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EFFICIENCY AND PROFITABILITY OF LISTED DEPOSIT MONEY BANKS IN NIGERIA

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ABSTRACT

*This paper examines the impact of firm efficiency on the corporate profitability of listed Deposit Money Banks (DMBs) in Nigeria. The paper is carried out based on the historical panel data analysis. To achieve this objective; an ex-post factor research design was employed. Data were generated from the annual reports and accounts of the sampled quoted Deposit Money Banks (DMBs) from 2005 – 2014. Fixed-Effect and Random-Effect Generalized Least Square (GLS) regression techniques were used as tools of data analysis. The findings establish that the independent variables (firm efficiency) has insignificant positive effect on the DMBs' profitability proxies represented by ROA and ROE. It was concluded that Firm Efficiency does not have significant impact on the profitability of the listed DMBs in Nigeria. The paper recommends that DMBs should ensure strict compliance with the international benchmark for efficiency ratio at 0.6 (Aguidissou, Shambare and Rugimbana, 2014) **a**s it goes a long way in improving their performance. This is to encourage the directors of the DMBs to strive to improve their managerial efficiency which in turns improve their performance.*

Keywords: Profitability, Efficiency, DMBs

1.0 INTRODUCTION

It is generally agreed that the soundness of the banking sector is very critical to the health of the entire economy (Sufian and Chong, 2008). Similary, (Katrodia, 2012) posited that effective and efficient performance of the banking industry is a bedrock to the financial stability of any nation. On the other hand, the wellbeing of banks to a larger extent depends on their financial performance which invariably indicates the strength and weakness of a bank (Makkar and Singh, 2013).

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Banking in Nigeria faces a challenges coming into the crisis as a result of a sluggish economy, a challenging operating environment, and increased competitive intensity—the ongoing pandemic, currency devaluation, and other macro challenges continue to place roadblocks in the sector's path. The Central Bank of Nigeria (CBN) took immediate steps, rolling out a stimulus package to combat the effects of the pandemic on critical sectors including cutting the interest rate on its intervention facilities from 9 to 5 percent. (Imf Policy to Covid-19, 2020)

Now is an opportune moment for banks to revisit and interrogate matters of efficiency and productivity in a disciplined manner. Actions taken out of necessity as a result of pandemic such as online training, virtual performance management sessions, remote working for certain jobs, and adjusted operating hours for branches. These shifts indicates cost-reduction opportunity for Nigerian Banks—primarily to be found in revisiting the branch network and coverage model, increasing efficiency of spend, and increasing productivity through end-to-end digitization (Poppensieker, 2020).

Furthermore, financial performance is evaluated by a number of factors including profitability. This is the case because the banks must generate necessary income to cover their operational expenses (Ongore and Kusa, 2013). Corporate profitability is an important component which serves as an essential indicator of corporate success or failure. This make firms to strive for profit by using all the available resources efficiently in the business and in addition, grow the worth of their investment. Furthermore it is out of the profits that shareholders get their rewards for their investment, which also encourages additional investment (Ongore and Kusa, 2013). Ongore and Kusa (2013) asserted that profit is the primary goal of commercial banks, thus all the strategies designed and activities performed are meant to realize this overall objective. Basically companies remain in operation because they expect to make profits, and they should strive at all times towards the achievement of this objective.

Understanding the relationship between firm efficiency and profitability is essential and crucial for the wellbeing of the individual banks and the entire economy. Thus, is a subject that will continue to receive the attention of stakeholders because of its importance to corporate existence.

Firm efficiency is an important determinant of corporate profitability which measures the management competence in generating revenue and at the same time controlling costs. Furthermore, ability to avoid wasting materials, energy, efforts, money, and time in doing something or in producing a desired result exhibit management efficiency. In a more general sense, efficiency display management ability to do things well, successfully, and without waste. Several scholars were in the view that, the

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higher the expense of a bank, the lesser the bank's profitability will be. Among the studies that supported such negative relationship between expense and profitability were Bourke (1989) and Vong and Chan (2003), implying that profitable banks are able to operate at lower cost. Thus banks financial performance is achievable through cost minimization and efficient utilization of resources. However, banks may operate at higher cost and still earn profit by passing overheads to depositors and borrowers in terms of lower deposit rates and/or larger lending assets (Blot and Hubert, 2016). This indicates that profitability is a product of efficiency through which banks sustained long term survival and growth.

