

IMPACT OF INTERNAL FACTORS ON PROFITABILITY OF DEPOSIT MONEY BANKS

Orikara Patience Chioma

Department of Banking and Finance,

Michael Okpara University of Agriculture, Umudike, Nigeria

ABSTRACT

This Study examined the impact of internal factors on profitability of banks in Sub Saharan (SSA) as its key objective. Specific objectives are evaluation of the impact of: board composition with more nonexecutive directors, employee productivity and capital base on return on assets of the banks. Panel data for the period 2004-2016 on selected banks from six SSA countries were used. The data were analyzed with panel data multiple regression technique under Fixed Effects model as indicated by Hausman test. Findings revealed among others that the three independent variables have positive significant impact on return on assets. Also, the three variables indicate positive significant correlation with the return on assets while employee productivity exhibits equally positive significant relationship with board composition. The Study therefore, concludes that internal factors have positive significant impact on the profitability of deposit money banks in SSA. Based on the conclusion, it is recommended among others that deposit money banks in SSA should compose their board of directors in such a mix that ensures that number of nonexecutives directors is more than executive directors and that they should put in place measures to motivate their employees for greater productivity which leads to higher profitability.

KEYWORDS: Board composition, team efficiency ratio, capital base, growth maximizing model, employee productivity.

1. INTRODUCTION

The performance of a bank is said to be affected by internal factors to the bank (Staikouras and Wood, 2011). The internal factors simply refer to all the issues- policies, strategies, decisions among others which are specific to a particular organization and influence the operations and performance of the organization (Nwaubani and Orikara, 2019). In his own view, Abukhames (2015), sees the internal business environment as consisting of factors within the company which impact the success and approach of operations of the business. With the world becoming a global village, the internal environment of the banking sector in Sub Saharan Africa (SSA) over the recent decades has become increasingly complex and challenging. According to Siddiqua, Chowdhury, Mainuddin and Rahman (2017) and Samad (2015) the internal factors of a bank play great role in determining its profitability.

It may be noted that the internal environment of each deposit money banks in SSA has been under increasing pressure from equally complex and changing external factors. The external factors are outside the firms' control and have the potential to affect the firms' (Indria and Primiana, 2015). The external factors influenced the banks' policies on internal issues such as capital base, corporate governance, staff productivity among others. For instance, in the recent years, particularly since after the 2007-2009 global financial crisis, the issue of minimum adequate capital base has been the focus of Basel Accords with the recent being Basel III. Basel is a city in Switzerland and Base III is an international regulatory accord concerned with improving regulation, supervision and risk management in the banking sector through reforms (Nikolas, 2019). Again the issues of staff productivity and corporate governance particularly board of directors composition have attracted the attention of various governments and regulatory authorities. Though, ordinarily, these issues are internal to the banks, the regulatory directives have to be complied with. In nutshell, the internal factors of a firm are influenced by the external factors which combine to affect performance of the firm.

2. STATEMENT OF THE PROBLEM

The banking sector all over the world has been witnessing challenging and complex operating environment particularly since after the 2007/2009 global economic meltdown (Michaels 2015). The deposit money banks in Sub Saharan Africa equally have had to face the dynamic and challenging internal environment with implications for their profitability. A number of empirical studies have been documented on the effect of internal factors on the profitability of the deposit money banks in the Sub Saharan Africa (SSA). The problem is that studies incorporating board composition as one of the variables in their models to examine the effect of internal factors on banks' performance in SSA are scanty. The same challenge applies to employee productivity which has been sparingly modeled as one of the variables in such empirical studies. This study therefore, is poised to enrich the empirical literature on the impact of the two variables on profitability of banks. A further problem is that among the empirical studies on effect of internal factors on profitability of SSA banks, there are mixed findings as relating to impact of capital base. While Mungly et al 2016-Mauritius, Maredza 2014-South Africa, Rama and Lakwe 2014-Tanzania reported positive impact of capital base on profitability, Oino 2015-SSA, Soyemi et al, 2013, Hashem 2016-Egypt documented negative effect, even with Ehekoba, Egbinike and Esu (2014) -Nigeria revealing no impact. Resolving this conflict is part of the motivation for this study.

3. OBJECTIVES OF THE STUDY

The main purpose of this study is to examine the effect of internal factors on performance of deposit money banks (DMBs) in Sub Saharan Africa (SSA). The specific objectives are:

- To determine the effect of board of directors with more non-executive directors on return on assets of deposit money banks in Sub Saharan Africa.
- To determine the effect of capital adequacy on return on assets of deposit money banks in Sub Saharan Africa.
- To assess the effect of employee productivity on return on assets of deposit money banks in Sub Saharan Africa.

