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Employee Productivity, Staff Terminal Benefits And Banks' Performance In Sub Saharan Africa: The Team Efficiency Ratio Approach

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Abstract*: The main objective of this study is to examine the effect of employee productivity and staff terminal benefits on performance of deposit money banks in Sub Saharan Africa (SSA). Specifically, the work determined the effect of employee productivity and staff terminal benefits on return on assets (ROA) and net interest margin (NIM) of the banks. It also assessed the relationship between the variables of interest. Secondary data on six SSA countries and twelve banks from the six countries for the period 2004 to 2016 were used. Balanced panel data multiple regression approach was employed to analyze the data. Fixed effects and Random effects models were adopted based on the results of Hausman tests. The study revealed among others that the employee productivity has positive significant effect on ROA. Staff terminal benefits exhibits negative insignificant effect on ROA and NIM while indicating negative significant correlation with employee productivity. The study concludes that though employee productivity has positive effect on profitability and efficiency of the deposit money banks in SSA, its negative significant correlation with staff terminal benefits strongly suggests that staff downsizing has negative implications for employee productivity and bank profitability and should be handled with caution and human face. It is recommended inter-alia that in view of the strong negative correlation between employee productivity and staff terminal benefits, banks should carefully weigh the strategic advantages of staff downsizing against the negative implications for productivity before embarking on the process.*

Keywords: Organizational Restructuring, Dissatisfied and Disloyal Workforce, modified intermediation approach, Staff-downsizing, Severance Pay

1.0 Introduction

The banking system is crucial for the success of the global economy (Iacobeli, 2017). In the view of Moyo, Nandwa, Oduor and Simpasa (2014) the banking system is seen from its essential role of resource mobilization and allocation in an economy and, its position as the most important segment of the financial system in developing economies. The view of the authors agrees with the opinion of Ogunbiyi and Ihejirika (2014) who describe banking as an economic activity which deals with the intermediation of funds between the surplus units and the deficit units of an economy and the channeling of such resources to profitable investments. For Nwaubani and Ezeudu (2015) the banking system is the engine of growth in any economy in view of its crucial functions in the economy via financial intermediation, provision of an efficient payment system and facilitating the implementation of monetary policies.

The genesis of banking in Sub Saharan Africa dates back to pre colonial days and spans mainly
through the era dominated by foreign-owned banks at the time of independence of African nations, the phase of government intervention/state-owned banks and the era of banking crises in the 1980s and 1990s. The banking crises era of the 1980s and 1990s is followed by the period of financial liberalization/reforms, increased private sector participation in banking and financial markets and entry of foreign banks with deposit insurance structures being put in place (Beck, Fuchs, Singer and Witte 2012 and Otchere and Senbet 2017). Since then financial reforms and restructuring have become features of the financial systems in most SSA countries.

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. The internal environment of the banking sector in Sub Saharan Africa (SSA) over the recent decades has become increasingly complex and challenging particularly with the influence of globalization. Two of such crucial factors are employee productivity and staff terminal benefits.

Employee productivity could be explained from different perspectives but common to all the ramifications is the fact that employee productivity refers to the quantitative and measurable contribution of employees- either as an individual employee or a team to the achievement of certain specific and measurable set objectives of a firm within a specific period of time and within the limits of available resources. The measure of employee productivity widely employed is the total(or net operating) revenue per employee approach. On the other hand, staff terminal benefits is an umbrella term referring to pension, gratuities, severance entitlements and other terminal benefits payable to an exited or retiring staff of a firm because of his/her disengagement or retirement. The increasingly challenging operating environments of deposit money banks (DMBs) in Sub Saharan Africa (SSA) has prompted the banks to bring issues of employee productivity under constant serious scrutiny and necessitated frequent down-sizing of the staff and resultant payment of terminal benefits. Some of the policies of the banks on these issues have attracted public attention and criticisms.

1.1 Statement of the Problem

Though both employee productivity and staff terminal benefits have become topical in recent decades the problem is that there are scanty empirical studies on the influence of these two factors on bank performance. Again, most of the few known documented empirical studies particularly on employee productivity were all done outside the African continent. Some of the known empirical works on bank performance and productivity are Maredza (2014), Tan (2016) and Iacobelli (2017) while Samuel, 2015) is a key reported empirical study on staff terminal benefits/compensation adequacy. According to Dulebohn, Molloy, Pichler and Murray(2009), it is surprising that there is seeming lack of research on employee benefits notwithstanding the fact that provision of employee benefits is the concern to firms and employees. Furthermore, the empirical works on employee productivity adopted the total revenue per employee approach. This approach stresses average revenue generated by an average employee without regard to profitability. In this study, a new approach referred to as the team efficiency ratio is introduced. This new approach emphasizes the efficiency with which the revenue is generated by the employees as a team. It is profit-centred. Therefore, the motivation for this study lies in the desire to introduce this new approach and use it to generate empirical evidence on effect of the two constructs on performance of DMBs in SSA. Equally, the study is poised to enrich the scanty studies on the two concepts with the Sub Saharan Africa experience.