From the foregoing, it signifies that the research findings involving the relationship of bank efficiency and profitability is still debatable (not consistent) reference to Bourke (1989) and Vong and Chan (2003), and (Blot and Hubert, 2016) above. Therefore, the aim of this paper is to evaluate the impact of firm efficiency on the profitability of listed bank in the Nigerian banking industry with a view to determine their relationship. The paper targets banks due to their critical role to the soundness of the entire economy.

2.0 LITERATURE REVIEW

2.1.1 The Concept of Firm Efficiency

Firm efficiency is important at both macro and micro levels and in order to allocate resources effectively, banks should be sound and efficient (Hussein, 2000). Efficiency in banking can be distinguished between allocative and technical efficiency. Allocative efficiency is the extent to which resources are being allocated to various uses in order to select the ones with the highest expected value. A firm is technically efficient if it produces a given set of outputs using the smallest possible amount of inputs (Falkena, Davel, Hawkins, Llewellyn, Luus, Masilela, Parr, Pienaar, Shaw, 2004). Therefore, outputs could be loans or total balance of deposits, while inputs include labour, capital and other operating costs. Furthermore, allocative and technical efficiency can only be achieved if a firm is cost efficient (Mester, 1997).

Similarly, when measuring efficiency of financial institutions, a fundamental decision to be made is which efficiency concept to use. There are three most important economic efficiency perception currently being used namely cost, profit and alternative profit efficiency. These are well documented by Berger & Mester (1997). The choice on the appropriate concept to use is informed by the problem being addressed.

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According to Maudos, Pastor, Perez & Quesada (2002), "cost efficiency corresponds to one of two most important economic objectives; cost minimization". It is derived from a cost function in which variable costs depend on the input prices, quantities of variable outputs and any fixed inputs or outputs, environmental factors, random error and efficiency (Berger & Mester, 1997).

According to Berger & Mester (1997), the cost efficiency ratio may be thought of as proportion of costs or resources that are used efficiently. In contrast to cost efficiency, standard profit efficiency indicates performance based on the ability to generate revenues by varying outputs as well as inputs.

Standard profit efficiency is the proportion of maximum profits that are earned. Berger & Mester (1997) consider the profit efficiency concept to be superior to the cost efficiency concept for evaluating the overall performance of a firm. First, profit efficiency is based on a profit maximization, which requires that the same amount of focus is placed on maximizing marginal revenue as to reducing marginal costs. Second, the profit function deals with both input and outputs inefficiencies whilst the cost function accounts for only inefficiencies in inputs (Vivas, 1997). Finally a bank can be inefficient if it produces too few, or a non-optimal mix of outputs given the inputs it uses and the prices it faces. As highlighted by Isik & Hassan (2002), "cost efficiency models ignore this possibility and thus can misrepresent the nature and extent of efficiency of banks".

Unlike in the standard efficiency concept, the alternative profit efficiency measures how close a bank is to generating maximum profits given its output levels instead of output prices (Isik & Hassan, 2002). It employs the same dependent variables as the standard profit function and the same exogenous variables as the cost function. Output prices are free to vary and affect profits (Berger & Mester, 1997).

Alternative profit efficiency is the ratio of predicted actual profits to the predicted maximum profits for a best practice bank. The alternative profit function employs the same independent variables as the cost function.

Within the banking industry, cost efficiency is often measured by using a cost to income ratio (Isik & Hassan, 2002). The current international benchmark for this ratio is 0.6 (Falkena, *et al*, 2004), indicating that banks with a higher value are inefficient.

2.1.2 The Concept of Profitability

According to Ayanda et al. (2013) the term profitability refers to the ability of the business organization to maintain its profit year after year. Profitability of a bank according to Podder (2012) is the efficiency of a bank at generating earnings.

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According to Ayanda et al. (2013) further state that profitability contribute to the income of the investors by having a higher dividend and thereby improve the standard of living of the people. Profitability apart from ensuring the sustainability of the companies it has also wider implications of the economy as a whole. Every business should earn sufficient profits to survive and grow over a long period of time.

According to Aburime (2008), profit means the difference between the revenue generated from the sale of output and the full opportunity cost of factor used in the production of that output. Included within costs are the premium charged for risk taking and cost of using the owners capital (Net worth).