Based on the specific objectives three hypotheses were formulated in a null form and tested at 95% confidence level as shown here under:

H₀₁: Board of directors with more non-executive directors has no significant effect on the return on assets of deposit money banks in SSA.

H₀₂: Capital base has no significant effect on the return on assets of deposit money banks in Sub Saharan Africa

H₀₃: The effect of employee productivity on return on assets of deposit money banks in SSA is not significant.

4. INTERNAL FACTORS OF A BUSINESS AS A CONCEPT

A firm's internal environment is composed of the elements within the organization such as the employees, management, and corporate culture, which defines employee behavior (McKinley 2017, Houghton Mifflin Harcourt- Harcourt, 2016). Generally, the internal factors of a business refer to all the factors which are specific to a particular firm and influence the operations and performance of the firm. These factors represent the strengths and weaknesses of an organization and are typified in policies and decisions of a bank's executive management (Queenland 2016, Rao and Lakew 2012). While the banks are commonly affected by the external environment, it is the internal factors which define the differences in the approach adopted by each bank to curtail the influence of the external environment. As banks have no control over the external environment, their internal factors are subjected to constant review and fine-tuning in order to manage the external environment.

The review and fine-tuning could be seen in some policies of the banks relating such internal factors as minimum paid up capital, corporate governance, human resources, interest rate to be charged on loans, opening and closure of bank branches among others. For instance, in most SSA countries, minimum paid up capital of deposit money banks have been reviewed upward and made compulsory by law (external environment). In Nigeria, the banks have witnessed several increases in their minimum capital base via government regulation with the major one experienced in 2005. Also, the structure by which a bank is run and controlled is primarily an internal affair of a particular bank. However, to ensure transparency and integrity in the way businesses are run and to safe guard interests of all stakeholders, governments across the globe introduce code of corporate governance for the banks to adopt. Thus, though corporate governance and capital base in banks are internal issues, regulatory prescriptions on them (external environment) have to be complied with. The compliance has profit implication

for the banks. The internal factors of a bank have been acknowledged to play crucial part in determining profitability of the banks (Siddiqua, Chowdhury, Mainuddin and Rahman2017, Samad 2015, Osuagwu 2014)

4.1 Employee Productivity as a Concept

According to Nwaubani and Orikara (2019) productivity is an input-out concept which at its simplest level refers to efforts and results achieved. The efforts and result are specific to a certain period of time. In terms of the banking industry, employee productivity could be regarded as assigned performance targets to an employee and percentage achieved by him/her within a specific period. The targets represent desired performance indicators by the banks. However, employee productivity in most literature is usually measured as the natural log of total revenue divided by total number of employees within a certain period of time (Iacobelli 2017, Tan2016, Chapagai, 2011, Athanasoglou, Brissimis, Delis 2008). This is because output is usually represented by total revenues or assets while labour and capital are measured by number of employees and total non-labor cost respectively. The majority view when it comes to employee productivity in banks, is that there is no consensus on what bank output is because of the intangible, multiple and interdependent nature of the services provided by banks which make it difficult to separate and price them independently(Athanasoglou, Georgiou and Staikouras, 2008).

In this study employee productivity as it relates to the banking sector is represented in terms of team efficiency ratio which is a modified intermediation approach (Bod'a and Zimkova, 2015). This approach which was first applied empirically by Nwaubani and Orikara(2019b) reflects profit maximization tendency of deposit money banks and measures employee productivity in terms of how much profit the employees generate as a team for each one US dollar paid them as salary by their employers(Nwaubani and Orikara, Universalclass,2018,Sauermann, 2016, Bod'a and Zimkova, 2015). The relevance of this approach lies in its emphasis on profitability which is in line with tendencies of banks to maximize profit.

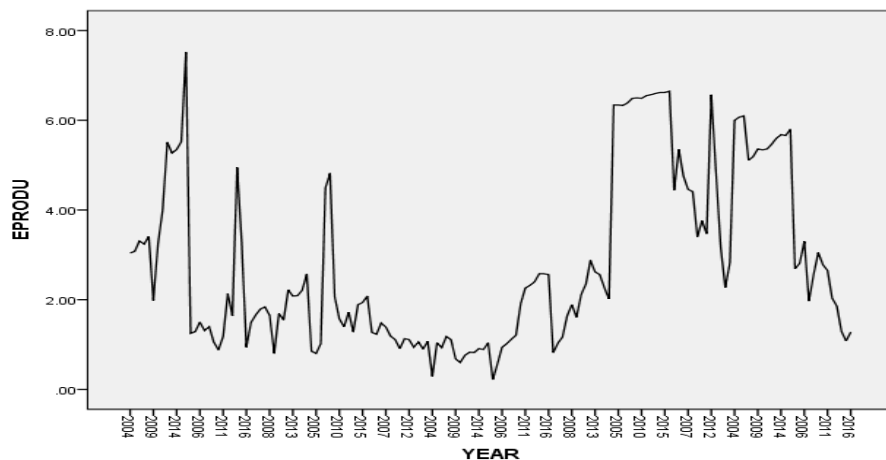


Figure 1 Movement in the Employee Productivity in the Banks for the Period of the Study

