

CAPITAL STRUCTURE AND EARNINGS PER SHARE AS MEASURE OF PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

The study evaluated the effect of capital structure on earnings per shares as performance measurement of deposit money banks in the Nigerian Stock Exchange covering 2009 to 2018. The research explores the relationship between capital structure and performance of deposit money banks using the dependent and independent variables. The study employed ordinary least square method. Secondary data extracted from annual reports of the fifteen deposit money banks was used. Data collated were analyzed using correlation analysis, fixed effect panel analysis, random effect panel analysis, as well as post estimation test such as restricted f-test of heterogeneity and Hausman test. The findings show that BAG and TDC are having negative significant effect on EPS with p-values of 0.0000 and 0.0041 respectively but BS is having significant positive effect with p-value of 0.0000 and about 85.8% variation in EPS which could be attributed to the joint effect of independent variables. The work therefore concludes that the managements of the banks should find means of increasing assets and bank size which will increase performance of deposit money banks and reduce debt which decrease performance of the sector.

Keywords: Capital, Performance, Earnings per shares, Deposit money banks

1.0 INTRODUCTION

The ability of banks to carry out their stakeholders' needs is bound up to capital structure. Capital structure, is the way a firm finances its assets through the combination of equity and debt (Saad, 2010). Since the work of Modigliani and Miller (1958) which was highly influential in an original way , constituting and providing a basis for further development in the creation of a new theory capital structure studies have become an important subject matter in finance theory. How a firm is being finance is of great importance to both the managers of the firm and the providers of capital. This is due to the fact that, a wrong mix of finance employed can affect the performance and survival of the firm.

Several financial experts and resource persons have indicated that capital structure of banks is a prominent factor that may lead to financial agony during the time of difficulties. The relationship between capital structure and financial performance is extensively discussed in literature review. In order to try to distinguish the effects of various determinants on capital structure, it is assumed that the investment decision is held constant. The choice of capital structure of a firm is determined by a number of factors which include the market forces, type of industry, internal policies of the firm, size of the firm,

profitability, corporate tax and bankruptcy costs. The effect of capital structure is still the most mystifying issues in corporate finance literature (Roy & Minfang , 2000).

Beck & Cull, (2013) asserted that accelerated growth and expansion of access to financial services has allowed the banking sector to undergo notable changes over the last decades. Hence, most banks had to look inward in their efforts to boost profitability, one of the internal factors that determine a firm profitability is capital structure. Performance evaluation indices are in fact an action guide from what it is towards what it should be. Evaluating the performance of firms can act as a guideline that paves the way for future decisions concerning investment, development and most importantly, control and supervision (Tehrani and Rahnama, 2006). Financial performance measures the profitability and liquidity among others and as such provided a valuable tool to stakeholders to appraise the past financial performance and the current position of a firm (Erasmus, 2008). Thus, performances of corporate organisations over the years have been measured with the use of financial ratios such as earnings per share, dividend per share, return on equity, return on capital employed, net profit margins on a specific period of time.

Naturally, most firms tend to prefer the use of debt financing due to the fact that it does not result in shareholders dilution of shares, whereas the interests paid on debts are tax deductible. Nevertheless, the decision to use debt or equity is not a defined decision. Fundamentally, when one takes into account the cost of despair associated with high leverage, the possibility of loss of control make the use of debt unattractive.

In Nigeria, investors and stakeholders seem not to look in detail the consequence of capital structure in measuring their firm's performance as they may presume that attributions of capital structure are not incidental to their firms value. The issues of capital structure, which may determine the corporate performance of Nigerian firms, have to be resolved. Babalola (2014), revealed that according to the dominant corporate finance paradigm, capital structure choice is a trade-off between the costs and benefits of debt, and it has been refuted that large firms are more inclined to retain higher performance than middle firms under the same level debt ratio. In another study, concluded that the firm's capital structure in Nigeria is consistent with trade-off theory and the hypothesis tested that the corporate performance is a non-linear function of the capital structure. Ishaya and Abduljeleel (2014), also reveals

that debt ratio is negatively related with profitability whereas equity is directly related with profitability. Shehu (2011), profitability variable supports the pecking order theory, the tangibility variable supports the trade-off theory, the growth theory supports the agency theory while the size variable supports the asymmetry of information theory.

