent variable, that is, ROE was 26% with the maximum and minimum value of 71% and 2%, respectively. This indicates that private commercial banks in Ethiopia were able to generate an average positive return of 26% on their equity for the last 10 years. In addition, the average value of the third dependent variable, that is, NIM was 6.5% with the maximum and minimum value of 9.5% and 2.95%, respectively. This indicates that private commercial banks in Ethiopia were able to generate an average 6.5% of net interest margin for the last 10 years.

The mean value of capital adequacy was 13.05% with a maximum value of 31.8% and minimum value of 2.6 percent. The average capital adequacy ratio of sampled banks exceeded the minimum capital adequacy ratio of 8% set by National Bank of Ethiopia on Directives № SBB/50/2011. The standard deviation for capital adequacy ratio was 2.6% which indicates the existence of variation of CAR between the private commercial banks in Ethiopia. In line to this, the mean of NPLs was 1 % with a minimum and maximum 7.15%. As far as independent variables are concerned, the mean

value of OCE was 54.8% with maximum value 212% and minimum value 31.7%, which shows that there was a higher variation on the operational cost efficiency over the sample period for this study. The mean of NPLs was .2% with a minimum of 1.3% and a maximum of 7.1%. This indicates that, from the total loans provided by private commercial banks, an average of 4.2% were being default or uncollected over the sample period. The standard deviation of 0.8% of NPLs from its mean indicates the existence of variation among private commercial banks in terms of their loan recovering capacity.

The mean value of leverage ratio was 7.15%, whereas the maximum and minimum values were 13.5% and 12.5% respectively. The standard deviation (3.01), of leverage ratio shows the existence of high variation among private commercial banks in terms of their leverage ratio. Similarly, the standard deviation of bank size (0.9829) and operational cost efficiency (0.5248) indicates high variation among private commercial banks in Ethiopia in terms of size and OCE.

The GDP growth rate was between 11.4% and 7.7% with the standard deviation of 0.01177 indicate relatively low variation of GDP. On other hand, the maximum and minimum inflation rate for selected period was 32.01% and -27.79 respectively. The standard deviation of inflation was 0.1472 indicating relatively high variation of inflation during considered period in the study.

**Correlation Analysis**

As depicted by Brooks (2008), Correlation is a way to index the degree to which two or more variables are related to each other. Pearson correlation was used in this study. Table 2 shows the correlation between the variables used for this study.

**Table 2: Correlation of Dependent and Independent Variables**

Correlation	ROA	ROE	NIM	CAR	NPL	LR	OCE	SIZE	GDP	Inf l
ROA	1									
ROE	0.6281	1								
NIM	0.5216	0.5821	1							
CAR	0.6314	0.2456	0.3854	1						
NPL	-0.2345	-0.2813	-0.3215	-0.3852	1					
LR	0.4215	0.3824	-0.2914	-0.7216	0.2461	1				
OCE	-0.4138	-0.6027	-0.3201	0.1924	0.1204	-0.3498	1			
SIZE	0.4261	0.3124	0.4516	0.2791	-0.3247	0.4923	-0.6428	1		
GDP	0.2875	0.2214	0.3416	0.2448	-0.1245	-0.1483	-0.4624	0.4526	1	
Inf l	0.324	-0.3954	0.1864	0.1286	0.2048	0.4381	0.5246	0.4583	-0.3842	1

Source Financial statement of sampled banks, NBE reports and researcher own computation through E-views 9

Table 2 shows that capital adequacy ratio, size of the banks and GDP have positive relation with ROA, ROE and NIM. Those, capital adequacy, and bank sized which is measured by logarithm of total asset are positively affects private commercial banks performance. This indicates as the banks should have to increase their paid up capital and as well as their asset hence it enable them to play leading role in the banking industries. In addition, the result indicates that commercial banks with higher total assets are more profitable compared to commercial banks with lower total asset.