Source SPSS (20) Output, 2019

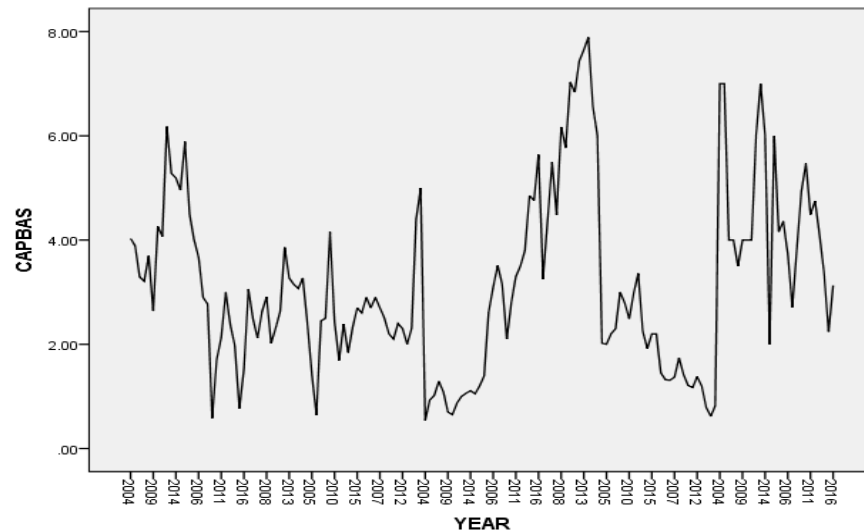


Figure 2 Movement in the Capital Base of the Banks for the Period of the Study

Source SPSS (20) Output, 2019

5. THEORETICAL FRAMEWORK

The theoretical framework of this study is premised on Robin Marris Growth maximization managerial theory of the firm.

5.1 Robin Marris Growth maximizing Theory of the Firm (1964)

The firm theory explains the nature of a firm and states that the firm's objective is to maximize profits (Kantarelis, 2007). It measures profit as the difference between a firm's total revenue and total cost and asserts that in order to maximize profit, the firm is expected to maximize its revenues and minimize or stabilize its costs. The traditional firm is a single business entity whose entire operations are carried out by an entrepreneur with the main objective of profit maximization (Jhingan and Stephen, 2009). However, because of the complexities of the modern firm, and in view separation of their ownership from their managers, the sole objective of profit maximization of the traditional firm has become unrealistic. In 1964 Robin Marris developed a dynamic balanced growth maximizing model of the firm in recognition of the varied interests of the managers and shareholders (Jhingan and Stephen, 2009). Marris suggests that managers are usually more concerned with salary, prestige, status, power, job security while shareholders are more interested in profits, market share and output (Rekhi, n.d.).

The managers see growth in the size of the firm as key to enhancing their promotion prospects and meeting their interest. They therefore, desire to pursue activities which will see the firm expand rapidly over time. However, the fear of losing their jobs if the expansion pursuit fails, compels them not to pursue the growth objective beyond what they consider easy for them. This easy way attitude of the managers will eventually lead to low productivity. The managers also know that their failure to drive expansion and profitability for internal growth implies dependence on external borrowing with potential risk of take-over and loss of the jobs which they intend to secure. Pursuing a balanced growth rate is desirable in order to control the tendency of managers just involving in expanding too fast by undertaking very risky projects and engaging in huge debt to finance the expansion and on the other hand to ensure that the managers don't lose drive and initiative. Such a balanced growth rate will lead to more profits, dividends to the shareholders and maximization of the market values of the firm and avoidance of take-over of the firm will be beneficial to both parties. Marris theory specifies a dynamic model which yields a balanced growth rate anchored on management capacity to successfully generate greater demand and ability of existing products to generate sufficient profit for reinvestment to increase current dividend payments so as to fulfil the expectations of shareholders.