Capital is any form of wealth employed to produce more wealth. Business owners and corporate organisations need three different types of capital. These are fixed capital, working capital and growth capital. Capital structure means how an establishment funds its operations using some blend of equity plus debt (Tsai, Tsemg, Ho, Sung and Chou, 2010). Nirajini and Priya (2013) define it as the technique an establishment applies for financing based on a blend of long-term capital (ordinary and preference shares, loans, loan stock, etc.) in addition to short-term obligations like overdraft and other payables. Also, Akinyomi and Olagunju (2013) and Salawu (2009), opined that capital structure is the mixture of diverse securities utilized by a firm in financing its profitable ventures.

In corporate organisation, capital denotes long-term funds of the firm. Accordingly, these items are grouped into equity capital and debt capital. An equity capital which may consist of three principal elements such as ordinary shares, preference shares and retained earnings is long-term funds contributed by the owners of the firm. A basic difference between equity capital and debt capital is that claims on income and assets by suppliers of equity capital are subordinated to those of suppliers of debt capital and in the treatment of income tax, dividends payments due to the suppliers of the former are not tax deductible (Owualah, 2000). Within equity capital itself, ordinary shares are typically the most expensive form of long-term funds. Other forms of equity are preference shares and retained earnings. Debt can be classified either as short term debts, long term debt or total debt. Generally increases in leverage results in increased return and risk, whereas decreases in leverage result in decreased return and risk (Imad, 2013).

Meanwhile, the primary advantage of equity capital to corporate organisations is that it does not have to be repaid like a debt capital does. In addition, equity investors are entitled to share in the firm's earnings (if there are any) and usually to have a voice in the firm's future direction. The capital structure is how the company makes up its funding, and it comes from the equity or debt capital in the short and/or long term. Regardless of the source of funding, a positive return is only expected because of the application of resources. Thus, finance managers are expected to choose the best option for a given resources to be

funded and strike the right balance between available alternatives that can reduce cost and increase earnings for the shareholders.

Financing decisions generally facilitate the survival and growth of a business enterprise, which calls for the need to channel efforts of business towards realizing efficient decision, which will protect the shareholders interest. Capital structure decision is thus considered as one of the effective tools of management to manage the cost of capital.

The main objective of this study is to determine the effect of capital structure on financial performance of quoted banks in Nigerian stock market. Capital structure means the way a firm finances its assets across the blend of debts and equity of hybrid security (Saad, 2010). In order to achieve the objectives of the research work, this research question ensued; to what extent is the effect of capital structure on Earnings Per Share of deposit money banks in Nigeria?

Methodology

The population of this study consists of all quoted banks that were listed on the Nigeria Stock Exchange market as at 31st December 2018. The secondary data on all key variables were obtained from annual financial statements of the sampled banks for the periods 2009 to 2018, others include textbooks, journals, published materials, Nigerian Stock Exchange Fact Books.

Model Specification

The models used in testing the hypotheses of the study were presented below:

$$EPS_{it} = \beta_0 + TDC_{it}*\beta_1 + BS_{it}*\beta_2 + BAG_{it}*\beta_3 + \varepsilon_i$$

In this research, the type of relationship between the variables was assumed to be linear in nature, correlation and multiple regression models was used for hypothesis testing. Hausman test was carried out to determine whether the random effect model or fixed effect model should be utilized because of the nature of the data (Panel data)

The hypothesis was tested at 5% error level, with the p-value < 5%, the relationship was confirmed at 95% confidence level otherwise it is rejected.

The model also made use of other statistics such as: correlation coefficient(R), coefficient of determination (R²). The first one (R) was used to show the relationship between the independent and

dependent variables. While the second one (R^2) was used to show the predictive power of the independent variable on the dependent variable. T-statistics was used to test the statistical significance of the parameters, while F-statistics was used to test the overall significance of the model and the Durbin-Watson (DW) test was used to test the presence or otherwise of serial correlation.