Further the operational cost inefficiency and leverage ratio and Inflation have negative relation with return on asset, return on equity and net interest margin except inflation that had positive relation with net interest margin. This show that the more costly and in debt the banks are, the lower will be their profit and financial performance.

## REGRESSION ANALYSIS

### Return on assets model

Table 3 shows the random analyzed effect of the independent variable specified in the Return on Assets model.

**Table 3: Random Effects Model Regression Result**

Dependent Variable: ROA				
Method: Panel EGLS (Cross-section random effects)				
Date: 05/09/20 Time: 12:45				
Sample: 2010 2019				
Periods included: 10				
Cross-sections included: 7				
Total panel (balanced) observations: 70				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.048724	0.008145	-4.128788	0.0000
CAR	0.190902	0.012047	10.720179	0.0000
NPL	-0.006043	0.001946	-4.329541	0.0001
LR	0.000487	0.000182	2.633487	0.0232
OCE	-0.014290	0.001185	-12.89246	0.0000
SIZE	0.004352	0.000285	7.924584	0.0000
GDP	0.000214	0.000152	-4.321452	0.1280
Info	0.108489	0.001986	10.16708	0.0000
Effects specification				
<b>S.D. Rho</b>				
Cross-section random 6.57E-09 0.0000				
Idiosyncratic random 0.002102 1.0000				
<b>Weighted Statistics</b>				
R-squared	0.741272	Mean dependent var	0.028630	
Adjusted R-squared	0.697797	S.D. dependent var	0.007403	
S.E. of regression	0.002270	Sum squared resid	0.000269	
F-statistic	142.3809	Durbin-Watson stat	1.967514	
Prob(F-statistic)	0.000000			
<b>Unweighted Statistics</b>				
R-squared	0.741272	Mean dependent var	0.028630	
Sum squared resid	0.000296	Durbin-Watson stat	1.967514	

Source: Financial statement of sampled banks, NBE reports and own computation through E-views 9

Table 3 shows results of regression model of Return on Asset as dependent variable and bank specific and macroeconomic explanatory variables for the sample of seven private commercial banks in Ethiopia. The R squared and adjusted R-squared 74 and 70% respectively and the F Statistics of (0.000000) indicates the fitness of the model.

Table 3 shows that operational cost efficiency loan has statistically significant negative effect on return on assets of the private commercial banks in Ethiopia. That is, when OCE increased by one percent, Return on Asset (ROA) of sampled private commercial banks would decrease by 1.429%. This negative relation between OCE and return on asset could be attributed to the fact that, when the amount of operating cost increases the remaining income that the banks get from its operation decreases, which in turn, decrease the return on asset. This would negatively affects commercial banks performance unless OCE increment rate become lesser compared to net income increment rate. The regression result also indicates that nonperforming loan has statistically significant negative impact on return on assets of the private commercial banks in Ethiopia. That is, when nonperforming loan ratio (NPL) increased by one percent, Return on Asset (ROA) of sampled private commercial banks would decrease by 0.6043%. This relation between nonperforming loans and return on asset could be arises from the fact that, when the

amount of non-performing loan increases the interest income that the banks get from these loans will decrease, which in turn, decrease the return on asset. This would directly affect the banks' ability to provide more loans to customers that can generate more interest income. Table 3 also reveals that capital adequacy ratio (CAR) has positive relationship with banks performance which is statistically significant at 1% significance level. This implies that every 1% increase in the CAR keeping other variables constant, ROA increase by 19.1%. Table 3 further shows that leverage ratio has statistically significant positive effect on ROA. Assuming other independent variables remain constant at their average value, an increase in leverage ratio by one percent increase Return on Asset by 0.0487%. Similarly, the coefficient of bank size measured by logarithm of total asset is 0.004352 and its P value is 0.0000. This indicates existence of positive and significant relationship between bank size and ROA. This would be because the bigger the bank, the more economies of scale and hence more profitable it will be. From macroeconomic variable, both GDP and inflation have positive relation with commercial banks performance measured by return on asset. GDPs and inflation individual coefficients are 0.000214 and 0.108489 while their p values are 0.1280 and 0000 respectively. This indicates that there is positive relationship between GDP and ROA but it is statistically insignificant. On other hand, the regression output revealed existence of positive and significant relation between inflation and return on asset. This supports the fact of strong economic growth always results in at least a moderate inflation rate. In a period of demand induced inflation, with rising economic growth, the firms may see rising demand and this able to increase prices. In this case, rising inflation can lead to an increase in profitability for firms.

