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Money Banks in Nigeria*

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Capital Structure and the Performance of Deposit Money Banks in Nigeria

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Abstract

Corporate entities all over the world are faced with the problem of determining appropriate finance that will boost the value of the entity and maximize the wealth of shareholders. However, for overall wealth of shareholders to be met and consistent increase in value of Banks to be achievable, capital either debt in form of customers deposit or equity capital raised from investors is inevitable. The paper examines the relationship that exists between capital structure and financial performance and also investigates the effect of capital structure on the financial performance of quoted deposit money banks in Nigeria. To achieve these, a cross sectional time series secondary data covering the period of seven years (2015-2021) was extracted from the audited financial statement of ten (10) banks listed on the floor of Nigerian stock exchange. The descriptive statistics, Pearson moment correlation and multiple linear regressions were used. The correlation results showed that capital structure is negatively correlated with financial performance (ROA and ROE). Result from panel regression revealed that debt to equity though significant, impacted negatively on return on assets and return on equity ($\beta = -0.1266, \rho < .01$; $\beta = -5.3571, \rho > .01$), asset tangibility significantly impacted return on asset but insignificantly impacted return on shareholder's equity ($\beta = -0.0235, \rho > .05$; $\beta = -0.3527, \rho > .10$) and also Age have a significant impact on return on asset and insignificant effect on return on equity ($\beta = -0.0141, \rho < .01$; $\beta = -0.1497, \rho > .10$). This study therefore concludes that capital structure have a negative effect on the financial performance of deposit money banks in Nigeria and recommended that appropriate proportion of capital should be tailored towards viable investment opportunities for maximum return of shareholders wealth and increase in value of the firm. More so, while finance managers are alert to the movement in the stock market, banks should take precautionary measures for mitigating credit risk associated with lending and borrowing.

Keywords: *Debt to equity, assets tangibility, age of banks, return on equity, return on assets, Capital Structure*

Introduction

Globally, corporate entities are faced with the problem of determining appropriate finance that will boost the value of the entity and maximize the wealth of shareholders. The expectation of all shareholders are exclusively on how the overall wealth will be maximized and consistency in achieving this objective can only be guaranteed if the going concern of the bank is not threatened by any constraints as survival is

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determined by the level at which available capital in form of debt or equity or any other means is sourced and merged where necessary in order to fund its operations for maximum returns.

Capital structure is among the core decision areas in the field of finance. It determines the outstanding amount of debt and equity of a firm. It is an essential decision that has an intimate relationship with the value of a firm (Paramasivan & Subramanian, 2008). This is due to the fact that capital structure has direct connection with the firm's ability to fulfil the desires of its different stakeholders (Olokoyo, 2012). Capital structure also influences firm's ability to deal with the competitive environment (Martis, 2013). This suggests that an optimal capital structure decision is essential to the firm's survival (Ganiyu, 2015). Optimal capital structure represents the best combination of debt and equity that produce low cost of capital and maximises the firm's value. Consequently, poor capital structure decision, for example wrong mix of debt and equity may lead to high cost of capital, increase financial risk, lower the firm's financial performance and eventually hinder its survival (Anarfo, 2015). This implies that inefficient capital structure decision may force a firm to extinction.

Financial performance determines the firm's efficiency in resources utilisation, in addition to its ability to make profit (Aymen, 2013). Financial performance of DMBs is paramount because of the critical role the industry plays in the economy in terms of provision of financial intermediation, transmission mechanism of monetary policy and maintenance of economic stability (Abbadi & Abu-rub, 2012). Stressing the importance of sound financial performance in the banking industry, Scott and Timothy's study (as cited in Ronoh & Ntoiti, 2015) pointed out that banks with sound financial performance and sufficient capital can withstand adverse shocks. This implies that a sound banking sector will remain firm and continue to provide the needed financial intermediation services. Thus, a healthy and sound banking sector enhances financial deepening, creates more employment opportunities and promotes financial stability (Hafiz, 2018).

Research Problem

However, financial stability report indicates a declining trend in the Nigerian banks' financial performance metrics. For instance, return on equity (ROE) and return on assets (ROA) have dropped from 14.90 and 2.67 percent in 2007 to 1.18 percent and 0.16 percent in 2016 (IMF, 2017; CBN, 2016). This development is capable of corroding public confidence and in the extreme, could trigger runs on the banks. Hence, the

need for improvement in the key decision areas such as capital structure becomes imperative, because of their close relationship with the bank's performance and survival.