Marris theory is relevant to this study as the theory focuses mainly on bank size which represents the financial muscle of a bank built over time through reinvestment of profits or outright capital injection. It checkmates employee's tendency to stay in their comfort zone with low productivity implication while at the same time controls unguided risk appetite of the managers over investments to drive their personal ambition in the firm. Such ambition may result in huge financial loss or

bankruptcy to/of the firm. Though bank size is not part of the model of this study, it constitutes an important factor of the internal environment of banks in Sub Saharan Africa. A deposit money bank which adopts Marris model in its productivity and performance drive is likely to remain stable and profitable in the tough external environment. Equally the check on reckless expansion represents constraint to profitability of the bank and reflects pressure from shareholders. The interactions between the shareholders and Management of the banks as seen in Marris model combine to influence the profitability of the banks and the way the interactions are managed by each bank defines the difference in the profitability of the bank.

5.2 The Empirical Review of Related Literature

This review starts with the most current empirical studies and runs down to the appropriate earlier studies.

Nwaubani and Orikara(2019) examined the effect of employee productivity and staff terminal benefits on performance of banks in Sub Saharan Africa (SSA) using balanced panel data from 12 SSA banks from 2004 to 2016. Fixed and Random Effects models were employed as determined by Hausman test. Findings revealed among others that employee productivity has positive significant effect on ROA with staff terminal benefits exhibiting negative insignificant effect on ROA and NIM. The staff terminal benefits also indicated negative significant correlation with employee productivity. Iacobelli (2017) used panel data spanning the period 1980 to 2015 to examine the factors determining the profitability of the top sixteen global banks. Bank-level and country-level variables were specified and analyzed using Fixed effects and Generalized Method of Moments (GMM) techniques. Findings indicate that bank characteristics (such as capital risk, credit risk, productivity growth rate, expenses and size), industry structure and macroeconomics variables are important in explaining global banks' profitability. Specifically, while Capital has significant positive impact on ROA, credit risk and operational efficiency respectively indicate highly significant negative impact on ROA.

van Dooren (2017) examined the determinants of differences in bank profits between the EU countries for the period 1998-2013. The study focused on three regions of Europe namely the Northwest, Mediterranean region and new entrants of the European Union which included Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia. The Northwestern European countries were Austria, Belgium, Denmark, France, Germany, Ireland, Luxembourg, the Netherlands, Sweden and the United Kingdom while the Mediterranean countries consist of Greece, Italy, Portugal, and Spain. The period was also divided into three phases namely the pre-recession (1998-2006), the recession (2007-2008) and the post-recession (2009-2013) time period. Findings indicated that bank market share, the banks' risk levels, and inflation rates are significant determinants of bank's profitability in the European Union between 1998 and 2013. The results also showed that there were significant differences in changes of ROA between regions in the European Union during the recession and post-recession years.

Chandrasiri and Thilakerathne (2016) explored factors which determine profitability of commercial banks in Sri Lanka within the period as Sri Lankan central bank introduced new rules for amalgamation. Secondary data of 8 listed commercial banks and 2 semi government banks were analyzed using regression analysis technique. Outcomes showed that bank capital and total deposits are main determinants of profitability (return on assets) of banks. Hashem (2016) examined the determinants of banking sector profitability in Egypt using quarterly time series data from 2004 to 2014. The model utilized cointegration technique to investigate the long run relationship between the return on equity as a proxy for bank profitability and several bank-specific variables including liquidity, capital adequacy and percentage of non-performing loans. Vector Error Correction Model (VECM) was employed to explore the short run dynamics and the speed adjustment to reach the long- run equilibrium. Findings revealed that banking sector profitability is negatively related to capital adequacy, percentage of loan provisions and the ratio of deposits to total assets while displaying positive relationship with the size of banking sector. This implies that the banking sector exhibits economies of scale.

Tan (2016) evaluated the impact of risk and competition on profitability of the Chinese banking industry (state-owned, joint-stock and city commercial banks) over the period 2003–2011 under a one-step Generalized Method of Moments (GMM) system estimator. The results showed no robust finding with respect to the impact of competition and risk on bank profitability but indicated that Chinese banks' profitability is affected by taxation, overhead cost, labor productivity and inflation. Mungly, Setanah, Seetah, Babajee, Maraye and Ramdhany (2016) examined the factors that determine profitability of banks in Mauritius using a sample of 15 banks covering the period 2005 -2013. A static and a dynamic model were considered during the analysis. The static model was estimated with Generalized Estimating Equation (GEE) while the dynamic model was estimated with the Arellano-Bond two-step Generalized Method of Moments (GMM). Findings revealed that cost management efficiency has significant negative effect on return on assets (ROA) and return on equity-ROE. On the

other hand, capital adequacy, credit risk, diversification and GDP growth indicate positive and significant effect on ROA. The analysis of the dynamic models showed no evidence of dynamism in the determination of banks profitability in the Mauritian banking sector.