1.2 Objectives of the Study

The main objective of this study is to examine the effect of the effect of employee productivity and staff terminal benefits on performance of deposit money banks in Sub Saharan Africa (SSA). Specific objectives are to:

i) determine the effect of employee productivity on return on assets (ROA) the deposit money banks in SSA
ii) evaluate the effect of staff terminal benefits on return on assets of the deposit money banks in SSA
iii) ascertain the effect of employee productivity on net interest margin of the deposit money banks in SSA
iv) determine the effect of staff terminal benefits on net interest margin of the deposit money banks in SSA

Driven by the objectives, four hypotheses in a null form were formulated and tested at 95% confidence level as stated below:

Ho1: Employee productivity has no significant effect on return on assets of deposit money banks in SSA

Ho2: Staff terminal benefits has no significant effect on return on assets of deposit money banks in SSA

Ho3: Employee productivity has no significant effect on net interest margin of deposit money banks in SSA

Ho4: Staff terminal benefits has no significant effect on net interest margin of deposit money banks in SSA

2.0 Concept of Employee Productivity

Productivity is an input-out concept simply referring to efforts and results achieved within a certain period of time and within the limits of available resources. In the banking industry, it may be linked to assigned performance targets/budgets to an employee and percentage achieved by the staff within a specific period with respect to some specific key performance indicators. However, in many empirical studies, employee productivity is usually measured as the natural log of total revenue (or net operating income) divided by total number of employees within a certain period of time (Iacobelli 2017, Tan2016, Chapagai, 2011, Athanasoglou, Brissimis, Delis 2008). This is because in many studies, output is represented by total revenues or assets while labour and capital are measured by number of employees and total non-labor cost respectively (Athanasoglou, Georgiou and Staikouras, 2008). As opined by the authors researchers have not generally agreed on what should be the definition of bank output because of the intangible, multiple and interdependent nature of the services provided by banks which make it difficult to separate and price them independently.

In this study employee productivity as it affects the banking sector is measured in terms of team efficiency ratio which is a modified intermediation approach (Bod'a and Zimkova, 2015). This approach expresses productivity in terms of

profitability which is the final monetary effect of financial intermediation. The approach 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 their employers for every one US dollar paid them as salary (Bod'a and Zimkova, 2015, Sauermann, 2016, Universalclass,2018). This method could be seen as a radical departure from the widely used approach involving log of total revenue divided by total number of employees or varieties of it. Searching for ways to maximize employees' productivity has been the concern of firms as businesses face rising customers' sophistication and extremely competitive markets (Babb, 2017). According to Aitha and Suresh (2016) the search is a challenging task.

The extreme competition and complex challenging external environments have combined to make it imperative for the deposit money banks in Sub Saharan Africa(SSA) to resort to frequent organizational restructuring. Restructuring usually leaves behind traces of job losses-often huge job losses with implications for productivity of the surviving employees. The reality has bred seemingly unstable, dissatisfied and disloyal workforce which rubs off negatively on productivity. Evidence has shown that there is significant linear correlations between employee loyalty and performance (Preko and Adjetey, 2017). Again according to Mayhew (2017) dissatisfied employees tend to focus less on their job duties but rather spend more time on discussion bordering on reasons for their dissatisfaction. This situation affects their productivity leading to loss of profits and poor firm performance.

Employee productivity is selected in this study to emphasize the fact that human resource is the most valuable and critical resource of a firm. This view has already been held by Gabčanová (2011) who considers human resource as the most valuable asset of a firm. However, one cannot deny the fact that the role of technology in performance of human resource has become increasingly crucial (Aitha and Suresh, 2016). Normally, a linear relationship is expected to exist between productivity and human resource management approach of a firm. However, this relationship may not be linear because of high level of automation being implemented in industries. Deposit money bank's profit is achieved by collective efforts of each and every employee. The potential benefits of increased productivity in banking and finance industry can be substantial given the impact of their services on resources allocation and competitiveness in the larger economy.

2.1 Terminal Benefits As a Concept

Staff terminal benefits in the context of this study, is an umbrella term referring to pensions, gratuities, severance entitlements and other terminal benefits paid or payable to an exited or retiring staff of a firm because of his/her disengagement or retirement.

As the internal environment of the banking sector in Sub Saharan Africa (SSA) over the recent decades has become increasingly dynamic and challenging particularly because of external pressures, most deposit money banks in SSA have had to engage in regular un-announced down-sizing of their employees as they grapple with some macroeconomic challenges. Downsizing is a tool employed by firms usually in times of economic crisis with the aim of reducing overhead costs and enhance productivity, efficiency, profitability and competitiveness through systematic reduction of the work force of the particular firm(Ozkanli and Bumin, 2006)

Subsequently, issues bordering on terminal benefits particularly in the banking sector are often echoed and of concern in SSA region. The amount of staff terminal benefits enjoyed by retiring/exiting employees is expected to motivate the surviving staff for higher productivity and to enhance their commitment and loyalty to the organization. However in a case of terminal benefits arising from down-sizing, these benefits and the performance of the now trimmed firm seem to depend on the strategic steps by Management to reduce adverse reactions of both the affected and surviving staff in the retrenchment exercise (Kurebwa 2011; Isa, Kakkar and Sharma, 2016). According to the authors most of the exited employees usually see the exercise as poorly and unfairly implemented – thus being capable of demoralizing the lucky survivors. Overall, this scenario may negatively influence employee productivity and performance of the organization.