4.1 RESULTS AND DISCUSSION

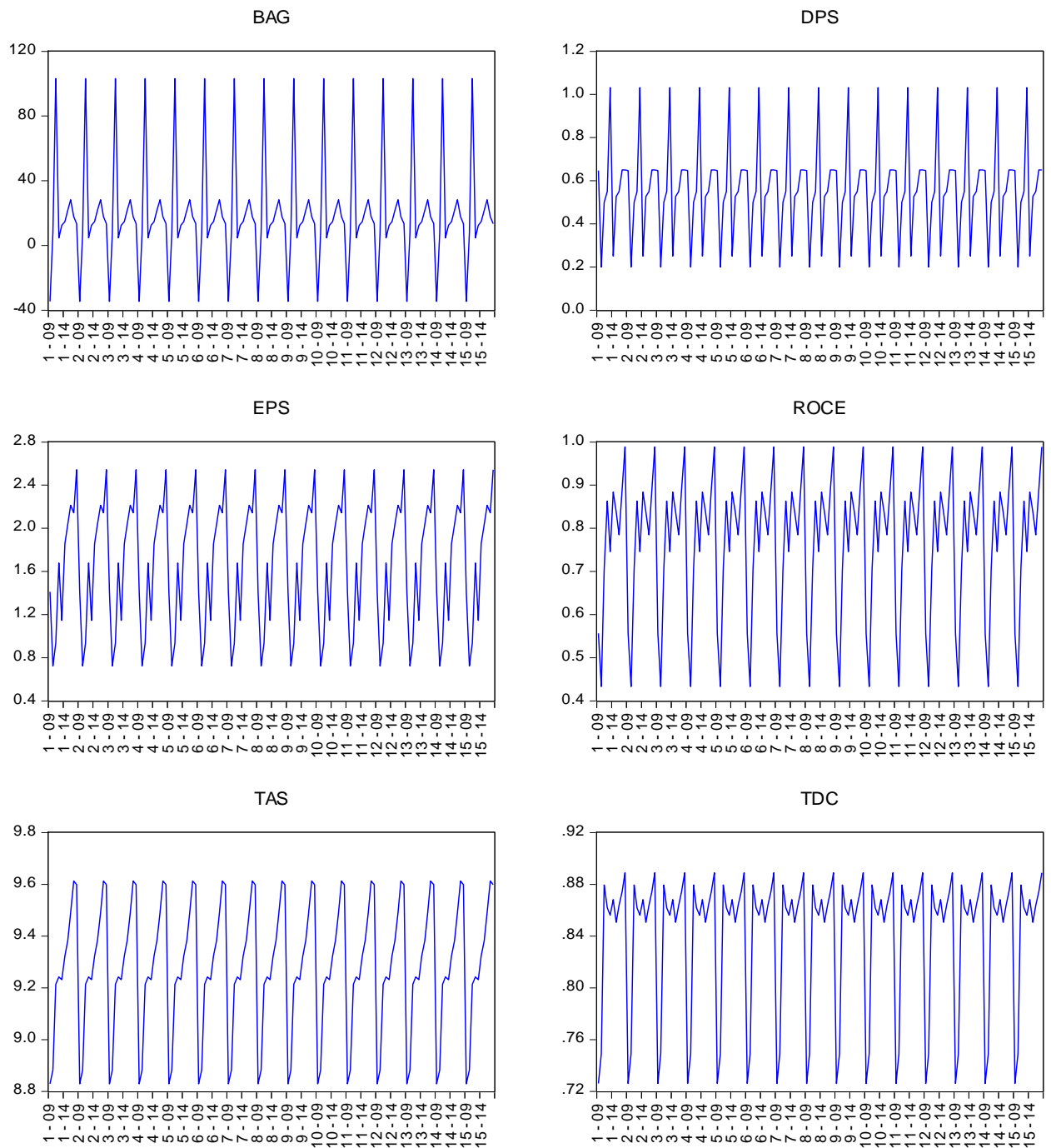


Figure .1: Time plot of Capital Structure and Performance of Deposit Money Banks

Time plot of the capital structure and performance of quoted money banks can be evidenced in figure 1. This showed the movement of the variables with time and across sections. There exists upward movement in the each of the variables with respect to banks. Although, there is irregular variation due to the time effect. The cross sections (deposit money banks) profitability and capital structure varied from banks to banks due to rate of turnover and profit after tax generated on yearly basis.

Table 1: Descriptive Statistics

	EPS	BS	TDC	BAG
Mean	1.668465	9.280625	0.841830	18.91211
Median	1.766738	9.282480	0.862818	14.01744
Maximum	2.544122	9.613021	0.888915	103.1186
Minimum	0.722901	8.829217	0.726122	-34.59609
Std. Dev.	0.570457	0.253543	0.053624	32.46692
Skewness	-0.220403	-0.472858	-1.387318	1.298392
Kurtosis	1.833546	2.235602	3.219006	5.339826
Jarque-Bera	9.718288	9.241757	48.41607	76.36299
Probability	0.007757	0.009844	0.000000	0.000000
Sum	250.2698	1392.094	126.2745	2836.817
Sum Sq. Dev.	48.48775	9.578356	0.428455	157061.1
Observations	150	150	150	150

Source: Extracted from E-views 9.0 Output

Joint description of the variables of measurements was analyzed in Table 1 above. Analysis indicates that EPS was found to be normally distributed over time and across sections (p -value > 0.05). Average EPS was 1.668 with predictor variables BS, TDC and BAG averaging 9.280625, 0.842, and 18.912 respectively. Minimum and maximum values of the respective variables were also captured over time irrespective of the deposit money banks. In addition, variability to the true average of the sets of predictors and dependent variables were captured. As a result of this, we fit our model since we assume the data are normally and independently distributed.