The seminal exertion of Modigliani and Miller in 1958 formed the foundation of capital structure study. They posited that various combinations of debt and equity are irrelevant to the firm's value. Afterward, the relationship between capital structure and financial performance has been studied substantially in both developed and developing countries with varying outcomes. Similarly, in Nigeria, there are studies on the relationship between capital structure and financial performance for both non-financial sectors (for example, Igbiosa, 2015 ; Chechet & Olayila, 2014; Arowoshegbe & Idialu, 2013; Uwoloma & Udiale, 2012; Onaolapo & Kajola, 2010) and financial sector specifically the banking sector that include the study of Idode, Adeleke, Ogunlowore, and Ashogbon (2014) on influence of capital structure on profitability of listed Nigerian banks, the impact of post-consolidation capital structure on the financial performance of quoted Nigerian banks by Adesina, Nwidobie and Adesina (2015), Uchechukwu and Kinsley (2016) regarding the effect of capital structure on firm performance of selected quoted banks in Nigeria, Shaba, Yaaba and Abubakar (2016) and Sadiq, Kachollom, Dasuki, and Yusuf (2017).

However, none of the prior studies from the context of banking sector consider different categories of debts such as short term debt (STD) and long term debt (LTD) as indicators of capital structure. Regarding the financial performance indicators, net interest margin (NIM) serves as a core banking specific performance indicator which has been to a large extent ignored in the previous studies. According to CBN (2013), margin metrics such as net interest margin (NIM) and net non-interest margin (NNIM) have recently turned out to be crucial indicators to banks' management, regulatory authorities and the general public. Moreover, NIM shows the cost and efficiency of bank's financial intermediation (Saksonova, 2014). This scenery therefore creates room for further studies so that empirical evidences could be established from the Nigerian context, which this study is to address.

Research Objectives

The aim of this study is to bridge the gap in knowledge by empirically assessing the robustness of the extent of relationship between capital structure metrics (short term debt ratio, long term debt ratio, total debt ratio and equity ratio) and financial performance of Nigerian banks using banks' core business financial performance indicator, the net interest margin (NIM).

Literature Review

Traditionally, banks offer loans to customers in deficient of funds by borrowing from the customers with surplus funds. In other words, banks fulfill the role of financial intermediation between the companies and investors by granting loans and receiving deposits. The intermediary role allows banks to finance their activity with high level of debt and low level of equity. High proportion of deposits in banks' liabilities allows leverage (total liabilities to total assets) of banks to be very high.

The trade-off theory was formed from the works of Kraus and Litzenberger (1973), Miller (1977), Scott (1977) and Kim (1978) among others. The theory suggests that firm's capital structure depends on the tradeoff between the tax shield benefit of using debt and its attendant consequences in form of financial distress. The inconsequential gain from further debt declines with increase of debt proportion in firm's capital structure, this also increases the marginal cost. Hence, for firm to achieve its overall value, tradeoff has to be central in choosing the proportion of debt and equity that it intends to use for financing its operations.

Empirical Review

Past studies on capital structure and performance of firms that provides an insight on which further work can be built upon are examined. For instance, Siddik, et al. (2017) concluded the data of 22 banks over a period of 2005-2014 and observed capital structure have negative effect on return on equity, for data analysis used the least square technique. Rajha and Alslehat (2014) used the multiple regression model and sample size of two Islamic banks (Jordan Islamic bank and International Arab bank) over the period of 1998-2012. The result analyses show that capital structure has a positive influence on banks profitability and have no effect on bank's profitability.

Choong, Thim et al. (2012) carried out an empirical study on the performance of Islamic banks in Malaysia. Data collected form 11 local Islamic banks in Malaysia for this study and a regression model comprising of dependent variable (ROA or ROE) and numerous independent variables was used to analyze performance of Islamic commercial banks. The empirical results indicated that credit risk is the most significant variable in performance of local Islamic Commercial Banking in Malaysia.

Al-Farisi and Hendrawan (2011) investigates the effect of capital structure on profit efficiency of Islamic bank and commercial bank. Data was collected from 102 conventional and Islamic banks and use the unit root test for analysis was done. Result based on two stages. First stage suggested Islamic banks in Indonesia have top 20% highest performance score and concluded that capital ratio of banks negatively influence its performance. Ahmad, Abdullah, and Roslan (2012) examined the effect of capital structure on the firm performance of public listed companies in Malaysia covering two major sectors (Consumers and industrials sector). Fifty-eight (58) firms are used as the sample covering year 2005 through 2010, having 358 observations. Their result indicates that there is significant relationship between capital structure variables (Short term debt and Total debt) and performance measure (return on assets, ROA).

Muritala (2012) looked at the ideal capital structure at which a company can improve its financial performance. The Pesaran and Shine unit root analysis showed that the five years annual data were non-stationary at five per cent significance level. Further findings revealed that there exist a negative association between capital structure and firms' operational performance while the panel data result revealed a positive relationship between asset tangibility, size, asset turnover, age of firm and the performance of firm. Finally, a significant but negative relationship was seen between asset tangibility and the performance of the firm (ROA).