Employees are one of the most valuable resources of an organization and provision of terminal benefits is a way of attracting and retaining them as it impacts on their lives-present and future (Lee, Hsu and Lien 2007; Kluwer 2018; Nationwide 2018). This opinion is supported by Dulebohn et al (2009) who hold the view that employee benefit decisions are among the most crucial for a firm to remain competitive in the labor market as benefits constitute a key factor in the attraction and retention of employees. Apart from reduction in staff turnover, provision of terminal benefits enhances employee motivation and productivity particularly where the provision is based on profits (Kluwer , 2018). However, when terminal benefits are broken down into their components such as pensions, gratuities, severance packages, fringe benefits and other terminal benefits; severance payment tends to heighten staff turnover thus exhibiting significant positive relationship with staff turnover (Lee, Hsu and Lien 2007). This situations stems from the fact that severance pay is usually a compensating payment made to formal workers downsized by their employers or payment included as part of terminal benefits of an exited staff (Holzmann and Vodopivec , 2012). Downsizing engenders staff turnover. The huge costs involved in benefits provision which is estimated to constitute about 33% of labor cost of firms and which have

been rising is of great concern to Executives (Dulebohn et al, 2009).

Therefore, though on a priori expectation, staff terminal benefits as a charge against profit

is expected to exhibit direct negative effect on profitability, this negative effect may be compensated for by the expected positive effect on productivity and hence indirectly on performance in the long run. This seems to depend more on how effectively the post down-sizing relationship crisis between the retrenched staff, surviving employees and Management of the firm is handled. However, there is empirical evidence suggesting that among the employees of various firms (including the financial sector), there is a strong perception of poor reward and compensation system (Samuel, 2015*).* Such reward and compensation system is inclusive of pensions and other retirement benefits. It may be noted that in the opinion of Cornwell and Dorsey (2000) pensions appeal more to employees who are more interested in value of future compensation.

3.0 Theoretical Framework

This work is anchored on the Marris managerial theory of the firm. The firm theory could be viewed as consisting a number of economic theories that explain and predict the nature of the firm, its existence, behavior, structure, and relationship with all stakeholders and the market (Kantarelis, 2007). 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). It considers the sole objective of a firm to be profit maximization and 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. However, the authors recognize that modern firms have varied objectives because of the complexities, politics and separation of ownership from management which characterize the firms. They note that modern firms are run by managers/directors while shareholders are the owners with separate roles and motives from those of the managers. These facts render the sole objective of profit maximization of the traditional firm unrealistic as the modern firm has varied objectives.

In 1964 Robin Marris developed a dynamic balanced growth maximizing managerial model of the firm in recognition of the separation between the managers and shareholders with their varied interests (Marris,1964). Marris suggests that managers/directors 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.). This tendency introduces conflict of interests implying that the directors/mangers may not act in the interest of the shareholders. This conflict of interests is known as the agency problem. Adam Smith noted this problem as far back as 1776 (Panda and Leepsa, 2017). The interests of the managers and shareholders could be achieved by adopting a balanced growth maximizing rate for the firm. Marris emphasizes the role of employees in achieving organizational objectives such as profitability and efficiency. Specifically he considers skills, expertise, efficiency and sincerity of team managers as well as prudent financial policy as crucial to the growth of the firm. This theory is relevant to this study as it focuses on the modern firms such as the banks and their complex structures, and the role of employees in driving performance of the firms.

4.0 Empirical Review

Bose (2018) examined the impact of employee empowerment on employee performance in banking industry in UAE following crisis suffered by the industry. A survey approach was adopted to collect data based on structured questionnaire on 80 employees. The data were analyzed using one sample t-test. Findings revealed that the employees in the banking industry in UAE are not motivated to enhance their performance in the face of the crisis. Also that there is no relationship between the employee empowerment and employee performance. 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 productivity, capital risk, credit risk, 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. Higher economic growth and inflation are the macroeconomic variables that spur banks' profitability while business cycle also has positive impact on the global banks' profitability. In all, study concludes that bank-level factors are the most significant determinant of bank profitability.

Tan (2016) evaluated the impacts 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.

Samuel (2015) examined the perception of compensation adequacy and impact on performance amongst employees of selected private sector organizations (including the banking sector) in Nigeria. The study employed the survey approach and administered structured questionnaires on a sample of 129 employees across the sub-sectors of the Nigerian private sector. The collected primary data were analyzed using Percentages and Analysis of Variance (ANOVA) techniques. The findings indicated among others a high prevalence of the

perception of reward and compensation inadequacies amongst the respondents with the oil and gas sector showing the least effect. 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. Marques, González, Cruz & Ferreira (2011) examined effect of downsizing on profitability of 1,357 Portuguese firms. Eight hundred and thirty four - 834 of the firms(59%) were categorized as NONDOWNSIZERS while 553(41%) were DOWNSIZERS. Multivariate analysis of variance technique was employed. Finding showed that firms that downsize tend to continue to underperform compared to those that do not downsize.