Dependent Variable: ROE  
 Method: Panel EGLS (Cross-section random effects)  
 Date: 06/12/20 Time: 12:09  
 Sample: 2010 2019  
 Periods included: 10  
 Cross-sections included:7  
 Total panel (balanced) observations: 70  
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.05482	0.114605	-0.524784	0.5520
CAR	0.002147	0.157075	0.7680420	0.3501
NPL	-0.041294	0.029465	-0.245103	0.04524
LR	0.006852	0.002292	2.824345	0.0062
OCE	-0.182451	0.016581	-10.89576	0.0000
SIZE	0.012532	0.006705	2.0521862	0.0415
GDP	0.000214	0.002465	2.7653272	0.1405
Infl	-0.00442	0.002465	-2.7653272	0.0015

Effects specification

S.D. Rho	
Cross-section random	2.26E-07 0.0000
Idiosyncratic random	0.028279 1.0000

Weighted Statistics				
R-squared	0.741272	Mean dependent var	0.028630	
Adjusted R-squared	0.697797	S.D. dependent var	0.007403	
S.E. of regression	0.002270	Sum squared resid	0.000269	
F-statistic	142.3809	Durbin-Watson stat	1.967514	
Prob(F-statistic)	0.000000			

Weighted Statistics				
R-squared	0.687058	Mean dependent var	0.021356	
Sum squared resid	0.098241	Durbin-Watson stat	1.871346	

Source: Financial statement of sampled banks, NBE reports and own computation through E-views 9.

### Return on Equity Model

Table 4 above shows the summary of regression model run to investigate the effect of the explanatory variables on commercial banks' performance measured by ROE. The table depicts that R-squared and adjusted R-squared are 70 and 67%, respectively. This indicates that the model is a good fit. As specified in Table 4, Capital Adequacy Ratio (CAR), Bank size (SIZE), Leverage Ratio (LR) and GDP have positive relation with banks performance measured by return on Equity. Although they have positive relation with ROE, from those only leverage ratio and bank size have statistically significant impact on the financial performance of private commercial banks in Ethiopia measured by return on equity. On other hand Nonperforming loan (NPL), operational cost efficiency (OCE), and Inflation have negative and statistically significant impact on commercial banks financial performance measured by ROE. This negative relationship between NPL, OCE and Inflation rate with ROE could be attributed to the fact that a bank which has high non-performing loan and inefficient operating cost management system has low financial performance (ROE). Assuming other variables remain constant, when NPL increased by one percent, return on equity would be decreased by 4.23%. Similarly, when operating cost increased by 1%, return on equity would be decreased by 18.24%. Additionally, when inflation increased by one percent, ROE would be decreased by 0.442%.

The possible reason for the significant negative relationship between NPL and OCE with ROE could be due to the lower collectivity of disbursed loans and their interest income according to their schedule in Ethiopian commercial banks and due to inefficient management of operating cost respectively..

