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# The Impact of Capital Structure on the Financial Performance of Deposit Money Banks in Nigeria

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**ABSTRACT:** The study examined the impact of capital structure on the financial performance of banking firms in Nigeria. The study specifically determined the impact of total debt finance on the financial performance of banking firms in Nigeria and examined the effect of equity finance on the financial performance of banking firms in Nigeria. The ex-post facto research design was adopted in the study. Secondary panel data spanning ten years (2009-2018) was amassed in the study and estimated using descriptive, correlation, pooled OLS estimation, cross-specific and time specific effect analysis, random effect analysis and other post estimation tests. Findings from the study indicated that debt finance exerts negative significant impact on financial performance of deposit money banks while equity finance exerts positive insignificant impact on financial performance of deposit money banks. Premise on these findings, the study suggested that Management of deposit money banks should ensure that the right combination of finance is entrenched to balance between financial risk and business risk of their operation and government should also ensure that regulations are made to streamline the capital structure of commercial banks in Nigeria so as to normalize the business risk and financial risk of the banking sector.

**Keywords:** Capital Structure, Financial Performance, Debt Finance, Equity Finance, Deposit Money Banks.

## I. INTRODUCTION

Every business either new or ongoing needs funds in fulfilling its activities as no success is met when fund is completely unreachable (Olokoyo, 2012). The aforesaid fund may be needed in the execution of the daily operation and business augment. This goes a long way in depicting how useful fund is in the life cycle of any business. Capital is referred to as fund. Hence, capital is described as the means of providing money or funding a business. Capital of firms when sourced, it becomes a burden on enterprises simply because it is other persons' resources which must compensated as deriving maximum benefitsfrom it. It is therefore a symbol of a company's financial liabilities (Ishaya&Olayiwola, 2014).

Sources of capital opened to willing firms to increase funds for the execution of the organizational activities. The internal and external sources form are the main sources of fund open to firms across all sectors in an economy. The internal source represents funds acquired from inside an organization, these are mostly retained earnings. In the same vein, firms may consider discovering funds from outside in the quest to improve their operations (Ishaya&Olayiwola, 2014). Therefore, funds that are not sourced from within a firm are classified as external financing. External sources of fund include issuing more shares or loan. Provision of equity contributes to fund raising through external sources triggering an increase in the amount of owners where dividends are due to the holders in periods when surplus is announced and after meeting the requirements. Also, the equity holders possess a wide decision control over the firm because of the risk involved. Meanwhile, loans received by a company make the company a creditor to its lenders. This may be through issuance of bonds, debentures or other types of debt instruments. Recipients of these instruments are given a fixed amount of interest to be paid before the equity or shareholders. They reserve a reduced right in participating in the organization's decision making towards enhancing firms performance (Ishaya&Olayiwola, 2014).

Firm's performance is totally dependent on the efficiency and effectiveness of an organization coupled with its ability to achieve its financial and operational goals through an optimal capital structure stemming from an effective financing decision. The financial performance of a firm is traceable to its motive to increase profit both to shareholders and on assets while the operational performance involves growth and

increase that relates to sales and market value (Chakravarthy, 1986). Ishaya and Olayiwola (2014) recognized that because capital is used by firms in meeting up with the achievement of its set goals, and performance is said to be the goals that has been set, both capital structure and firm performance are therefore designed to be proportionally related and impact each other.

Undoubtedly in Nigerian companies, almost all corporate decisions are taken by managements and over the years it has been discovered that equity issues is often preferred over debt despite the reach ability of debts and it also being a cheap source of raising funds for the successful operation of the business. This could be traceable to the manager's disposition to protect undiversified human resources and avoid the performance pressure emanating from debt commitment (Ogbe, Ogede&Kemi, 2013). This has over time differentiated distinctively financial performances despite the similarities in the resources accessible by them in terms of assets, human resources and amount of fund (Alalade, Oguntodu&Adelakun, 2015).