Athanasoglou, Brissimis, Delis (2008) examined the effect of bank-specific, industry-specific and macroeconomic determinants of bank profitability in Greece, using an empirical framework that incorporates the traditional structure-conduct-performance (SCP) hypothesis. To capture profit persistence, a GMM technique was employed to analyze the panel data covering period 1985-2001.Findings showed that profitability persists to a moderate extent, indicating that departures from perfectly competitive market structures may not be that high. All bank-specific determinants including employee productivity,(with the exception of size) have significant effect on banks' profitability. However, no evidence in support of the SCP hypothesis. Finally, the business cycle has a positive, albeit asymmetric effect on bank profitability, being significant only in the upper phase of the cycle. Ozkanli and Bumin,(2006) examined the relationship between downsizing and financial performance in Turkish deposit money banks between the period 2000-2003. Finding revealed no significant difference between the profitability of the banks before and after the downsizing. Yu and Park (2006) explored the effect of downsizing on a firm's financial performance in terms of profitability and efficiency, and a firm's employee productivity using data of 258 listed Korean firms for the period 1997 and 2002. The study employed multiple regression approach in analyzing the data. The outcomes indicated that firms involved in downsizing tended to suffer more financial difficulties than their counterparts though downsizing showed positive effect on the firms profitability and efficiency. There is no effect on employee productivity.

5.0 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. The selection of the six countries was primarily based on sub regional representation. The sub regions are: West Africa represented by Nigeria and Ghana, Southern Africa by South Africa and Botswana, East Africa by Kenya and the Small Island Countries of SSA by Mauritius. Balanced panel data multiple regression approach was employed to analyze the data. The dependent variables used in this study are Return on Assets (ROA) to proxy profitability and Net Interest Margin (NIM) to measure efficiency. The independent variables are employee productivity (EMPPROD) and staff terminal benefits (STAFTBFT) as defined on Table 1 below. The model of this study is a modified version of the model adopted by Atuahene (2016) and Flamini, McDonald and Schumacher(2009) and it is given as:

$$ROAic,t/NIMic,t = \alpha + \sum \beta 1 EMPPROD\ ic,t + \sum \beta 2 STAFTBFT\ ict + Ui,t \quad \text{…….(1)}$$

Where:

ROAic,t is the return on total assets of bank i in country c for period t;

NIMic,t is the net interest margin of bank i in country c for period t.

EMPPROD ic,t is the employee productivity for bank i in country c for period t.

STAFTBFT ic,t is the staff terminal benefits for bank i in country c for period t.

α is the constant for the model

$\beta 1$ to $\beta 2$ are parameters/ beta coefficients to be estimated

Uit= error term**.**

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 : (Yesmine and Bhuiyah, 2015, Mungly et al, 2016; Iacobelli , 2017), or as given in the annual accounts of each bank	

2	**NIM** - Net Interest Margin (**Dependent**)	Net interest income expressed as a percentage of net earning assets (Kosmidou, Tanna and Pasiouras (2012). Or as given in the annual accounts of each bank.	
3	EMPPROD - Employee Productivity	Profit Before Tax divided by total salary amount paid . (Bod'a and Zimkova, 2015, Universalclass 2018, Sauermann 2016)	+
4	STAFTBFT- Staff Terminal Benefits	Annual pension contributions and post-retirement benefits paid by each bank as a percentage (%) of staff cost.	-/+

Source: Authors' Compilation, 2019

5.1 Diagnostic Tests - Panel Stationarity Tests

The variables were subjected to panel data unit root tests in order to minimize the problem of spurious regression. Consequently the data were subjected to five stationarity tests available in EViews 9. The tests are Levin, Lin and Chu t; Breitung t-stat; Im, Pesaran and Shin W-stat; ADF-Fisher Chi-squa PP-Fisher Chi-square. The results confirm that all the variables except return on asset (ROA) are stationary at level under one or all the five tests. The ROA is stationary at first difference and the data set of this study appears insufficient for use of autoregressive distributed-lagged (ARDL) model to take care of this mixed stationarity. . However, model selection for the ROA was subjected to Hausman test.

5.2 Multicolinearity Check

The size of the correlation coefficient of each of the independent variables in Table 2 below suggests that the model does not suffer from serious multicollinearity.

5.3 Data Analysis Technique

Panel data multiple regression approach is employed to analyze the balanced panel data under random effects and fixed effects models. The selection of random or fixed effects model for each variable was dependent on the result of the Hausman tests. The null hypothesis in the Hausman test is that the preferred model is random effects model (as it is assumed that the unique errors are not correlated with the regressors), otherwise, fixed effects is preferred. The null hypothesis (random effects model) is rejected and the fixed effects model accepted if the resulting p-value from the test is less than the selected level of significance.

