

Ownership and Profitability: Evidence from Ethiopian Banking Sector

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Abstract- The study conducted to examine the effect of state and private Ownership on the Profitability of the Commercial Banking Sector in Ethiopia initiated following the emergence of researches, in different economic set ups, with varied results on the effect of Ownership structure on the performance of banks. The research used panel data set of 8 banks operating in the sector for more than 10 years in Ethiopia, where the financial sector is at its infant stage and closed for foreign investors, for the period covering 2005 to 2014. The mean Profitability of the commercial Banks under study were described, compared, and then tested for the relationship between Banks' Profitability and Ownership Structure using pooled OLS Regression model with Dummy Ownership Variable. After performing some statistical tests, Return on Equity (ROE) has been used as a measure of Profitability. The result shows that there is a significant outperformance of state owned commercial banks than private competitors during the period. Of the control variables used, bank size, liquidity, loans and advances, and bank capitalization have been found to have significant effect on profitability of the commercial banking.

Index Terms- Bank Profitability, Ethiopian Banking, Private Ownership, State Ownership

I. INTRODUCTION

Banks play a major role in the mobilization, allocation and investment of savings of the different economic agents in an economy. Accordingly, the performance of the banking sector has a significant impact on the allocation of capital, industrialization and economic growth. Therefore, efficiency and profitability of the banking sector is of importance at macroeconomic level in a given nation.

During the past some decades, new movement of private ownership in the banking industry has significantly changed the banking ownership structure in many countries around the world (Janeth P. and Cosmas S. 2014). While the ownership stake of foreigners and domestic companies & individuals witnessed to increase, the involvement of government ownership has been reduced. As a result, the banking sector has experienced major changes in its operating environment. The transformation of the banking sector from government to private and foreign company's ownership has increased competition amongst the banks, and played a great role improving efficiency of the sector. And hence, an efficient banking sector is better able to endure undesirable shocks of the sector and helps to the strength of the financial system of a given nation.

In Ethiopia, following change in the government, a new Proclamation No. 84/1994 has been prepared and approved. Allowing the private sector to invest in the financial business of the nation was of the objectives of the new proclamation, which marks the beginning of a new era in in the financial sector of the country. Following this, formation and increment in the number of the private banking companies have been witnessed. Currently, there are 16 private banks and 3 government owned banks operating in the country. In spite of the fact that the financial proclamation of the country allows involvement of private investors, the sector is still closed for foreign investors. And hence, there is no foreign investment in the financial sector, which makes the country unique in regulating the sector.

Experiences of various countries have shown that profitability of banks may vary across nations and among the banks with different ownership structure (Zhao Shi-Feng, 2013; Mohammad Alipour, 2013; Peter W. et al, 2010; Toni Aburime, 2008; Eric G. and Daniel M, 2002; MuhammetMercan, et al, 2003) of the same country. Variation in ownership Structure of banks has been studied to be one factor of the difference in the profitability of banks (Sukhdey S, et al, 2016; Faizul H. &Rehnuma S., 2016; Xiaotian T. & Zhang Y., 2014; GiulianoIannotta, 2007; Alejandro Micco, 2007; MuhammetMercan, et al, 2003).

In literatures, studies have been conducted to examine the effect of ownership variation on the financial and economic growth of banks (Sukhdey S, et al, 2016; Maria T. et al, 2016; Peter W. et al, 2010;La port et al., 2002). Others also examined the difference in lending behavior of state owned and private owned banks (Khwaja&Mian, 2005 and Sapienza, 2004), and the change in the lending decision of government owned banks during election (Dinc., 2005). Moreover, Faizu H. &Rehnuma S. (2016) andCornett et al., (2010) studied a comparison on the impact of state ownership on performance differences in privately owned and state-owned banks of different regions. Almost all of the previous researches examined at a country level have been done in either developed economies or developing ones where the financial sector is open for foreign investment.

Various studies (Samuel, 2015;Amdemikael, 2012; Birhanu, 2012; Habtamu, 2012;K.Rama M. &Tekeste B., 2012;Demena, 2011; Belayneh, 2011) have also been conducted to investigate the different bank specific, industry specific & macroeconomic factors affecting the profitability of the commercial banking sector in Ethiopia, and to review literatures of the same topic (Fentaw, 2015). None of the literatures consulted above included the ownership variable as a factor affecting profitability in Ethiopian banking industry.

And hence, examining the impact of ownership on the profitability of the banking sector in Ethiopia, where the financial system is at its infant stage & closed for foreign investors, has a paramount importance in policy directions, and as an addition to the existing literature in the area.