Furthermore, profit could either be normal or supernormal. The level of profit necessary to keep a firm in the line of business it is known as normal profit. This level of normal profit enables the firm to pay a reasonable salary to its workers and managers. On the other hand supernormal profit is any profit in excess of normal profit. For profitability, the measurements that are used include return on assets (ROA), return on equity (ROE) and capital asset ratio, liquidity ratios and ratios measuring credit risk (Yeh, 1996; and Maudos *et al*, 2002).

2.2 Empirical Literature

Abel (2017) analyzed the profit efficiency of the commercial banks in Zimbabwe using Data Envelopment Analysis method. The study sample constituted 11 Commercial Banks for the period 2009-2014. The results suggest that Commercial Banks in Zimbabwe are profit inefficient. The average profit efficiency of the banks for the period was 80 per cent. This result means that an average bank operated at a profit efficient level of 80 per cent relative to the best performing bank in the sample. This implies that the best performing bank used fewer resources in generating profits compared to the average bank in the sample. The lowest level of inefficiency during the study period was experienced in the first half of 2009 as a result of the challenges banks experienced in transitioning from hyperinflation to stable economic environment. Banks had to incur costs in changing banking systems to adapt to the multi-currency system. The results further gives credence to the argument that Zimbabwean banks are inefficient hence the wide spreads between lending rates and deposit rates which characterised the system between 2009 and 2014.

Unal, Aktaş and Acikalin (2007) conducted a comparative performance analysis between state-owned and privately-owned commercial banks of Turkey over the period of 1997 to 2006. Profitability and operating efficiency are chosen to test the hypotheses of this study. Net Profit-Loss (NPL), Return on Assets (ROA) and Return on Equity (ROE) are the proxies used to measure profitability indicator. Net profit and

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net asset efficiencies relative to total employment and total number of branches are used to measure operating efficiency. On the contrary to expectations, statistical findings suggest that state-owned banks are as efficient as private banks, and even more efficient at some aspects. Thus, it raises the question of ‘‘whether to privatize banks or not?’’

Elena (2008) examine the efficiency and profitability of Japanese banks from 2000-2006. It uses a non-parametric approach, the data envelopment analysis (DEA) to analyze banks' cost and revenue efficiency. The results show that the performance of Japanese banks has steadily improved since 2001, but there are significant differences within the banking sector, with regional banks being less cost and revenue efficient relative to both City and Trust banks. While Japanese bank profitability is low compared to that in other advanced countries, there is considerable potential for efficiency gains, particularly through increased cost-sharing arrangements among regional banks, consolidation of regional banks with major or other regional banks, and the creation of bank consortia to pool resources for asset and risk management.

Paleckova (2015) estimate the relationship between profitability and efficiency in the Czech banking sector during the period 2004 – 2014. First, the profitability and efficiency of the Czech banks were estimated. We used two ratios for banking profitability, namely Return on Assets and Return on Equity. For estimation of banking efficiency we used the non-parametric approach, the Data Envelopment Analysis, slack-based model with variable return to scale. We calculated relationship between profitability and efficiency using Granger causality and correlation coefficient. The models did not confirm the relationship between profitability and efficiency.

Werner and Moormann (2009) conducted a research on European banks with aim of investigating the empirical relationship between efficiency and profitability. Through static and dynamic regression analysis it was found that profitable banks operate with higher technical efficiency than their competitors, furthermore, the strategic environment (structure and concentration of the national financial sector) have meaningful effect on a bank’s financial performance. The study concludes that both variables proved to be statistically and economically significant.

Guillen, Rengifo and Ozsoz (2014) conducted a study on the relative power and efficiency as a main determinant of banks’ profitability in Latin America. Their paper discovered that banks profits rose up steady above the normal levels of profits adjusted by risk. The result also indicate that banks in Latin America have been profiting from their Oligopolistic position in detriment of their clients in particular and economy in general. The study concludes that micro economy (banking variables) estimated using

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envelopment analysis and macroeconomic conditions of a country (represented by the changes in GDP) positively influence banks profitability (Proxy by ROE). They also get to know that whenever they control for firm size (local power) or market concentration result was positive and large in magnitude effect on banks profitability. Furthermore, the study includes micro and macroeconomic variables in measuring the factors that influence corporate profitability as such the variables were very sound for objective judgment of financial performance.