5.0 Data Presentation

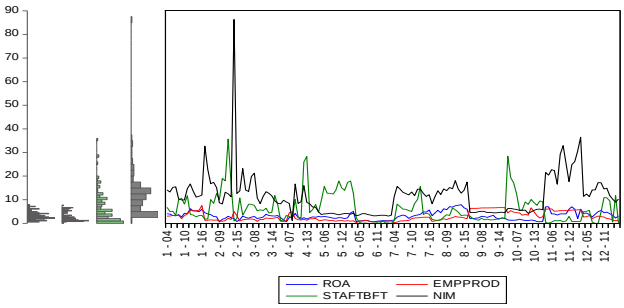

Figure 1: Trend of the Variables within the Period, 2004-2016.
Source: Eviews 9 Output, 201

The Figure 1 above exhibits the fluctuations of the variables during the period 2004-2016. The fluctuations reflect changes in the internal environments of the banks due mainly to pressures from the external environments such as prevailing economic situations and market structures particularly with respect to net interest margins (dark color). The trend of the net interest margin (NIM) shown above is influenced by the extreme values recorded by First Bank Nigeria and Standard Chartered Bank of Ghana. First Bank Nigeria recorded the highest NIM of 86.32% in 2014 suggesting a sort of risk assets restructuring giving rise to lower loan value. This 86.32% was the highest within the period of the study (2004-2016). Standard Chartered Bank of Ghana also reported the highest NIM of 36.45% in 2016.

Net interest margin may be considered as an indicator of competition in the market and by extension points to level of financial system development (Pelaelo 2017). While Standard Bank and Nedbank both of South Africa and Mauritius Commercial Bank and SBM Bank also of Mauritius record one digit NIMs, the NIMs figures for all the selected banks in the other countries of Nigeria, Ghana, Kenya and Botswana are in two digits. Logically, these NIM figures suggest that competition and financial system development are more enhanced in the South Africa and Mauritius compared to the other selected countries within the period of the study.

The staff terminal benefits values (green) fluctuated widely from zero payments in some years by some banks to high payments by other banks in some years. The fluctuations also reflected restructuring/down-sizing exercises carried out by the deposit money banks in response to external environment pressures in order to sustain their profitability and survival. Return on assets (blue)-ROA and employee productivity (red)-EMPPROD also fluctuated indicating a level of positive co-movement among themselves.

Table 2 Correlation Among the Variables

Correlations

	ROA	EMPPROD	STAFTBFT	NIM

ROA	Pearson Correlation	1	.056	-.125	-.185*
	Sig. (2-tailed)		.524	.149	.032
	N	134	134	134	134
EMPPROD	Pearson Correlation	.056	1	-.225**	.178*
	Sig. (2-tailed)	.524		.005	.026
	N	134	156	156	156
STAFTBFT	Pearson Correlation	-.125	-.225**	1	-.170*
	Sig. (2-tailed)	.149	.005		.034
	N	134	156	156	156
NIM	Pearson Correlation	-.185*	.178*	-.170*	1
	Sig. (2-tailed)	.032	.026	.034	
	N	134	156	156	156

*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed)

Source SPSS(20) Output, 2019

From Table 2 above, employee productivity correlates negatively with staff terminal benefits This implies that as terminal benefits payments are rising (majorly driven by down-sizing),employee productivity is going down. This relationship has serious implications for the deposit money banks.