Shuremo (2016) examined the effect of bank-specific, industry-specific and macroeconomic determinants on banks' profitability in Ethiopia applying the balanced panel data regression approach on eight Ethiopian commercial banks for the period 2002 - 2012. The study used ordinary least square (OLS) technique to estimate the parameters. The findings indicate that all bank specific determinants except credit risk and expense management have statistically significant and positive relationship with banks' profitability. On the other hand, credit risk, expense management and regulation have a negative and statistically significant relationship with banks' profitability. All macroeconomic determinants in this study like economic growth, interest rate spread and exchange rate have statistically significant and positive relationship with banks' profitability. Yakubu(2016) examined the influence of bank-specific and macroeconomic factors on Commercial banks profitability in Ghana using secondary data on five commercial banks for the period 2010-2015. The study employed the ordinary least square regression model to analyze the data. The results suggested that bank size, liquidity, capital adequacy, asset management, expense management, and real interest rate are positively related to profitability. GDP growth and inflation rate on the other hand, are related negatively to profitability. However, only bank size, liquidity, and expense management have a significant effect on commercial banks profitability. The author concluded that commercial banks profitability in Ghana is largely determined by bank-specific factors. Albulescu (2015) examined the influence of financial soundness indicators on the banks' profitability, at the macro-level, in a set of emerging countries focusing only on the internal conditions of banks. IMF monthly data for the period 2005-2013 were used and analyzed employing panel data fixed effects approach. Results revealed that non-performing loans have a negative impact on banks' profitability while the level of liquidity has a mixed influence, the capitalization and the interest rate margins positively affect the banks' profitability.

Messaia, Gallah and Jouni (2015) examined determinants of banks' profitability in Western European countries during the distress period 2007-2011 using a sample of 322 banks. The 322 banks were divided into two groups- those in countries affected by the crisis (Italy, Greece, Portugal, Spain and Ireland) and those in the other countries not affected. Dynamic panel data technique was used and the results revealed that capital ratio and credit risk are the major determinants of profitability (ROAA and NIM) of the banks. Petria, Capraru and Ihnatov (2015) assessed the main determinants of banks' profitability in EU27 over the period 2004-2011. Proxies used for banks profitability were return on average assets (ROAA) and the return on average equity (ROAE). The data were analyzed using panel data multiple regression approach under fixed effects and random effects models. The empirical findings indicated that credit and liquidity risk, management efficiency, the diversification of business, the market concentration/competition and the economic growth have influence on bank Profitability. Market concentration has negative impact on the bank profitability while competition is consequently considered as having a positive impact on bank profitability in EU27.

Oino (2015) analyzed how competitive the banks in sub-Saharan Africa are and what determines their profitability using a panel data of 97 sub-Saharan African banks for the period from 2000 to 2012. Findings using the fixed effects indicate that both internal and external factors are determinants of profitability of the banks. Specifically, the cost-income ratio and capital ratio negatively and significantly influence profitability. The results also indicated that the more diversified the bank is, the more profitable it is. Yesmine and Bhuiyah (2015) investigated the factors having impact on the financial performance of 10 local private commercial banks (PCB) and 4 nationalized commercial banks (NCB) operating in Bangladesh using secondary data covering the period from 2008-2014. The data were analyzed under multiple regression model. The study indicated that asset utilization and operating efficiency have significant positive impact on banks' profitability whereas credit risk has significant negative impact with asset utilization being the most critical factor for the PCBs performance.

Adeusi, Kolapo and Aluko (2014) examined the factors that influence the profitability of commercial banks in Nigeria using panel data approach to analyze the time series and cross-sectional data obtained from 2000 to 2013 on a sample of fourteen banks. Profitability was measured by return on assets being a function of some internal and external determinants such as capital adequacy ratio, asset quality, management efficiency, liquidity ratio, inflation, and economic growth. The findings reveal that asset quality, management efficiency, and economic growth are the determinants of commercial banks' profitability. They are statistically significant on profitability in both the fixed effect and random effect models with asset quality being highly significant in both models. Ahmad and Matemilola (2014) investigated the determinants of bank profits and net interest in the post-crisis era in Asia using panel data regression analysis method. Four countries, namely Malaysia, Thailand, Indonesia and South Korea, were selected as they successfully revamped after the Asian financial crisis. The study covers the period 2003 to 2008. Results indicated that bank-unique characteristics rather than external factors consistently

explain a substantial part of the variation in banks' profits and net interest margins in the Asian countries. Amongst the variables, capital adequacy has significant positive effects on bank profitability. Also, the results showed that increased bank size has inconclusive evidence. Ally (2014) investigated the effect of bank specific and macroeconomic factors on banks' profitability in Tanzania. The fixed effects regression model was used on a panel data obtained from 23 banks from 2009 to 2013. The empirical results show that bank-specific factors: - capital adequacy asset quality, expenses management, liquidity ratio significantly affect banks' profitability in Tanzania. However, macroeconomic factors do not seem to have significant effect on banks' profitability.