Research Objective and Significance

The Objective of this study is to examine the impact of ownership on the profitability of Commercial Banks, controlling the size difference and other variables having an influence on the profitability of the banks, in Ethiopia.

This study will have a significant importance in extending existing literature in the impact of ownership on performance. And the finding will also be useful for the different policy making bodies in Ethiopia as the expansion of domestic private involvement in the financial sector of the country is in progress.

Review of Related Literatures, Gap and Hypothesis

It has been studied and documented in many research outputs that there exists lower profitability and poor quality of assets, of government owned banks as compared to their privately owned ones (Berger et al., 2005; Micco et al., 2004). There are many theoretical bases in favor of private ownership than state ownership of firms. The extensively studied Agency Theory, states that ownership difference in any kind of organization affects its performance level and it assumes privately owned firms to be more profitable than government owned competitors.

In a study with Chinese banks, Xiaotian T. & Zhang Y., (2014) found that private banks are more efficient than state owned ones, state ownership of the banks is related to the low productivity of the bank. Sukhdey S, et al, (2016) also conducted study on the performance of Indian banks, and concluded that Private sector banks perform better than public owned banks. Several other research results (Allen N. et al, 2009; Alejandro M. et al, 2007; MuhammetMercon et al, 2003; Barth et al., 2004; Micco, Berger, Clarke, Cull, Klapper and Udell, 2005; Mian, 2006; Micco, et al., 2004; La Porta et al., 2002; Sapienza, 2004; Berger et al., 2005; GiulianoIannotta. Et al, 2007) have been documented that; State ownership of banks negatively affects financial development and economic growth, and hence efficiency and profitability.

Faizul H. &Rehnuma S., (2016) also found that government ownership of banks is positively related to default risk, and negatively associated with bank profitability in a study conducted on Indian banks.

On the other hand,Zhao Shi-Feng, (2013); Mohammad Alipour, (2013); Peter W. et al, (2010); and Toni Aburime, (2008), have found in their study and concluded that state and private ownership structure has no significant impact on the profitability of commercial banks.

Empirical Literatures from Ethiopia and the Gap

Various literatures have been conducted to the different determinants of Ethiopian Banking business. Demena (2011) conducted an empirical study to investigate the influence of internal and external determinants of Ethiopian banks profitability using the Ordinary Least Squares (OLS) Technique. In the same year, another researcher, Belayneh (2011) also

examined the bank specific and macroeconomic factors determining profitability of the commercial banks in Ethiopia using the OLS technique. Amdemikael (2012) and Birhanu (2012) made two different empirical investigations as to the effect of bank specific, industry specific and macroeconomic factors affecting the profitability of the commercial banks in the country. Habtamu (2012) conducted a study to investigate determinants of profitability of Ethiopian private commercial banks using panel data of the period 2002 to 2011, applying the fixed effects regression model. Moreover, K.Rama M. &Tekeste B., (2012) published an article on the determinants of profitability of commercial banks in developing country: Ethiopia. The researchers used unbalanced panel data, applying the fixed effects regression model, and concluded that internal factor, under the control of the management, are the most determinants. Recently, Samuel, (2015) also conducted a study to investigate the determinants of the profitability of the commercial banking sector of Ethiopia using panel data for the period from 2002 to 2013. The researcher used the fixed effects regression model to investigate the impact of bank specific and macroeconomic determinants.

Moreover, Fentaw, (2015) reviewed various literatures on the determinants of banking profitability in Ethiopia, and suggested to include the missed ownership variable in the basket of determinants.

And hence, examining the impact of ownership on the profitability of banking sector in Ethiopia, where the financial system is at its infant stage & closed for foreign investors, is of a fertile research gap, which has significant importance in policy directions and also to the addition of the existing literature in the area.

Research Hypothesis

Agency theory is one of the most widely used theories in the profession of Finance & Management (Daily, Dalton and Rajagopalan, 2003; Wasserman, 2006). Agency theory is all about the relationship among two parties in a firm, the principal called owner and the agent called manager (Eisenhardt, 1989; Jensen and Meckling,1976; Ross, 1973).

In this theory, managers, or agent, in both private and government owned firms are presumed to act in the maximization of their own utility as opposed to that of the organization and its owners, the principal.