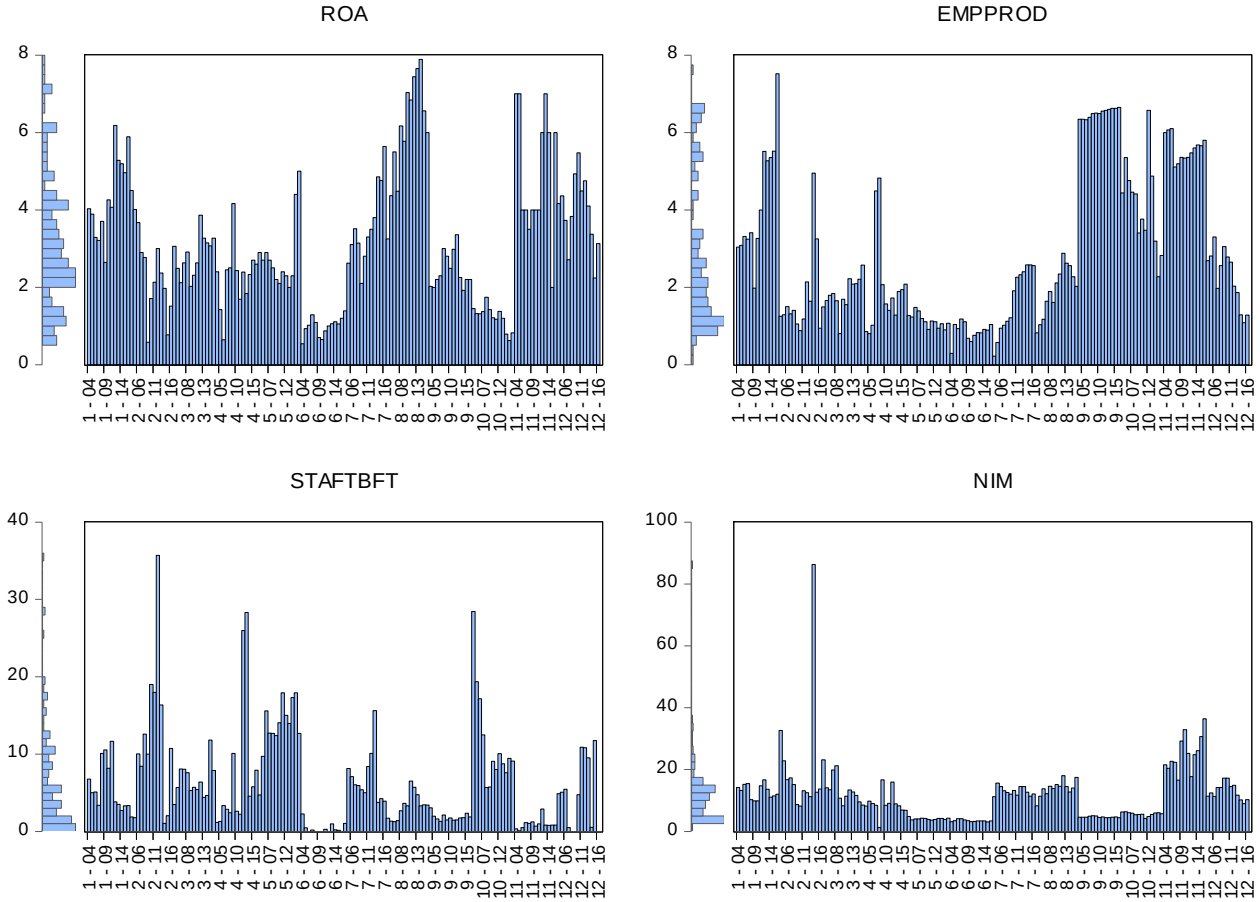

Figure 2: Graphical Presentation of the Correlation Among the Variables Within the Period 2004-016
Source: Eviews 9 Output, 2019

A close look at Figure 2 further confirms the correlation between the variables particularly the negative relationship between employee productivity EMPPROD and staff terminal benefits-STATBFT. The results of the panel date regression analysis are presented on Tables 3A-3F below, summarized in Tables 4 and 5 and discussed under findings.

Table 3A: Panel Data Regression Results**:** Fixed Effects Results For ROA

Dependent Variable: ROA
Method: Panel Least Squares
Date: 05/03/19 Time: 23:20
Sample: 2004 2016
Periods included: 13
Cross-sections included: 12
Total panel (balanced) observations: 156

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.000495	0.314682	9.534997	0.0000
EMPPROD	0.148585	0.073797	2.013418	0.0460
STAFTBFT	-0.044396	0.023727	-1.871067	0.0634

Effects Specification

Period fixed (dummy variables)

R-squared	0.097381	Mean dependent var	3.144103
Adjusted R-squared	0.007760	S.D. dependent var	1.712456
S.E. of regression	1.705800	Akaike info criterion	3.997156
Sum squared resid	410.2750	Schwarz criterion	4.290412
Log likelihood	-296.7782	Hannan-Quinn criter.	4.116264
F-statistic	1.086581	Durbin-Watson stat	0.280193
Prob(F-statistic)	0.374741		

From the Table 3A above, employee productivity (EMPPROD) has positive significant effect ROA while gender staff terminal benefit (STAFTBFT) shows negative moderately significant effect under fixed effects model. These results are subjected to Hausman test as in Table 3C below after the random effects results have been estimated.

Table3B: Panel Data Regression Results**:** Random Effects Results on ROA

Dependent Variable: ROA
Method: Panel EGLS (Period random effects)
Date: 05/03/19 Time: 23:28
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	2.861454	0.304758	9.389279	0.0000
EMPPROD	0.172245	0.072578	2.373242	0.0189
STAFTBFT	-0.032724	0.022545	-1.451489	0.1487

Effects Specification	S.D.	Rho
Period random	0.000000	0.0000
Idiosyncratic random	1.705800	1.0000

Weighted Statistics			
R-squared	0.062608	Mean dependent var	3.144103
Adjusted R-squared	0.050354	S.D. dependent var	1.712456
S.E. of regression	1.668785	Sum squared resid	426.0809
F-statistic	5.109396	Durbin-Watson stat	0.303432
Prob(F-statistic)	0.007112		

Unweighted Statistics			
R-squared	0.062608	Mean dependent var	3.144103
Sum squared resid	426.0809	Durbin-Watson stat	0.303432

Under the random effects model, the results in Table 3B above indicate that EMPPROD has positive significant effect on ROA while STAFTBFT has negative insignificant effect. The results are also subject to Hausman test.

Table 3C: Hausman Test For ROA

Correlated Random Effects - Hausman Test
Equation: Untitled
Test period random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	3.262575	2	0.1957

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

Period random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
EMPPROD	0.148585	0.172245	0.000178	0.0766
STAFTBFT	-0.044396	-0.032724	0.000055	0.1146

Period random effects test equation:
Dependent Variable: ROA
Method: Panel Least Squares
Date: 05/03/19 Time: 23:31
Sample: 2004 2016
Periods included: 13
Cross-sections included: 12
Total panel (balanced) observations: 156

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.000495	0.314682	9.534997	0.0000
EMPPROD	0.148585	0.073797	2.013418	0.0460
STAFTBFT	-0.044396	0.023727	-1.871067	0.0634

Effects Specification

Period fixed (dummy variables)

R-squared	0.097381	Mean dependent var	3.144103
Adjusted R-squared	0.007760	S.D. dependent var	1.712456
S.E. of regression	1.705800	Akaike info criterion	3.997156
Sum squared resid	410.2750	Schwarz criterion	4.290412
Log likelihood	-296.7782	Hannan-Quinn criter.	4.116264
F-statistic	1.086581	Durbin-Watson stat	0.280193
Prob(F-statistic)	0.374741		

Based on the decision criterion of Hausman test, the adopted model for ROA is the random effects model. These results apply to Hypotheses 1 and 2.