### Net Interest Margin Model

Dependent Variable: NIM  
 Method: Panel EGLS (Cross-section random effects)  
 Date: 06/12/20 Time: 04:09  
 Sample: 2010 2019  
 Periods included: 10  
 Cross-sections included: 7  
 Total panel (balanced) observations: 70  
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.187532	0.042581	-0.524784	0.0000
CAR	0.149139	0.042516	4.487724	0.0000
NPL	-0.028005	0.018172	-1.204761	0.0240
LR	-0.068052	0.014257	4.627566	0.1214
OCE	-0.002451	0.021701	-0.038794	0.2401
SIZE	0.01924	0.002985	5.684270	0.0000
GDP	0.004822	0.03251	3.876402	0.0027
Infl	0.021588	0.002465	1.861542	0.0000

Effects specification

**S.D. Rho**

Cross-section random 0.006871 0.0000

Idiosyncratic random 0.089182 0.9146

**Weighted Statistics**

R-squared	0.732441	Mean dependent var	0.020495
Adjusted R-squared	0.712849	S.D. dependent var	0.001524
S.E. of regression	0.009154	Sum squared resid	0.007457
F-statistic	27.62482	Durbin-Watson stat	1.965201
Prob(F-statistic)	0.000000		

**Weighted Statistics**

R-squared	0.732441	Mean dependent var	0.020495
Sum squared resid	0.007457	Durbin-Watson stat	1.965201

Source: Financial statement of sampled banks, NBE reports and own computation through E-views 9.

As depicted in table 5, the estimation result shows that R-squared and an adjusted R-squared value of 73% and 71% respectively is an indication that the model is a good fit. As shown in table 5, the coefficient of capital adequacy (CAR) measured by Total Capital to Total Asset is 0.149 and its P-value is 0.0000. Holding other independent variables constant at their average value, when capital adequacy (CAR) increase by one percent net interest margin (NIM) of sampled Ethiopian commercial banks would be increased by 14.9% and statistically significant at 1% of significant level. This positive relationship between capital adequacy and NIM could be attributed to the fact that a bank with high capital adequacy ratio has high financial performance measured by NIM. Similarly, the coefficient of GDP and Inflation are 0.0048 and 0.0215 respectively also have positive and significant impact on return on equity.

On other hand, the coefficient of NPL is 0.028005 and its P value is 0.0240 and indicate negative and significant relationship between NPL and NIM at 5% significant level. Similarly, there is negative but not significant relationship of Leverage, and OCE with net interest margin.

## CONCLUSIONS

The study examined determinants of the financial performance of private commercial banks in Ethiopia. From the regression result, it can be concluded that size of banks is the influential factor that enhances the financial performance of commercial banks because, increasing bank size can increase bank performance by allowing banks to realize economies of scale. Similarly capital adequacy ratio has positive and significant relationship with banks performance so that the higher the capital ratio, the more profitable a bank will be. This indicates that capitalized banks could provide profitable banking services to their customer and generate more income than less capitalized banks. Operational cost efficiency (OCE) and nonperforming loans are the factors that negatively influence the performance of private commercial banks in Ethiopia. The research also conclude that the larger the leverage position of the bank, the higher their ability of providing loan and advance and their performance will be improved.

## RECOMMENDATIONS

- Private commercial banks in Ethiopia are recommended to increase their asset and level of capitalization so as to increase market share and provide banking services which enable them to ensure their profitability. In addition, the banks are recommended to both increase debt (through mobilizing deposit) and equity capital because, those variable have positive relation with banks performance measured by ROA and ROE. Those will boost the performance of the banking industry in their intermediation role.
- Operational cost efficiency was identified as a factor that negatively and significantly affects commercial banks performance measured by ROA, ROE, and NIM. With reference to this, banks are recommended to eliminate their avoidable cost by making proper decision to alter the course of a project or business. Furthermore, they have to identify the factors that increase operational cost of banks and they have to work on it.
- Non-performing loans is factors that negatively and significantly affect the return on asset, return on equity and

net interest margin. Therefore, commercial banks suggested to protect themselves from irresponsible borrowing and lending, aggressive lending and lax credit control. In line to this, commercial banks should have to give attention and strength their loan supervision and governance and credit risk managements.

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