Considering the agency theory as a basis, we have developed and tested the hypothesis that states that the *Profitability of Privately Owned Banks is greater than the Profitability of the State Owned Banks in Ethiopia.*

Research Design and Methodology

Population and Sample

The overall objective of the study is to examine the impact of state and private ownership on the profitability of the commercial banking sector in Ethiopia. Currently, there are 19 banks operating banking business in Ethiopia, of which 3 (Commercial Bank of Ethiopia, Development Bank of Ethiopia, and Construction & business bank of Ethiopia) are government owned and the remaining 16 are privately owned (www.nbe.gov.et). The Development Bank of Ethiopia is the one financing long term development projects of the government,

doesn't engage in commercial activities, and hence it has been excluded from this study. In this study, 8 commercial banks have been included in the sample purposely taking the duration in the business in to account.

Data Type and Source

To test the hypothesis developed above, profitability indicator quantitative data have been collected from the audited annual financial statements of the banks. The researchers have used a panel data set of 8 banks for the years from June 30, 2005 to June 30 2014 (the fiscal year runs from July 1 to June 30). We used panel data due to the availability of consistent financial data of the banks over the period under study. Moreover, as indicated by Peter W. et al (2010), panel data usually contain more degrees of freedom, less multicollinearity problem than simple cross sectional data, and provides greater capacity of capturing firms characteristics than time series or cross sectional data. The ownership data of the banks have been collected from the National Bank of Ethiopia, which is responsible in the licensing and supervision of the financial sector in the country.

Variables Description and Measurement

The Dependent Variable

Profitability is the dependent variable that we are going to explain. Based on previous studies, we identified the two common accounting measures of profitability; Return on Asset (Flaminiet al., 2009; Oladele et al., 2012; Zhao S. & Zhao S., 2013; Sukhdey S, et al 2016), and Return on Equity (Mohamed O., 2007 ; Zhao S. & Zhao S., 2013; Saona, 2011).

Considering the previous literatures of measuring profitability, we regressed the pooled OLS regression using both return on assets and return on equity as dependent variables and see the fitted model. The adjusted R-square of the fitted model was found to be 0.5551 and 0.3331 using dependent variables of return on equity and return on assets respectively, controlling the effect of other explanatory variables indicated below. This shows that the dummy ownership and other controlling variables explain more of the variation of return on equity than that of return on assets. And hence, we used the Return on equity as dependent variable, and run pooled OLS regression model.

Variable	Proxy	Measurement	Source
Dependent Variables	Profitability	Measured by the Return on Equity Capital of the bank	Mohamed O., 2007 ; Zhao S. & Zhao S., 2013; Saona, 2011
Independent Variable	Ownership	A dummy variable which takes a value of 1 if it is Privately Owned, and 0 if state owned	Sukhdey S, et al, 2016; Xiaotian T. & Zhang Y., 2014; GiulianoIannotta, 2007; Alejandro Micco, 2007
Control Variables	Liquidity	Measured as a percentage of liquid assets of the bank to that of the total amount assets	Giuliano I. et al, 2007
	Loans and advances	Measured as the percentage of total loans and advances to the total amount of assets	Giuliano I. et al, 2007
	Size	Measured by the natural logarithm of total amount of assets owned by the bank.	Zhao S. & Zhao S., 2013; Micco et al, 2007; Janeth P. et al., 2014; Athanasoglou et al, 2008
	Credit Risk	Measured as the percentage of Loan Loss Provision to Total Loans and Advances	Andreas D. & Gabrielle W., 2014; Giuliano I. et al, 2007
	Capital Equity	Measured as the percentage of Equity Capital to Total amount of Assets	Zhao S. & Zhao S., 2013; Giuliano I. et al, 2007; Andreas D. & Gabrielle W., 2014

Table 1. Summary of the variables used and the respective proxies.

Model Specification

According to Gujarati (2012), there are three estimation procedures used in panel data sets: fixed effects (FE), random effects (RE) and pooled OLS regression model. The dummy ownership variable in our study doesn't change over time, and as fixed effects model cannot be used to investigate time invariant causes of the dependent variable, it was not appropriate. Using the fixed effects model will eliminate the time invariant ownership dummy variable. Additionally, the Hausman specification test was conducted and suggested that the random effects was appropriate. Moreover, we have also performed the random effects (Breusch-Pagan Lagrange multiplier, LM) test to decide between the random effect and the pooled OLS

estimation. The result was in favor of using pooled OLS than that of the random effects, and we run pooled OLS regression model. Based on the Hypothesis developed, and the diagnostic tests performed above, the following model was used;

Profitability = f(Ownership and Other Control Variables)