Table 3D: Fixed Effects Result For NIM

Dependent Variable: NIM
Method: Panel Least Squares
Date: 05/03/19 Time: 23:43
Sample: 2004 2016
Periods included: 13
Cross-sections included: 12

Total panel (balanced) observations: 156

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.86501	1.687861	6.437146	0.0000
EMPPROD	0.674374	0.395827	1.703708	0.0906
STAFTBFT	-0.186377	0.127267	-1.464460	0.1453

Effects Specification

Period fixed (dummy variables)

R-squared	0.072143	Mean dependent var	11.61051
Adjusted R-squared	-0.019984	S.D. dependent var	9.059324
S.E. of regression	9.149398	Akaike info criterion	7.356465
Sum squared resid	11803.32	Schwarz criterion	7.649720
Log likelihood	-558.8043	Hannan-Quinn criter.	7.475572

From the Table 3D above, under fixed effects model, EMPPROD has positive insignificant effect on NIM while STAFTBFT indicates negative insignificant effect. These results are subject to Hausman test as in Table 3F below after the random effects results have been estimated.

Table 3E: Random Effects Result For NIM

Dependent Variable: NIM
Method: Panel EGLS (Period random effects)
Date: 05/03/19 Time: 23:47
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	10.90115	1.634628	6.668885	0.0000
EMPPROD	0.688345	0.389287	1.768221	0.0790
STAFTBFT	-0.198560	0.120925	-1.642007	0.1026

Effects Specification	S.D.	Rho
Period random	0.000000	0.0000
Idiosyncratic random	9.149398	1.0000

Weighted Statistics

R-squared	0.049393	Mean dependent var	11.61051
Adjusted R-squared	0.036967	S.D. dependent var	9.059324
S.E. of regression	8.890302	Sum squared resid	12092.73
F-statistic	3.974877	Durbin-Watson stat	1.066770
Prob(F-statistic)	0.020753		

Unweighted Statistics

F-statistic	0.783082	Durbin-Watson stat	1.027803
Prob(F-statistic)	0.686020		

From the Table 3E above, under random effects model, EMPPROD has fairly positive significant effect on NIM while STAFTBFT exhibits negative insignificant effect. These results are subjected to Hausman test as in Table 3F below.

Table 3F: Hausman Test For NIM

Correlated Random Effects - Hausman Test
Equation: Untitled
Test period random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	0.530685	2	0.7669

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

Period random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
EMPPROD	0.674374	0.688345	0.005135	0.8454
STAFTBFT	-0.186377	-0.198560	0.001574	0.7588

Period random effects test equation:
Dependent Variable: NIM
Method: Panel Least Squares
Date: 05/03/19 Time: 23:50
Sample: 2004 2016
Periods included: 13
Cross-sections included: 12
Total panel (balanced) observations: 156

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.86501	1.687861	6.437146	0.0000
EMPPROD	0.674374	0.395827	1.703708	0.0906
STAFTBFT	-0.186377	0.127267	-1.464460	0.1453

Effects Specification

Period fixed (dummy variables)

R-squared	0.072143	Mean dependent var	11.61051
Adjusted R-squared	-0.019984	S.D. dependent var	9.059324
S.E. of regression	9.149398	Akaike info criterion	7.356465
Sum squared resid	11803.32	Schwarz criterion	7.649720
Log likelihood	-558.8043	Hannan-Quinn criter.	7.475572
F-statistic	0.783082	Durbin-Watson stat	1.027803
Prob(F-statistic)	0.686020		

Based on the accept/reject decision criterion of Hausman test, the adopted model for NIM is the random effects model. These results apply to Hypotheses 3 and 4.

Table 4. Summary of Random Effects and Fixed Effects Models' Results on ROA

		Fixed Effects-FE		Random Effects-RE			
Independent Variables	**Details in Tables**	**Beta Coef. under FE**	**P-value Under FE**	**Beta Coef. Under RE**	**P-value Under RE**	**Adopted Model based on Hausman Test Result**	**Details of Hausman Test in Table**
EMPPROD	**3A &3D**	**0.1485**	**0.0460**	**0.1722**	**0.0189**	**Random Effects**	**3C**
STAFTBFT	**3A &3D**	**-0.0443**	**0.0634**	**-0.0327**	**0.1487**	**Random Effects**	**3C**

Source: Extracted from Eview9 Results, 2019 Tables 3A-C)

Table 5. Summary of Random Effects and Fixed Effects Models' Results on NIM

		Fixed Effects-FE		Random Effects-RE			

Independent Variables	Details in Tables	Beta Coef. under FE	P-value Under FE	Beta Coef. Under RE	P-value Under RE	Adopted Model based on Hausman Test Result	Details of Hausman Test in Table
EMPPROD	3D & 3E	0,6743	0.0906	0.6834	0.0790	Random Effects	3F
STAFTBFT	3D & 3E	-0.1863	0.1453	-0.1985	0.1026	Random Effects	3F

Source: Extracted from Eview9 Results, 2019 (Tables 3D-F)

As shown on Tables 4 and 5 above, employee productivity (EMPPROD) indicates positive significant effect on ROA and positive fairly significant effect on NIM. On the other hand, staff terminal benefits (STAFTBFT) exhibits negative insignificant effect on NIM and ROA.