Management's decisions which are often not favorable enough on the long run performance of firms can be related to the difficulty in selecting an optimal capital structure. Most times, firms have to issue several securities after a lot of processes have been employed in attaining a particular combination that can maximize its overall performance. It has been said that if a firm must achieve a maximized performance, its capital structure must be strong enough to trigger such expected performance. Therefore company's ability to manage its financial policy is significant to the prospective gains the company is set to realize (Dahiru, 2016). Several studies have captured the characteristics and length of relationship between capital structure and financial performance of firms. Researchers who have keyed into this aspect of research have focused on foreign countries. Despite this, contrasting discoveries are evident in these researches.

In Nigeria, a large number of researches deviated from using other components on capital structure and financial performance. These studies contained Salawu (2007), Yinusa and Babalola (2012), Bello and Onyesom (2005). Bello and Onyesom (2005) have ignored a gap that needs to be filled. For instance, Salawu (2007) who focused on the effect of capital structure on financial performance of selected quoted companies in Nigeria between 1990 and 2004 centered on short term debt. This study ignored other types of financing, thus the discoveries was limited to short term debt financing. This expresses that even within the limit of debt financing; only the short term aspect of the debt was dealt with in the study meanwhile in real life capital structure focuses on both kinds of debt financing.

## II. LITERATURE REVIEW

All over the world, there has been no generally accepted opinion concerning the meaning of capital structure; however several definitions have conceptualized its basic meaning. Saad (2010) sees capital structure as approaches employed by a firm in financing its assets via the combination of equity and debt instruments. He simply refereed capital structure to as a combination of firms short and long term debt as well as common and preference equity. Capital structure is an important finance issue as it establishes the method through which a firm allocates funds sourced from different sources to its operations towards an increased financial performance. In practice, capital structure is a complex issue as it is difficult to establish a working capital structure mix that will guarantee an optimal capital structure; an optimal capital structure; an optimal capital structure is commonly referred to as the distribution of debt and equity that caused a reduced weighted average cost of capital for the firm thereby maximizing value whole reducing cost (San &Heng, 2011).

The composition of capital structure of firms include both long term sources of finance such as debt financing and equity financing, and short term sources of finance such as cash reserve, bank etc. Myers (1984) maintained in his research which establishes the pecking order theory that capital structure of firms includes a set of both internal and external financing. Retained earnings are classified under internal financing while debt financing and equity financing are categorized under external financing. However, Jensen (2004) posits that capital structure of a firm includes ordinary shares, surplus retained capital (retained earnings) and debts. Similarly, Frank and Goyal (2003) in line with Myers (1984)'s establishment maintained that capital structure is classified into internal finance which includes retained earnings and external finance such as debt and equity capital.

Capital Structure and Firm's Profitability

Capital structure decisions of a firm have been determined to be independent of any other factor but instead are largely dependent on the company's market or book value (Hovakimian, Hovakimian&Tehranian, 2002). The authors further contested that there is no association between a firm's profit and its target leverage as

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companies with low profit will issue more equity in their bid to balance their debt position and the opposite, firms with high profitability will issue less equity to finance their operations, they might also not issue debt instrument as such firms are more concerned with internal sources of capital which is clearly adequate.

According to Coyle (2000),firms that consider equity financing as their prioritized source of finance are usually financially weak and possess a low credit appraisal.Eldomiaty, Choi and Cheng (2007) averred that firms should consider retained earnings and other factors in its capital structure so as to attain a balanced leverage and an optimal capital structure. In most situation, the profitability of the company would direct the form of capital structure to be considered as a highly profitable firm will priorities the financing of its operations with internal sources and reduce its debt profile; such firms will also in some case, consider debt financing instead of equity due to his capacity to meet up with the debt obligation as at when due and enjoy the merits of debt financing (Uremadu&Efobi, 2012).