Lipunga (2014) evaluate the firm attributes on profitability of listed commercial banks focusing on Malawi. The results from the regression analysis indicate that bank size, efficiency and liquidity have significant impact on returns on assets, while insignificant effect on capital adequacy. On the other hand study pointed that earnings yields is significantly control by bank size, capital adequacy and efficiency. Similarly, firm efficiency improves corporate profitability and ensures cost minimization.

In the same way, Sohail, Iqbal, Tariq and Mumtaz (2013) investigates the firm efficiency on profitability of Pakistanian banks using random sampling of five major commercial banks covering the period of 7 years (2004 – 2010). The results show that both firm efficiency and external factors have significant impact on profitability of commercial banks. The firm attributes used were; liquidity, firm efficiency, assets composition, deposit composition but the external factor was firm size employed in the study. The research enlightens the bank managers on the successful attributes of banking industry performance.

Werner and Moormann (2009) conducted a research on European banks with aim of investigating the empirical relationship between efficiency and profitability. Through static and dynamic regression analysis it was found that profitable banks operate with higher technical efficiency than their competitors, furthermore, the strategic environment (structure and concentration of the national financial sector) have meaningful effect on a bank's financial performance. The paper concludes that both variables proved to be statistically and economically significant.

Ahmad, Akbar, Noor (2011) investigates the efficiency of 78 sampled Islamic banks in 25 countries for the period of 1992 – 2009 using the non-parametric, data envelopment analysis method for the estimates of efficiency whereas fixed effect model (FEM) for the analysis of profitability. The finding suggests positive correlation between banks profitability and technical efficiency levels, indicating that more efficient banks tend to be more profitable.

Yong and Christos (2010) used two step Generalized Methods of Moments (GMM). Their results exhibit that inflation contribute positively on banks profitability, cost

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efficiency, banking sector development and finally stock market development. The study confirms that higher taxation lower profitability.

Sufian et al. (2008) examined the efficiency of the Malaysian Islamic banking sector during the period 2001-2006 by using the non-parametric Data Envelopment Analysis (DEA) method. The empirical findings suggest that during the period of study, pure technical inefficiency outweighs scale inefficiency in the Islamic banking sector implying that the Islamic banks have been managerially inefficient in exploiting their resources to the fullest extent. The empirical findings suggested that the MENA Islamic banks have exhibited higher technical efficiency compared to their Asian Islamic banks' counterparts.

3.0 METHODOLOGY

3.1 Research Design and Model Specification

3.1.1 Research Design

For the purpose of this paper, Ex-*post facto* research design was employed. This is due to the fact that all the variables required for the paper were extracted from the annual reports and accounts of quoted banks in the Nigerian stock exchange. Thus, this is a correlational paper because it attempts to establish the relationship between firm efficiency and profitability. The design is believed to be adequate and appropriate for the measurement of the impact of firm efficiency on profitability in the listed Nigerian Deposit Money Banks (DMBs). The population of this study covers all the sixteen (16) banks that make up the total number of banks listed in the Nigerian stock exchange (NSE). A filter is employed to arrive at the working population of eight banks and considered as the sample of this paper thereby making sampling not necessary.

The working population is considered as the sample of this paper. These include: Access Bank Plc, FCMB Bank Plc, First Bank of Nigeria Plc, Guarantee Trust Bank Plc, Sterling Bank Plc, Union Bank Plc, United Bank for Africa Plc and Wema Bank Plc as presented in Appendix C. The entire banks are selected for the fact that the total number of the working population of the study is eight. In addition to that, the number of the working population is not an outsized number. Moreover, the financial report and accounts of the banks covering the period under study, which is, 2005-2014, are available. Therefore, studying the eight banks could represent the population better than if smaller number of banks is studied.

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3.1.2 Variables Definition and Their Measurement

This study utilized two set of variables: explained and explanatory variables.

3.1.2.1 The Explained Variables

The dependent variable that measures the profitability of DMBs are return on asset (ROA) and Return on Equity (ROE). This is in conformity with the works of Ongore & Kusa (2013) and Guillen, Regifor & Ozsoz (2014) employed ROA and ROE as a good measure of financial performance. The before tax net income is adopted due to the fact that taxes are charged at fixed rates of assessable income and not normally controllable by management.