Table 2: Correlation coefficients

	BAG	EPS	BS	TDC
BAG	1.000			
t-statistic	-----			
p-value	-----			
EPS	-0.186403	1.000		
t-statistic	-2.308144	-----		
p-value	0.0224	-----		
BS	0.290563	0.809558	1.000	
t-statistic	3.694230	16.77688	-----	
p-value	0.0003	0.0000	-----	
TDC	0.569084	0.524533	0.870727	1.000
t-statistic	8.419540	7.495069	21.54040	-----
p-value	0.0000	0.0000	0.0000	-----

Source: Extracted from E-views 9.0 Output

Interrelationship between the three measured variables of capital structure and deposit money bank performance were measured. However, BS and BAG have direct positive relationship with correlation coefficient of 0.2906 (p-value 0.0003 <0.05 level of significance). Taking TDC and BAG into consideration, analysis indicates that a strong positive degree of direct relationship exist between the duo variables with p-values < 0.05 level of significance moreover, BS also relate significantly with deposit money bank performance taking EPS as a proxy.

Table 3: Comparative Test of Fixed and Random Effect model (Dependent \equiv EPS)

Tests	Fixed Effect	Random Effect
R-squared	0.858680	0.858680
Adj. R-squared	0.840480	0.840480
MSE	0.227841	0.216641
F-Statistic	47.17941 (p-value = 0.000)	295.7053 (p-value = 0.000)
Durbin Watson	2.180257	1.980257
Hausman Test Statistic	0.0000 (d.f 3), p-value = 1.000	

Source: Extracted from E-views 9.0 Output

Comparative test of the fixed and random effect models can be evidenced in table 4.3. Analysis showed from the R-squared that about 85.87% of the variation in EPS can be largely explained for by variation in BAG, BS, and TDC for the examined time period (2009-2018) taking the deposit money banks into consideration. The remaining 15% could be traced to unexplained variation. Moreso, adjusted R-square of 0.8405 indicates that about 84% of the variation in EPS can be accounted for when other measure of capital structure are added to the model as it reveal the validity of the multiple coefficient of determination R-squared. It can be seen that the fixed effects and random effect models possess the same value of R-square and adjusted R-square respectively. But with variation in the accuracy test using the MSE as a proxy. Comparing the MSE of the two fitted models, including the F-statistic and Hausman chi-square statistic, analysis showed that the random effect model is most efficient and can be adopted in measuring the effect of capital structure on the performance of deposit money banks in Nigeria.

In addition, the F-statistic 295.7053 with P-value of 0.0000 < 0.05 indicates that the overall regression model is statistically significant and the model fitted has provided a goodness of fit. Hence, the three (3) predictors' variables of BAG, TDC and BS jointly account for the variation of deposit money banks performance and can also be concluded that the model is adequate for the research study.

Durbin Watson statistic of 1.980257 showed that there is no presence of serial correlation in the residual of the fitted model. Hence the model may be efficient enough in predicting the performance of the deposit money banks taking EPS as a proxy.

Hypothesis one

H₀₁: Capital Structure has no significant effect on earnings per share of deposit money banks in Nigeria

Table 4: Random Effect Regression Result (Dependent = EPS)

Variable	Parameters	Coefficient	Std. Error	t-Statistic	Prob.
BAG	β_1	-0.006500	0.000811	-8.014511	0.0000
BS	β_2	2.577186	0.173661	14.84034	0.0000
TDC	β_3	-2.790403	0.955481	-2.920418	0.0041
C	β_0	-19.77745	0.963940	-20.51731	0.0000

R-Square 0.858680 Adj R square 0.216641 F-stat. 295.7053 p-value 0.0000

Source: Extracted from E-views 9.0 Output

$$EPS_{it} = -19.77745 - 0.006500(BAG_{it}) + 2.577186(BS_{it}) - 2.790403(TDC_{it})$$

From equation 1, the intercept (Constant) of -19.77745 shows the autonomous bank performance (EPS) when the predictor variables are held constant. The negative influence of the constant can be adjudged to be a situation where the selected banks experienced a downturn.