## III. RESEARCH METHODS

Research Design

This study employs the ex-post facto research design with particular focus on the banking industry; the study's population includes all the twenty-one (21) listed deposit money banks in Nigeria. The study sampled ten quoted deposit money banks using the random sampling technique. Panel data spanning ten years (2009-2018) was gathered in the study from the financial statements of the respective deposit money banks. Panel estimation techniques including the pooled OLS estimation, fixed effect (time specific and cross specie) and random effect estimation and other post estimation tests (F-test and hausman test) were employed in the study.

Model Specification

This study adapted the model of Aftab, Ehsan, Naseer and Awan (2012) which investigated the effect of corporate strategy and capital structure on performance of banking sector of Pakistan ; the authors capital structure with sales growth, liquidity and debt ratio and captured performance with return on equity in a panel estimation model. Albeit, this study captures capital structure with explanatory variables including equity finance and debt finance and proxied performance with return on assets. The functional and linear forms of the study's models are specified below:

Functional representation of the models:

$$ROA = f(DF, EF, Ut)$$

Linear representation of the models:

$$ROA_{it} = \delta_0 + \delta_1 DF_{it} + \delta_2 EF_{it} + \mu_{it} - - \quad - -(3.2)$$

## IV. DATA ANALYSIS AND INTERPRETATION

**Descriptive Analysis of Variables**

**Table 4.1 Descriptive Statistics**

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| ROA | 100 | .0352 | .0626435 | 0 | .43 |
| DF | 100 | 7.8164 | 6.998293 | .02 | 31.75 |
| EF | 100 | 42.1644 | 161.9669 | .01 | 1025.43 |

**Sources:** Author's Computation, (2020)

Descriptive statistics captured in table 4.1 demonstrates that the average values for return on asset of deposit money banks sampled in the study stood at .0352 per cent, 7.8164 million and 42.1644 million respectively. Minimum and maximum values stood at 0 per cent and 0.43 per cent for return on asset, 0.02 million and 31.75 million for debt finance, 0.01 and 1025.43 for equity finance.

**Correlation Analysis**

**Table 4.2 Correlation Matrix**

| | ROA | DF | EF |
|---|---|---|---|
| ROA | 1.0000 | | |
| DF | -0.1947 | 1.0000 | |
| EF | 0.0272 | -0.1895 | 1.0000 |

**Sources:** Author's Computation, (2020)

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Correlation result presented in table 1 showed an existence of both positive and negative correlation between capital structure variables and firm performance. Specifically, correlation coefficient stood at -0.1947, 0.0272 and -0.1895 for ROA and DF, ROA and EF ad DF and EF respectively, hence demonstrating that financial performance of deposit money banks captured with return on assets move predominantly in the same direction with equity finance and an opposite direction with debt finance.

**Analysis of the Effect of Debt Finance and Equity Finance on Financial Performance of Deposit Money Banks in Nigeria**

**Pooled OLS Estimation**

**Table 4.3: Pooled OLS Parameter Estimates**

**Series:** ROA DF EF

| Variable | Coefficient | Standard Error | T-Test Values | Probability |
|---|---|---|---|---|
| C | .0491221 | .0098014 | 5.01 | 0.000 |
| DF | -.0017601 | .0009079 | -1.94 | 0.055 |
| EF | -3.89e-06 | .0000392 | -0.10 | 0.921 |

R-square=0.0380
Adjusted R-square=0.0182
F-statistics=1.92
Prob(F-stat)=0.1526
**Source:** Author's Computation, (2020)

Estimation result presented in table 4.3 reported the effect of equity finance and debt finance on return on assets of deceit money banks when observation across sampled banks was pooled without considering their heterogeneity effects. As indicated in table 4.3, debt finance exerts negative impact on return on assets with coefficient estimate of -.0017601 (p=0.05=0.05) and equity finance exerts negative insignificant impact on return on assets with coefficient estimate of -3.89e-06 (p=0.921>0.05). Reported R-square statistics stood at 0.3800 for estimation of model used in the study indicating that about 38%of the systematic change in return on assets of deposit money banks can be explained by the explanatory variables, particularly when cross sectional or period effects are not considered.