Variables Definition and Their Measurement

S/N	Explained Variable	Definition	Measurement
1.	Return On Asset	Return on Assets (ROA) is a widely used financial tool to determine the level and intensity of returns that a firm has generated by employing its total assets. Firms are usually considered well off when they generate returns that can attract further investors and lenders, and in trouble if they need to raise the finance required for growth or capital needs, or if their ROA does not convince financiers.	ROA is computed by dividing profit before interest and tax by the company's total asset during the year.
2.	Return On Equity	A return on shareholder's equity determine the profitability of owners' investment. The shareholders' equity or net worth will include paid up share capital, share premium and reserves and surplus less accumulated losses. Net worth can also be found by subtracting total liabilities from the total assets.	ROE is net profit before taxes divided by shareholders' equity which is given by net worth.

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3.1.2.2 The Explanatory Variables

The explanatory variables include the independent and control variables. Efficiency is the independent variable while the control variables included in the model are firm age and Total Asset.

Variables Definition and Their Measurement

S/N	Explanatory Variable	Definition	Measurement
1.	**Efficiency**	Efficiency is about using the smallest possible amount of inputs to produce more outputs. Therefore, inputs include labour, capital and other operating costs while outputs could be loans or total balance of deposits. The measurement of the efficiency variable is consistent with Ahmad, Akbar, Noor (2011)	The ratio of total expenses to before tax net income.
2.	**Age**	Age is the number of years passed since listed. This is consistent with Muhammad (2009) who used age as the year of listing on Stock Exchange. The use of year of listing is a better proxy for age because it represents the year in which the company becomes popular and their account been subjected to number of scrutiny and reporting to regulatory agencies.	Total number of years since listed
3.	**Total Assets**	Asset is the total market value of the securities in a mutual fund's portfolio. Total assets or total net assets are also used to describe a fund's size. This is consistent with the work of Kakilli and Ertugrul (2013).	Fixed Assets plus Current Assets

3.1.3 Model Specification

The paper adopts and modifies the models of Lipunga (2014). The relevance of both models is that they fit perfectly into the present paper. The major difference of my own models from theirs is that, the study use ROA and ROE proxies of profitability

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while theirs were ROA and EY as proxy for profitability. Hence the need for the modification in my model.

This is expressed as:

CPRTP = f (FEFCY, FAGE, TTAST)

Accordingly, the multivariate specification of this probabilistic mode will assume the form of:

Model I:

$ROA = \alpha_0 + \alpha_1 FEFCY_{it} + \alpha_2 FAGE_{it} + \alpha_3 TTAST_{it} + e$

Model II:

$ROE = \alpha_0 + \alpha_1 FEFCY_{it} + \alpha_2 FAGE_{it} + \alpha_3 TTAST_{it} + e$

Where:

CPRTP = Corporate Profitability

ROE= Return on Equity

FEFCY = Firm Efficiency

FAGE = Firm Age

TTAST = Total Assets

α_0 = parameters to be estimated

e = Error term

$\alpha_1 - \alpha_3$ are partial derivatives or the gradient of the independent variable.

4.0 RESULTS AND DISCUSSION

4.1 Introduction

This section presents the analysis made from the data generated through annual report and account of Deposit Money Banks (DMBs). The statistical software STATA 14.0 was employ to analyze the relationship between the explained and explanatory variables so as to determine the impact of firm efficiency on the profitability of the sampled DMBs. It begins with the analyses using the regression result in an attempt to establish the nature of the relationship between the dependent variables (ROA and ROE) and the independent variables (Firm efficiency) represented by efficiency ratio of total expenses to net income. . Similarly, Multicollinearity and heteroscedasticity test were carried out in order to get better statistical inferences for the paper.

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4.2 Robustness Test of Independent and Dependent Variables

Multicollinearity and heteroscedasticity tests were conducted so as to improve the validity of the results.

4.2.1 Multicollinearity Test

Multicollinearity test is carried out to check whether there is a correlation between independent variables which will mislead the result of the paper. The result show that the variance inflation factor (VIF) is less than 10 which indicate absence of multicollinearity (See appendix A and B)

4.2.2 Heteroskedasticity Test

The result of the heteroskedasticity test reveals that there is presence of heteroskedasticity in the first and second model which show a significant probability of 0.0000 and 0.0000 respectively (See Appendix A and B). This was later corrected through the OLS robust test. Robust estimation should be considered when there is a strong suspicion of heteroskedasticity or where it exists.