6.0 Discussion of Results

The very positive significant effect of employee productivity on ROA(Table 3B) in particular and NIM(Table3E) coupled with the negative significant correlation between staff terminal benefit and employee productivity (Table2 & Fig 2) seem to underscore the need for deposit money banks in Sub Saharan Africa to effectively manage their relationship with their existing employees and those being exited/laid-off particularly during re-organization/restructuring exercises. This finding strongly supports the view that notwithstanding advancement in technology, human capital remains a key critical success factor for the banking sector.

The negative significant relationship between staff terminal benefits and employee productivity partly implies that as more staff are downsized (terminal benefits rising), productivity is being reduced and productivity has positive significant effect on profitability. These facts appear to further stress the need for the banks to carry out the restructuring/downsizing with human face in order to avoid negative reactions among the affected and survivors. Further implication of these facts is that the perceived benefits of down-sizing as documented by Kurebwa (2011) and Isa, Kakkar and Sharma (2016), in the long run seems to hinge more on strategic steps taken by the firm to minimize negative reactions of the laid-off and surviving staff in the down-sizing process as such reactions diminish productivity.

Again, based on these findings, deposit money banks should avoid issues which may lead to distrust and disloyalty among the surviving employees via proactive measures to douse the bitter feelings generated by the down-sizing /re-structuring exercise. There is empirical evidence that job re-organization is linked to lower average employee trust which trust has a positive relationship with employee productivity (Brown, Gray, Mchardy and Tarloy, 2015). This implies that anything which lowers average employee trust may lower productivity. If the information on the amount of terminal benefits being paid exited/retiring staff and communication over the restructuring exercise is well managed through improved relationship, it is likely to motivate the existing employees to work hard and be loyal to attain qualifying age for enjoying such terminal benefits. This may eventually lead to improved productivity.

7.0 Conclusion and Recommendations

This study examined the effect of employee productivity and staff terminal benefits on return on assets (ROA) and net interest margin (NIM) of deposit money banks in Sub Saharan Africa(SSA). It also assessed the relationship between these variables. Secondary data on six SSA countries and twelve banks from the six countries for the period 2004 to 2016 were used. Panel data multiple regression approach was employed to analyze the data. Findings revealed *inter alia* that the employee productivity has positive significant effect on ROA in particular and NIM. Staff terminal benefits exhibits negative insignificant effect on NIM and ROA while indicating negative significant correlation with employee productivity.

8.1 Conclusion

The study concludes that though employee productivity has positive effect on profitability and efficiency of the deposit money banks in SSA, its negative significant correlation with staff terminal benefits strongly suggests that staff downsizing has negative implications for employee productivity and bank profitability and should be handled with caution and human face. It is recommended inter-alia that in view of the strong negative correlation between employee productivity and staff terminal benefits, banks should carefully weigh the strategic advantages of staff downsizing against the negative implications for productivity before embarking on the process.

8.2 Recommendations

Deposit money banks in Sub Saharan Africa (SSA) should adopt policies and structures which ordinarily motivate employees to deliver enhanced productivity since productivity as measured in this study indicates very strong positive significant effect on profitability and fairly significant positive effect on efficiency of the banks.

In view of the finding indicating a strong negative correlation between employee productivity and staff terminal benefits, it is further recommended that banks should carefully weigh the strategic advantages of staff downsizing

against the negative implications for productivity before embarking on the process.

Where lay-off is imperative, it has to be handled together with management of the relationship between the banks, affected and surviving staff in such a manner as to minimize staff distrust and disloyalty among the survivors. This is based on the empirical evidence which strongly suggests that productivity is negatively affected by staff distrust and based on the finding that employee productivity exhibits strong positive effect on banks' profitability.

Again, it is recommended that the banks in appraising employee productivity, should adopt the team efficiency ratio - in terms of profit generated by the employees as a team for every $1 USD salary paid them by the banks. This measure is consistent with the profit maximizing tendencies of deposit money banks.
Again since it has been established that employee benefits could serve as a motivation for attracting and retaining employees and for higher productivity in the long run (which implies higher profitability and efficiency), a policy which favors payment of an enhanced terminal benefits package and less frequent downsizing will appear more beneficial for both the banks and employees in the long run.

9.0 Contribution to Knowledge

To the best of the knowledge of the researchers, this Work is the only academic and empirical study involving determination of effect of staff terminal benefits on performance of deposit money banks particularly in Sub Saharan Africa and one that reveals the negative significant relationship between employee productivity and staff terminal benefits. This revealed relationship has serious implications for banks/firms' profitability.

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