**Fixed Effect Panel Analysis**

**Table 4.4 Fixed Effects Estimates (cross sectional and period specific)**

| CROSS-SECTIONAL SPECIFIC EFFECT | | | TIME SPECIFIC EFFECT | | |
|---|---|---|---|---|---|
| **Variables** | **Coefficients** | **Prob** | **Variables** | **Coefficients** | **Prob** |
| C | .0423894 | 0.041 | C | .0349126 | 0.084 |
| DF | -.0033165 | 0.003 | DF | -.0025314 | 0.016 |
| EF | 9.07e-06 | 0.875 | EF | -.0000282 | 0.486 |
| **Effects** | | | **Effects** | | |
| DIAMOND | -.007399 | 0.788 | 2010 | .0151404 | 0.580 |
| ECOBANK | .0420364 | 0.147 | 2011 | .0086212 | 0.752 |
| FIDELITY | -.0152984 | 0.580 | 2012 | .0244994 | 0.376 |
| FIRST | .0436586 | 0.115 | 2013 | .0248778 | 0.382 |
| GTB | .0130693 | 0.634 | 2014 | .0229004 | 0.422 |
| UBA | .0182028 | 0.522 | 2015 | .0800664 | 0.005 |
| UNION | .0234383 | 0.394 | 2016 | .0390391 | 0.153 |
| WEMA | .0014984 | 0.967 | 2017 | -.0048615 | 0.858 |
| ZENITH | .0643065 | 0.026 | 2018 | .0023691 | 0.931 |
| R-square=0.1553<br>Adjusted R-square=0.0475<br>F-statistics=1.45<br>Prob(F-stat)= 0.1659 | | | R-square=0.1700<br>Adjusted R-square=0.0662<br>F-statistics=1.64<br>Prob(F-stat)= 0.1018 | | |

**Source:** Author's Computation, (2020)

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Estimates presented in table 4.4 represents results of the fixed effect estimation (cross-sectional and period specific effect). Most importantly, result presented in table 4.4 indicated that when cross sectional effect is incorporated into the model the impact of debt finance remained positive and significant while equity finance turned positive and insignificant. On the other hand, when period specific effect was integrated into the model, debt finance remained negative and significant while equity finance turned negative and insignificant.

Deviation intercept terms reported in table 4.4 stood at -.007399 (p=0.788>0.05), 0420364 (p=0.147>0.05), -.0152984 (p=0.580>0.05), .0436586 (p=0.115>0.05), .0130693 (p=0.634>0.05), .0182028 (p=0.522>0.05), .0234383 (p=0.394>0.05), .0014984 (p=0.967>0.05), .0643065 (p=0.026<005) for Diamond, EcoBank, Fidelity, First, GTB, UBA, Union, Wema and Zenith Bank respectively, with the intercept term of the reference firm being Access Bank recorded to be .0423894 (p=0.041>0.05). Deviation intercept terms for period effects stood at: .0151404 (p=0.580>0.05), .0086212 (p=0.752>0.05), .0244994 (p=0.376=0.05), .0248778 (p=0.382>0.05), .0229004 (p=0.422>0.05), .0800664 (p=0.005>0.05), .0390391 (p=0.153>0.05), -.0048615 (p=0.858>0.05), .0023691 (p=0.931>0.05) for 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017 and 2018 respectively, with intercept term of reference years being 2009 recorded to be .0349126 (0.084>0.05). Reported R-square values stood at 0.1553 for cross section specific estimation and 0.1700 for period specific estimation, suggesting equity finance and debt finance can explain about 16% and 17% systematic change in financial performance of deposit money banks when firms heterogeneity effect and period heterogeneity effect is integrated in the study's model.