4.3 Regression Results on Firm Efficiency and Return on Assets (ROA) of DMBs

The regression results of the Ordinary least Square (OLS), Random effects (RE) and Fixed effects (FE) estimation techniques are presented in Table 4.1. Similarly, Table 4.1 presents the regression results of the relationship between dependent variable (ROA) and the independent variables of the study (firm efficiency, firm age and total asset). The heteroscedasticity test reveals the absence of homoscedasticity in the model. Therefore, OLS regression robust test was carried out with the view to validating the result. In addition, fixed effect and Random effect estimate results are going to be discussed.

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Table 4.1 Model One Regression Result on Firm Efficiency and Return on Asset (ROA) of DMBs

	OLS				**Random**				**Fixed**			
Explanatory Variables	**Coefficient**	**Robust Std error**	**t**	**p>/t/**	**Coefficient**	**Std error**	**Z**	**p>/z/**	**coefficient**	**Std error**	**t**	**P>/t/**
Constant	0.001	0.0915	0.00	0.999	0.0001	0.0915	0.00	0.999	-0.0536	0.3892	-0.14	0.891
FEFCY	-0.0253	0.0446	-0.57	0.573	-0.0253	0.0446	-0.57	0.571	0.0007	0.6529	0.01	0.992
FAGE	0.0000	0.0032	0.01	0.991	0.0000	0.0032	0.01	0.991	0.0009	0.1948	0.05	0.963
TTAST	-2.70e1	5.34e-1	0.51	0.614	-2.70e-1	5.34e-1	-0.51	0.613	-3.60e-1	8.74e-1	-0.41	0.682

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R- Squared	0.3240		
F Value	4.93		
Prob F	0.0001		
R Squared:			
Within		0.1816	0.1849
Between		0.9743	0.9109
Overall		0.3240	0.3144
rho			
F – Value U_ I = 0		0.000	2.11
P Value			0.0552

Source: generated by the author from annual reports and Accounts 2005-2014 Data of Deposit Money Banks

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The OLS regression results in table 4.1 of model 1 reveals the cumulative R^2 (0.32) which is the coefficient of determination gives the proportion of the total variation in the dependent variable explained by the explanatory variables jointly. Hence it shows 32% indicating that the variables (firm efficiency, Age and total asset) considered in the model accounts for about 32% change in the dependent variable that is ROA, while the remaining of the change is as a result of other variables that not addressed by this model. Likewise the value of F statistics of 4.93 at 5% level of significance proved the model to be fit. Hence, the finding of the paper is relied upon.

The results in Table 4.1 show that firm efficiency has insignificant positive impact on the corporate profitability at -0.57 and 0.57 for both OLS and RE models. This indicates that an increase in firm efficiency, other dependents variables remaining constant. Increase the profitability positively but insignificantly. However, firm efficiency improves financial performance through cost control and adequate utilization of resources obtained from financial statements of the firms. This is contrary to Bouke (1989) who found negative association between firm efficiency and corporate profitability. This implies that profitable banks are able to operate at lower cost. Similarly, this shows the level of management competence in generating revenue and in turns improves the corporate profitability. The finding from this paper support Lipunga (2014) who documents a positive and in addition, significant relationship between firm efficiency and corporate profitability of DMBs.

Furthermore, for the control variables (Firm Age) which is measured by number of years a firm has since listed, the result shows that age has positive but insignificant impact on the profitability of DMBs for both OLS robust and RE with positive coefficient in both estimations. This confirms that as a reputation variable the older the firm, the greater the shareholders confidence in its strength, growth and long term survival. The finding is consistent with Viverita et al (2007) who found that, Age has positive impact on profitability. Therefore, banks age has positive association with corporate profitability. Likewise, total assets as control variable has insignificant positive relationship with corporate profitability proxy by ROA. This is in line with Kakilli and Ertugrul (2013) who suggest that logarithm of total asset has positive impact on the profitability of the DMBs but insignificant. The study contradicts the findings of Sohail, Iqbal, Tariq and Mumtaz (2013) who found that assets composition is positively and significantly related with corporate profitability.

4.3.3 Regression results on Firm Efficiency and Return on Equity (ROE) of DMBs.

Table 4.2 shows the regress result of ordinary least square OLS, Radom Effect (RE) and fixed effect (FE). The dependent variable used in this model is the return on equity (ROE). Although the three results are shown, analysis and interpretation would only be made on the OLS and RE due to the fact that RE is more efficient.