Maredza (2014) applied a two step-methodology framework to a panel of four small banks and four large banks for the period 2005-2011 in South Africa to explore the internal determinants of bank profitability but with more focus on the impact of bank efficiency. The framework involved generation of total factor productivity efficiency scores. The scores were examined along with other internal factors for impact on profitability (return on average assets and net interest margin) using Generalized Least Squares Fixed Effects Model. Findings show that high total factor productivity efficiency and capital adequacy lead to higher profitability, while high cost inefficiency, diversification activities, large bank size, and high credit risk leads to lower profitability over the study period.

Osuagwu (2014) employed a panel of selected banks (which account for over 60% of total bank assets in Nigeria), to investigate the determinants of bank profitability in the light of bank specific variables, industry related factors and macroeconomic influence. Findings show that bank profitability is largely determined by credit risk and other factors that relate to the internal organization of banking firms. Also, market concentration and exchange rate are significant as determinants of bank profitability. However, exchange rate is significant determinant of profitability only to the extent profitability is measured by return on equity and non-interest margin. Soyemi, Akinpelu and Ogunleye (2013) employed panel data covering the period 2006 to 2010 for ten listed banks in Nigeria to examine factors influencing profitability among deposit money banks (DMBs) in Nigeria. Findings show that bank size and capital adequacy ratio is negatively and significantly related to profitability of bank. The findings suggest that some banks in Nigeria may be suffering from diseconomy of scale which is as a result of inefficiencies that may be associated with large complex organizations. The external determinants of financial structure and macroeconomic variables adopted depict no significant influence on profitability. Management expenses, current and saving deposit accounts variables have no effect on bank profitability.

6. RESEARCH METHODOLOGY

The research design adopted in this work is *ex-post facto*. Secondary data from 12 deposit money banks selected from 6 Sub Saharan African countries of Nigeria, South Africa, Ghana, Kenya, Mauritius and Botswana were collected for the period 2004 -2006. The banks are: Guaranty TrustBank, First Bank, Zenith Bank and Access Bank for Nigeria; Standard Bank and Nedbank for South Africa; Kenya Commercial Bank and Equity Bank for Kenya; Mauritius Commercial Bank and SBM Bank for Mauritius; Standard Chartered Bank of Ghana for Ghana and Barclays Bank of Botswana for Botswana. Panel data multiple regression approach was employed. The dependent variable used in this study is Return on Assets (ROA) to proxy profitability while the independent variables are board composition with more nonexecutive directors, capital base and employee productivity. The final model of the study is a modified version of the models adopted by Atuahene (2016) and Flamini, McDonald and Schumacher (2009) and it is given as:

$$ROA_{ic,t} = \alpha + \sum \beta_1 BODCOM_{ic,t} + \sum \beta_2 CAPBAS_{ic,t} + \beta_3 EPRODU_{ic,t} + V_{i,t}$$

Where:

$ROA_{ic,t}$ is the return on total assets of bank i in country c for period t ;

$BODCOM_{ic,t}$ is Board composition of bank i in country c for period t ,

$CAPBAS_{ic,t}$ is the capital base of bank i in country c for period t ,

$EPRODU_{ic,t}$ is the employee productivity of bank i in country c for period t ,

α is the constant for the model

β_1 to β_4 are parameters/ beta coefficients to be estimated

$v_{it} = u_{it} + \varepsilon_{it}$ is the composite disturbance factor, while u_{it} = between-entity errors and ε_{it} = within-entity errors (the idiosyncratic errors).