**Random Effect Analysis**

**Table 4.5 Random Effect Estimation**

**Series:** ROA DF EF

| Variable | Coefficient | Standard Error | Z-Test Values | Probability |
|---|---|---|---|---|
| C | .0491221 | .00098014 | 5.01 | 0.000 |
| DF | -.0017601 | .0009079 | -1.94 | 0.053 |
| EF | -3.89e-06 | .0000392 | -0.10 | 0.921 |

R-square=0.0380
Wald chi2(5)= 3.83
Prob> chi2 = 0.1471
**Sources:** Author's Computation, (2020)

Random effect estimation result revealed in table 4.5 indicated that when heterogeneity effect across deposit money firms selected in the study and over the period covered was integrated into the model through the error term, debt finance exerts negative significant impact on return on assets with coefficient estimate of -.0017601 (p=0.053=0.05) while equity finance exerts negative insignificant impact with coefficient estimate of -3.89e-06 (p=0.921>0.05). R-square statistics reported in table 4.5 stood at 0.0380 for the model used in the study. Thus suggesting that about 4% of the systematic variation in return on assets can be controlled by debt finance and equity finance, when heterogeneity effect is included into the random term.

**Post Estimation Test:**

**Table 4.6**: Restricted F Test of Heterogeneity

| | F-statistics | Probability |
|---|---|---|
| **Cross Specific** | 1.33 | 0.0234 |
| **Time Specific** | 1.55 | 0.1417 |

**Source:**Author's Computation, (2018)

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**Table 4.7:** Hausman Test

| Null Hypothesis | **Chi-square stat** | **Probability** |
|---|---|---|
| Difference in coefficient not systematic | 2.99 | 0.5587 |

**Source:**Author's Computation, (2020)

Post-estimation test result reflected in table 5 in the bid to ascertain the significance of the cross sectional and time specific effect. Reported in table 4.6 are f-statistics values of 1.33 ($p=0.0234<0.05$) for cross specific effect and 1.55 ($p=0.1417>0.05$) for time specific effect. This result validates the use of the cross-sectional specific effect as appropriate in analyzing the association between capital structure and financial performance of deposit money banks. Hausman test result presented in table 4.7 demonstrated that there exists limited evidence to reject the null hypothesis that difference between fixed effect and random estimation result is not significant for the study's model. Therefore, this reflects that the most consistent and efficient estimation for the study's model is the fixed cross section specific effect estimation as presented in table 4.4.

## V. DISCUSSION OF FINDINGS

From series of analysis conducted in the study to empirically analyze the impact of capital structure on financial performance of deposit money banks in Nigeria, the following discoveries were made: First the study discovered that impact of capital structure on financial performance in banking industry depends largely on the surrogates variables used to proxy capital structure and the measurement of financial performance employed, thus corroborating the assertion of Moshi (2014) that impact of capital structure on firm performance depends on the variables and indicators used to proxy capital structure and financial performance.

Notably from the most consistent and efficient estimations as presented in Table 4.4 (i.e fixed effect cross sectional specific model), it was discovered that debt finance exert negative impact on performance of selected banks and that equity finance influence the performance of banks positively when performance is measured in terms of return on asset. However the result revealed that debt finance as one of the variables representing capital structure significantly influence performance of banking firms in Nigeria, while the influence of equity financing and debt equity ratio on banks performance in Nigeria is not significant.

This study established that the more deposit money banks finance their operation with debt and the higher the debt-equity ratio in favour of debt the less their performance especially when measured in terms of return on asset. However such increase in the debt ratio in the capital structure of banks increase the risk level of the business and as such heightens systematic risk of the corporate firm and ultimately threatening financial performance.