Furthermore, the regression equation 4.1 indicates that a unit increase in BAG and TDC of the deposit money banks will result to 0.65% and 279.04% decrease in the deposit money banks performance when TAS_{it} is held constant. Although, this is not in line with *a priori* opinion since BAG and BS are to have positive influence on performance of the deposit money banks. The negative influence might be as a result of the fewer period and number of cross-sections used for the research study which can be improved upon for further studies. In addition, a unit increase in BS tends to 257.72% increase in bank performance when BAG and TDC are held constant. The positive influence of the measured variables of capital structure is within the *a priori* opinion as it is to affect bank performance directly. Influence of the set of predictor variables were found to be significant (p-values < $\alpha = 0.05$).

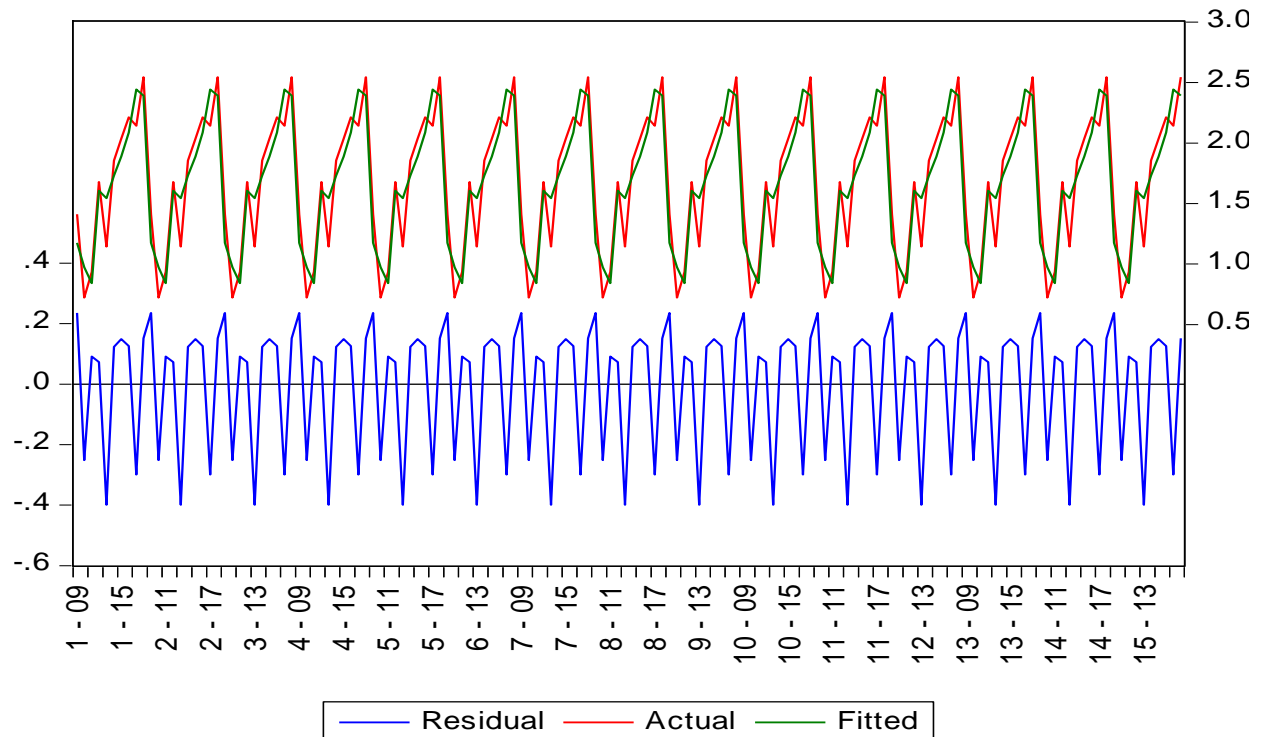


Figure 2: Actual, Fitted and Residual Plot of the fitted EPS Random effect Model

It can also be evidenced from figure 4.2 that the random effect model of equation 4.1 predicted the performance of the quoted banks well. This can be shown from the fitted line of the regression as it lay along the actual values but with little variation.

Decision: Since the p-value (0.000) of the F-statistic 295.7053 in table 4.4 is less 95% level of significance, we reject H_0 . Hence, capital structure has significant effect on earnings per share of deposit money banks in Nigeria.

5.2 Conclusion

This study employed an important measure of bank performance in terms of EPS. The measure is mostly used going through the extant literature. This is required to measure the effect of capital structure on the performance of deposit money banks. The measures of capital structure used are BAG, BS and TDC. The findings shows that capital structure has significant effect on the performance of the banks within the year understudy.

5.3 Recommendations

In line with the findings of the study, the management of the banks should monitor the trend of political changes so that government policies will not have much negative effect on their investments hence improving the performance of the banks and minimizing the risk of losing money

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