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Table 4.2 Model Two Regression Result on Firm Efficiency and Return on Equity (ROE) of DMBs

	OLS				**RANDOM**				**FIXED**			
IND.VARS	**Coefficient**	**Std error**	**t**	**P>/t/**	**Coefficient**	**Std error**	**Z**	**P>/z/**	**Coefficient**	**Std error**	**t**	**P>/t/**
Constant	2.3094	1.8426	1.25	0.214	2.3094	1.8426	1.25	0.210	-4.9884	6.7435	-0.74	0.462
FEFCY	-0.1326	0.8977	-0.15	0.883	-0.1326	0.8977	0.15	0.883	-0.4973	1.1312	-0.44	0.662
FAGE	-0.0545	0.0653	-0.83	0.407	-0.0545	0.0653	-0.83	0.404	0.3040	0.3376	0.90	0.371
TTAST	-5.28e-1	1.07e-1	-0.49	0.625	-5.28e-1	1.07e-1	-0.49	0.623	-1.26e-1	1.52e-1	-0.83	0.409
R squared	0.5569											
Adj. R Squared	0.5138											
F Value	12.93											
Sig	0.0000											
R squared:					0.5629				0.5737			
Within					0.5595				0.1003			
Between					0.5569				0.3520			
Overall					0				0.5423			
Rho									3.43			
F value-i=0												
P value									0			

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Table 4.2 displayed the OLS regression results: it reveals the cumulative R^2 (0.56) which is the multiple coefficient of determination gives the proportion of the total variation in the dependent variable explained by the explanatory variables jointly. Hence, it indicates that 56% of total variation in ROE of DMBs is caused by their management efficiency, age and total assets of the banks. In the same vein, the result of the F statistics value of 12.93 implies that the model is fit and the explanatory variables are properly selected combined and used as substantial value (56%) of the corporate profitability is accounted for by the explanatory variables.

The regression result in respect of firm efficiency and ROE shows that efficiency is positively related with corporate profitability but insignificant at 0.15 and 0.88 for both OLS and RE estimation respectively. This result reveals that an increase in efficiency measures how close a bank is to generate maximum profit by allocating resources to the use with highest expected value. This result indicates positive association between firm efficiency and profitability. This finding is in line with that of Ahmad, Akbar and Noor (2011) who found positive correlation but insignificant between DMBs profitability and firm efficiency levels signifying that more efficient banks tends to be more profitable. Furthermore, Study of Guillen, rengifor and Ozsos (2014) the same relationship was discovered that banks profit rose above the normal level of profits.

This implies positive relationship but insignificant between firm efficiency and profitability of DMBs. This contradicts Ben Neceur and Omran (2008) who found significant association between bank efficiency and profitability.

The result of the regression show that age as control variable has a positive but insignificant impact on the profitability of DMBS. All things being equal, older companies might have in the course of their growth, developed operating efficiency that is capable of controlling cost and able to make more profit compared to younger companies. This is in line with Yakumar (2011) who uncovered that age has a positive impact on corporate profitability. Moreover, Assets being a control variable is positively correlated but insignificantly with corporate profitability. This implies that assets quality has a positive contribution to banks profitability. This finding is consistent with Lipunga (2014) who suggest that asset has a positive association with profitability of DMBs in Nigeria.

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5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

In the light of the findings of the paper, the following conclusions are drawn;

i. The firm efficiency is one of the factors that influence corporate profitability as a result of management competence in generating revenue.

5.3 Recommendations

In the light of the conclusions drawn the following recommendations are made;

i. Management of DMBs should comply with minimum international benchmark for efficiency ratio which is 0.6%. This signifies that, management should improve revenue diversification, reduce operational costs, minimize credit risk, improvement of labour management and training skills the purpose of which is to increasing their productivity and boost the profitability. This would be accomplished through sufficient resource allocation inform of high salary and wages expenditures as well as providing allowances in time. By so doing, the directors, managers and other employees will be influence psychologically to be more inspired to work with zeal and by this the efficiency of the DMBs will increase. The high expenditures incurred (overheads) will be shifted or transferred to depositors and borrowers in terms of lower deposit rates and/ or larger lending assets.

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