## VI. CONCLUSION AND RECOMMENDATIONS

Premise on the findings attained in this study, it is evident that there exists an association between capital structure and financial performance of deposit money banks in Nigeria. This study particularly ascertained that debt finance exerts negative significant impact on financial performance of DMBs while equity finance exerts positive insignificant relationship with financial performance of DMBs in Nigeria. Based on these discoveries, the following recommendations become paramount:

i. Management of deposit money banks should ensure that the right combination of finance is entrenched to balance between financial risk and business risk of their operation. To do so debtcould be varied at intervals, in other to be able to balance and moderate the leverage of the firm and guarantee financial performance.
ii. Government should also ensure that regulations are made to streamline the capital structure of commercial banks in Nigeria so as to normalize the business risk and financial risk of the banking sector, as this will herald the check and balance measure for players in the industry, and also strengthen the financial institution of the economy.

## REFERENCES

[1]. Aftab M., Ehsan R., Naseer S., &Awan, T. (2012).The effect of corporate strategy and capitalstructure on performance of banking sector of Pakistan.Global Journal of Management and Business Research.12(17), 1-12.
[2]. Alalade, Y.S.A, Oguntodu, J.A. &Adelakun, V.A. (2015). Firms' Capital Structure & Profitability Performance: A Study of Selected Food Product Companies in Nigeria. International Journal of Banking & Finance Research.1(8), 64-83.

[3]. Bello, F. O.&Onyesom, N. E. (2005). Leverage& Corporate Performance in Nigeria.Nigerian Journal of Banking & Financial Issues. 6, 127 – 139.
[4]. Chakravarthy, B.S. (1986). Measuring Strategic Performance.Strategic Management Journal 7, 437-58.
[5]. Coyle, B. (2000).Corporate Finance: Capital Structuring. Canterbury, Kent: Chartered Institute of Bankers.
[6]. Dahiru, I. (2016). Capital Structure & Financial Performance of Listed Manufacturing Firms in Nigeria. Unpublished Thesis.Ahmadu Bello University, Zaria.
[7]. Eldomiaty, T. Choi, C. & Cheng, P. (2007).Determinants of Financial Signaling Theory & Systematic Risk Classes in Egypt: Implications for Revenue Management.International Journal of Revenue Management. 2(3), 154-176.
[8]. Frank, M.&Goyal, H. (2003). Testing the Pecking Order Theory of Capital Structure.Journal of Financial Economics. 67(1), 217-248.
[9]. Hovakimian, A.G., Hovakimian, G. &Tehranian, H. (2002) Determinants of Target Capital Structure: The Case of Combined Debt & Egypt Financing. Seminar presentation at Baruch College, New York.
[10]. Ishaya, L.C. &Olayiwola, B.O. (2014). Capital Structure & Profitability of Nigerian Quoted Firms: The Agency Cost Theory Perspective. American International Journal of Social Science. 3(1), 139 – 158.
[11]. Myers, S.C. (1984). The Capital Structure Puzzle.Journal of Financial Economics.39(3), 375-592.
[12]. Ogbe, P., Ogede, J. &Alewi, K. (2013).The Impact of Capital Structure on Firms'Performance in Nigeria.Munich Personal RePEcArchive.Paper No. 46173.
[13]. Olokoyo, F.O. (2012). Capital Structure And Corporate Performance Of Nigerian Quoted Firms: A Panel Data Approach. Unpublished Thesis.Covenant University, Ogun State.
[14]. Saad, N. M. (2010). Corporate Governance Cpmpliance& the Effects to capital Structure.International Journal of Economics &Financial , 2(1),105-114.
[15]. Salawu, R. O. (2007). An Empirical Analysis of the Capital Structure of Selected Quoted Companies in Nigeria.The International Journal of Applied Economics & Finance. 1 (I), 16 – 28.
[16]. Uremadu, S.O. &Efobi, R.U. (2012). The Impact of Capital Structure & Liquidity on Corporate Returns in Nigeria: Evidence from Manufacturing Firms. International Journal of Academic Research in Accounting, Finance &Management Sciences. 2(3), 1-16.

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