Table 1: Measurement of Variables of the Study

S/n	Variable Dependent /Independent	Measurement	A priori Expectation
1	ROA - Return on Assets (Dependent)	Profit before tax divided by total tangible asset ;; Iacobelli ,(2017), Mungly et al,(2016) or as given in the annual accounts of each bank	
2	BODCOM-board with more nonexecutive directors (Independent)	A dummy variable which takes value of 0(zero) if number of nonexecutive directors is more than number of executive director and 1 if otherwise	-/ +
3	CAPBAS- capital base (Independent)	Tier1 capital +Tier2capital divided by total risk- weighted assets.(Hoffman ,2011; Liu ,2013 Petria, et al, 2015, Iacobelli, 2017). Or as given in the annual reports of each bank	
4	EPRODU- employee productivity (Independent)	Profit Before Tax divided by total salary amount paid . (Nwaubani and Orikara, 2019'; Universalclass 2018, Sauermann 2016 ; Bod'a and Zimkova, 2015,)	-/+

Source: Author's Measurement, 2019

6.1 Data Analysis Technique

Panel data approach is employed to analyze the balanced panel data under random effects and fixed effects models. The preference for fixed or random effects model for each variable is dictated by result of Hausman test. The null hypothesis in the Hausman test is that the selected model is random effects model while the alternative is fixed effects model. The null hypothesis is rejected and the fixed effects model accepted if the resulting p-value from the test is less than the selected level of significance.

7. DATA PRESENTATION AND ANALYSIS

Table 3 Correlation Among the Variables of the Study

		ROA	BODCOM	CAPBAS	EPRODU
ROA	Pearson Correlation	1	.209**	.200*	.222**
	Sig. (2-tailed)		.009	.012	.005
	N	156	156	156	156
BODCOM	Pearson Correlation	.209**	1	-.049	.271**
	Sig. (2-tailed)	.009		.540	.001
	N	156	156	156	156
CAPBAS	Pearson Correlation	.200*	-.049	1	.002
	Sig. (2-tailed)	.012	.540		.979
	N	156	156	156	156
EPRODU	Pearson Correlation	.222**	.271**	.002	1
	Sig. (2-tailed)	.005	.001	.979	
	N	156	156	156	156

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 3 above shows the correlation among the variables of the study. From the Table, the three independent variables namely Board composition with more nonexecutive directors (BODCOM), capital base (CAPBAS) and employee productivity (EPRODU) indicate positive significant relationship with return on assets (ROA). Also, BODCOM exhibits positive significant correlation with employee productivity.

7.1 Data Analysis

The results of the regression analysis are shown on Tables 4A to 4C below.

Table 4A Results of Fixed Effects Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.755526	0.420290	4.176944	0.0001
BODCOM	1.886516	0.809749	2.329754	0.0212
CAPBAS	0.055368	0.020141	2.748996	0.0068
EPRODU	0.134972	0.072563	1.860083	0.0650
Effects Specification				
Period fixed (dummy variables)				
R-squared	0.153779	Mean dependent var	3.144103	
Adjusted R-squared	0.063113	S.D. dependent var	1.712456	
S.E. of regression	1.657537	Akaike info criterion	3.945457	
Sum squared resid	384.6399	Schwarz criterion	4.258263	
Log likelihood	-291.7456	Hannan-Quinn criter.	4.072505	
F-statistic	1.696099	Durbin-Watson stat	0.321110	
Prob(F-statistic)	0.058046			

Dependent Variable: ROA

Method: Panel Least Squares

Date: 07/11/19 Time: 10:30

Sample: 2004 2016

Periods included: 13

Cross-sections included: 12

Total panel (balanced) observations: 156

Under this model (Fixed Effects), all the three independent variables have positive significant effect on return on assets.

Table 4B Results of Random Effects Model

Dependent Variable: ROA

Method: Panel EGLS (Period random effects)

Date: 07/11/19 Time: 10:33

Sample: 2004 2016

Periods included: 13

Cross-sections included: 12

Total panel (balanced) observations: 156

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.793324	0.398176	4.503843	0.0000
BODCOM	1.661523	0.783780	2.119886	0.0356
CAPBAS	0.050371	0.018822	2.676143	0.0083
EPRODU	0.154464	0.071402	2.163294	0.0321
Effects Specification				
		S.D.	Rho	
Period random		0.000000	0.0000	
Idiosyncratic random		1.657537	1.0000	
Weighted Statistics				

R-squared	0.116195	Mean dependent var	3.144103
Adjusted R-squared	0.098751	S.D. dependent var	1.712456
S.E. of regression	1.625705	Sum squared resid	401.7235
F-statistic	6.661209	Durbin-Watson stat	0.346272
Prob(F-statistic)	0.000296		

Unweighted Statistics

R-squared	0.116195	Mean dependent var	3.144103
Sum squared resid	401.7235	Durbin-Watson stat	0.346272

Under the Random Effects Model, all the three independent variables have significant positive effect on ROA

Table 4C Results Under Hausman Test

Correlated Random Effects - Hausman Test

Equation: Untitled

Test period random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	4.346490	3	0.2264