Therefore, the specific model used in testing the effect of Ownership on profitability is:

$$Prof_{it} = \alpha + \beta_{1it}Own + \beta_{2it}LiquTa + \beta_{3it}LoadTa + \beta_{4it}LnTa + \beta_{5it}LlpTload + \beta_{6it}TcaTa + Err.$$

Where,

- Prof. is Profitability (Return on Equity, Measured as the percentage of net income to book value of total equity)

- *Own* is Ownership (Dummy variable 1 for Private owned banks and 0 otherwise)
- *LiqTa* is liquidity (Measured by percentage of Liquid Assets to total assets).
- *LoadTa* is Loans and advances (Measured as the percentage of total loans and advances to the total amount of assets).
- *LnTa* is size (Measured by the natural logarithm of total assets)
- *LlpTload* is credit risk (Measured as the percentage of Loan Loss Provision to Total Loans and Advances).
- *TcaTa* is equity capital (measured by the percentage of total equity capital to total assets).
- β_1 to β_6 are coefficients for the independent and control variables
- α is the intercept, and *Err.* is the error term

Results and Discussion
Descriptive Statistics

Descriptive statistics have been used in presenting results. This section presents the profitability and related descriptive statistics.

Variable	Obs	Mean	Std. Dev.	Min	Max
roe	80	29.30525	11.77054	1.76	77.71
liqata	80	36.1175	10.25789	15.8	56.96
loadta	80	49.24625	12.21958	22.46	72.77
lnta	80	22.73763	1.144351	20.79	26.22
llptload	80	4.9415	3.970679	1.46	21.17
tcapta	80	11.60987	3.607254	4.23	19.22

Table 2. Descriptive statistics

It is indicated from the above table 2 that the Ethiopian commercial banking sector has reported on average 29.3% of Return on Equity for the years covering from beginning of July 2005 to end of June 2014. The variation on the percentage of the return on equity (standard deviation) was found to be 11.77, and 1.76% & 77.71% of minimum & maximum return on the equity capital of the banking sector respectively.

The above table also shows the descriptive summary of the control variable, with liquid assets to total assets (st.dv 10.3) and loans and advances to total assets (12.3%) having higher variability as compared to other control variables.

Diagnostic Tests

A. Multicollinearity Test

Correlation analysis was done to detect multicollinearity in the data, and also to determine the association among the dependent variable and other variables.

	roeliqata	loadta	lnta	llptload	tcapta	
roe	1.0000					
liqata	-0.2655	1.0000				
loadta	-0.1254	-0.2967	1.0000			
lnta	0.5141	-0.2323	-0.7115	1.0000		
llptload	0.0093	0.3434	-0.0882	-0.1463	1.0000	
tcapta	-0.5587	0.0542	0.2153	-0.3791	-0.3671	1.0000

Table 3. Correlation Matrix

From the correlation coefficients presented in the Table above, there is no serious multicollinearity among the variables used in the model.

B. Heteroskedasticity Test

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity was performed, and found that the problem does not prevail in the model used.

Regression Result and Analysis

In this sub section, the descriptive statistics summarized above have been presented further, and the impact of the ownership difference (state & private) on the mean profitability of the banks (as measured by return on equity) have been tested using the pooled OLS.

Source	SS	df	MS	Number of obs =	
				80	
Model	6075.95773	6	1012.65962	F(6, 73) = 15.18	
Residual	4869.15287	73	66.7007242	Prob> F = 0.0000	
Total	10945.1106	79	138.545704	R-squared = 0.5551	
				Adj R-squared = 0.5186	
				Root MSE = 8.1671	
roe	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
own	-9.104165	3.752248	-2.43	0.018	-16.58238 - 1.625945
liqata	.2437185	.1397428	1.74	0.085	-.0347885 .5222256
loadta	.6493438	.1604935	4.05	0.000	.3294807 .969207
lnta	7.962239	1.68907	4.71	0.000	4.595928 11.32855
llptload	-.5725984	.3638298	-1.57	0.120	-1.29771 .1525133
tcapta	-.9463507	.3486872	-2.71	0.008	-1.641283 -.2514181
_cons	-171.8728	49.73508	-3.46	0.001	-270.9947 - 72.7509

Table 4. Regression output

As shown in the table above, the coefficient of the dummy private if negative (-9.1) with a p-value of 0.018, which is significant (5%) enough to affect the profitability of the banks as measured by Return on Equity (ROE). The negative coefficient reveals that on average the private banks have reported return on equity of 9.1% lower than their respective state owned banks during the period under study, *ceteris paribus*.