** WARNING: estimated period random effects variance is zero.

Period random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
BODCOM	1.886516	1.661523	0.041383	0.2687
CAPBAS	0.055368	0.050371	0.000051	0.4858
EPRODU	0.134972	0.154464	0.000167	0.1316

Period random effects test equation:

Dependent Variable: ROA

Method: Panel Least Squares

Date: 07/11/19 Time: 10:36

Sample: 2004 2016

Periods included: 13

Cross-sections included: 12

Total panel (balanced) observations: 156

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.755526	0.420290	4.176944	0.0001
BODCOME	1.886516	0.809749	2.329754	0.0212
CAPBAS	0.055368	0.020141	2.748996	0.0068
EPRODU	0.134972	0.072563	1.860083	0.0650

Effects Specification

Period fixed (dummy variables)

R-squared	0.153779	Mean dependent var	3.144103
Adjusted R-squared	0.063113	S.D. dependent var	1.712456
S.E. of regression	1.657537	Akaike info criterion	3.945457
Sum squared resid	384.6399	Schwarz criterion	4.258263
-			
Log likelihood	291.7456	Hannan-Quinn criter.	4.072505
F-statistic	1.696099	Durbin-Watson stat	0.321110
Prob(F-statistic)	0.058046		

Source Eview9

Based on the decision rule for selection of the appropriate model under the Hausman Test, the preferred model specification for this study is the Fixed Effects Model.

7.2 Discussion of Results

From Table 4A and based on the results of the Hausman test, it could be seen that all the three independent variables indicate positive significant effect on the return on assets(ROA) of the banks in Sub Saharan Africa. The-all positive significant outcomes are recorded under both Fixed Effects and Random Effects Models respectively. The board composition with more nonexecutive directors has positive significant effect on ROA. Still on the positive trend, the board composition, capital base and employee productivity indicate positive significant correlation with the ROA as shown in Table 3. The Table 3 also indicates that board composition further exhibits positive significant relationship with employee productivity. The positive significant outcome linked to the board with more nonexecutive directors could be seen as a pointer to the expected positive impact of board supervising and monitoring role of the non-executive directors. It appears the same board supervising and monitoring role of the non-executive directors explains the positive significant correlation between the board and employee productivity. When the nonexecutive directors are alive to their duties and roles in the corporate entities they serve, they ensure that employees are motivated and perform better.

The positive outcomes associated with board composition are consistent with findings in Dauda and Hawa (2016)-Nigeria, Atuahene (2016)-Ghana and in Herdjiono and Sari (2017) but contradict results in John (2015)-Nigeria, Yilmaz and Buyuklu (2016)-Turkey in which nonexecutive indicated negative effect on performance of banks. The positive significant effect of capital base on profitability appears logical as increased capital base of the banks enhances their financial muscle and ability to give grant more loans to customers. Granting of more loans generates more interest and fee incomes leading to higher profit. This seems to be supported by the positive significant correlation between capital base and return on assets/profitability. This positive significant outcome over profitability agrees with the findings in findings in Iacobelli (2017)-Global Banks, USA; Hashem (2016)- Egypt; Ahmad and Matemilola (2014)- Asia; Maredza (2014)-South Africa Soyemi, et al(2013):Nigeria.

With respect to employee productivity (EPRODU), the Table 4A-4C equally indicate that it has positive significant effect on profitability under both Fixed Effects and Random Effects models. This finding suggests that employee productivity is one of the crucial internal factors for banks' profitability. By clear extension, it implies that employees of banks are very crucial for banks' profitability and survival. From table 3 above, employee productivity also correlates positively and significantly with profitability. This is further confirmation of the necessity of employee productivity and employee in the profitability of banks. The positive significant finding in this study is in line with results in Nwaubani and Orikara (2019) and Tan (2016).

7.3 Conclusion

This study examined the impact of internal factors on performance of deposit money banks in Sub Saharan Africa(SSA). The study revealed among others that board composition with more nonexecutive directors, capital base and employee productivity have positive significant impact on profitability (return on assets) of deposit money banks (DMBs) in Sub Saharan Africa (SSA). The three independent factors indicate positive significant relationship with profitability. Based on the findings, this study concludes that internal factors are significant determinants of profitability of deposit money banks in SSA.

7.4 Recommendations

It is recommended that deposit money banks in sub Saharan Africa:

- Should compose their board of directors in such a mix that ensures that number of nonexecutives directors is more than executive directors.
- Should encourage the nonexecutive directors to be alive to their supervising and monitoring roles to further enhance their profitability
- Should put in place measures to motivate their employees for greater productivity which leads to higher profitability
- Should on their own try to enhance their capital base to further improve profitability.

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