The coefficient of determination (R²) was found to be 0.5551, showing the model can explain 55.51% of the variation in the return on equity is due to the ownership dummy and other control variables used. Moreover, the F-value shows that the overall coefficients of the explanatory variables used are

statistically significant enough to explain the explained variable in the model.

Based on the result, we reject the hypothesis developed, stating that private owned banks perform better than state owned banks. The result reveals that there is a significant outperformance of state owned banks during the period considering the return on equity as a measure of profitability.

The finding is not consistent with the agency theory, which states that state owned firms are less profitable than those owned privately (Eisenhardt, 1989; Jensen and Meckling, 1976; Ross, 1973; Daily et al, 2003; Wasserman, 2006).

The result is not consistent with most of the research outputs conducted in the area, (Sukhdey S, et al, 2016; Faizu H. and Rehnuma S., 2016; Xiaotian T. and Zhang Yong W., 2014; GiulianoIannotta, 2007; Alejandro Micco et al, 2007; Berger et al., 2005; Mian, 2006; and MuhammetMercan et al, 2003), concluding the better performance of the private owned banks as compared to the state owned competitors. The result refutes the notion that state owned banks have tendency of keeping more non-earning assets as compared to that of the private banks that can result in lower profitability.

The result is found to be somehow consistent with the research result of (Zhao Shi-Yong and Zhao Shi-Feng, 2013; Peter W. et al, 2010; and Mohammad Alipour, 2013), concluding the better performance of the state owned firms, though the findings were not statistically significant.

Examining the above table also shows that the impact of most of the control variables on the profitability is highly statistically significant. Size of the banks, measured by natural logarithm of total assets, and percentage of loans and advances to total assets have positive coefficients of 7.96 & 0.65 respectively with statistically strong significant at 1%. The result also shows bank capitalization measured by book value of total capital to total assets percentage has negative & significant impact on the Return on Equity of the banks at 1% significant level. The liquidity of the banks, measured by the percentage of the liquid assets to total assets, found to have a statistically significant impact on the return on equity of the banks at 10% significant level. It is also found that credit risk as measured by the percentage of loan loss provisions to total loans and advances has a negative impact on the profitability of the banks though statistically insignificant.

Conclusion and Suggestion for Future Research

The study was designed to examine the effect of state and private ownership on the profitability of the commercial banking sector in Ethiopia taking 10 years panel data set of 8 banks for the period from 2005 to 2014.

Considering the previous literatures of measuring profitability, we regressed the pooled OLS regression using both return on assets and return on equity as dependent variables and examined the fitted model. The fitted model shows that the dummy ownership and other control variables explain more of the variation of Return on Equity than that of Return on Assets. And hence, we used the return on equity as a measure of profitability for our study.

The Summary Descriptive Statistics shows that Ethiopian commercial banking sector has reported mean profitability of 29.3% Return on Equity for the years covered in the study with a

standard deviation of 11.77. The descriptive statistics also reveals that the overall mean return on equity of privately owned banks is lower than the mean return on equity of the state owned banks during the period under study.

The impact of the ownership difference on the profitability of the banks have been tested using the pooled OLS by regressing the return on equity, dependent variable, with the dummy independent variable (ownership) and other control variables.

The regression result shows that there is a statistically significant difference on the performance of state and privately owned commercial banks, in which state owned ones perform better than private ones. The finding contradicts with the agency theory, and not consistent with most of the research outputs conducted in the area, concluding the better performance of the private owned banks as compared to the state owned competitors. The result also refutes the notion that state owned banks have tendency of keeping more non-earning assets as compared to that of the private banks that can result in lower profitability.

The regression result also shows that the impact of most of the control variables on the profitability is highly statistically significant. Size of the banks and loans and advances have strong statistical positive effect on return on equity at 1% significant level. Bank capitalization is found to have negative & significant impact on the Return on Equity of the banks at 1% significant level. The result also reveals that the liquidity of the banks have a statistically significant impact on the return on equity of the banks at 10% significant level. At last, credit risk is found to have negative impact on the profitability of the banks though statistically insignificant.

As a subject for future research, we have investigated that, considering the adjusted R-square of the fitted model, the ownership and other control variables explain more of the variation in the return on equity than that of the return on assets as a measure of profitability. This has come to our attention that in a country like Ethiopia, where there is no stock exchange in which equity shares can be traded freely, which measure of profitability needs to get emphasized (the return on equity or return on assets). And hence, we came to conclude that this is a subject for further research.

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