Amenawo (2014) examined a relationship between Capital Structure and the Performance of Quoted Companies in Nigeria. The result showed that Capital mix has a significant relationship with the earnings per share of quoted firms in Nigeria. Debt equity ratio has a significant positive impact on the return on assets of quoted companies in Nigeria and debt asset ratio has a significant inverse relationship with the return on assets of quoted companies in Nigeria. Also debt equity ratio has a significant inverse impact on the return on equity of quoted companies in Nigeria and debt asset ratio has a significant positive impact on return on equity of quoted companies in Nigeria and concluded that Quoted companies in Nigeria should invest their profits when there are good investment opportunities and pay cash dividend as soon as enough income is generated.

The impact of capital structure on firm performance was explored by Lawal et al. (2014) in an empirical study of manufacturing companies in Nigeria. Descriptive and regression research technique was employed.

From his findings, it was observed that capital structure measures (total debt and debt to equity ratio) are negatively related to firm performance.

On the ground of the empirical studies reviewed above, it is therefore hypothesized that:

H₀₁: There is no causal relationship between capital structure and bank performance.

H₀₂: Debt to equity ratio does not have significant and positive effect on banking performance in Nigeria.

H₀₃: Firm's age has no significant impact on performance of banks in Nigeria.

H₀₄: Assets tangibility does not have significant impact on bank performance in Nigeria.

Methodology

The study adopted ex-post facto design. This design is also called causal comparative Research design. When translated literally, ex post facto means, from what has been done before. It can be described as a historical research design. Ex-post facto design was employed because it is appropriate for the purpose of achieving the objectives of the research since the study also investigates the causal relationships among the relevant variables and the data input were mainly from secondary data. Another justification for adopting this method is because it involves the collection and evaluation of data related to past events that are used to describe causes, effects and trends that may explain present or future events. The data for the study were obtained from the annual reports and accounts of the sampled banks from Nigerian exchange limited fact book. The sample size of the study was selected based on Nigerian Exchange classification of the listed companies into financial stratum of homogeneous companies of similar characteristics, which the banking industry forms a strata. This sector comprises of ten (10) listed companies (Access Bank Plc, Stanbic IBTC Plc, First Bank Plc, Union Bank Plc, Fidelity Bank Plc, Guaranty Trust Bank Plc, Sterling Bank Plc, United Bank for Africa Plc, Wema Bank Plc and Zenith Bank Plc) selected for this study over a period of seven years (2012-2018).

Model Specification

This study uses annual audited reports and accounts of the sampled banks obtained from Nigerian exchange Limited fact book covering the period of 2012 to 2018. In the literature reviewed, there have been several models in the area of capital structure and bank financial performance. Panel regression model and granger causality model to test the hypotheses earlier stated is specified thus:

The Model

$$BFP_{it} = f(CS_{it}) \dots \dots \dots (1)$$

$$BFP_{it} = f(DETERA_{it}, AGE_{it}, ASTANG_{it}) \dots \dots \dots (2)$$

Where:

BFP = Bank Financial Performance

(ROA and ROE)

CS =Capital structure

DETERA =Debt to equity ratio

AGE =Age of the Banks

ASTANG =Assets tangibility

Equation 2 can be restated in econometric form as:

$$ROE_{it} = \beta_0 + \beta_1 DETERA_{it} + \beta_2 AGE_{it} + \beta_3 ASTANG_{it} + \mu_{it} \dots \dots \dots (3)$$

$$ROA_{it} = \beta_0 + \beta_1 DETERA_{it} + \beta_2 AGE_{it} + \beta_3 ASTANG_{it} + \mu_{it} \dots \dots \dots (4)$$

Where:

ROE is Return on equity of selected quoted banks

ROA is Return on assets of selected quoted banks

DETERA is Debt to equity ratio of selected quoted bank

ASTANG is the Asset tangibility of selected quoted banks

it is the firm i in time t

β is the constant coefficient

β_1 - β_3 are regression coefficients for measuring independent variables

μ =error term

Empirical Results and Analysis

A priori Expectation

The a priori expectations of the coefficients are indicated to be positive, which implies that capital structure is supposed to have a positive effect on performance of banks in Nigeria. It is stated as: $\beta_0 < 0$; $\beta_1 - \beta_3 > 0$.

Table 1. Summary of unit root tests

Levin, Lin & Chu t Im, Pesaran and Shin W-stat ADF- Fisher Chi- square PP- Fisher Chi- square								
ROE - 223	548***	(0.000) - 40	5250***	(0.000)48	9606**	(0.000)	66.0165***	(0.000)
ROA	-97.2621***		(0.000)	- 18.7780***	50.9152***	(0.000)	95.7254***	(0.000)
Age -30	6539***	(0.000)	- 210.269** *	(0.000)	122.510***	(0.000)	122.811***	(0.000)
Detera	-16.2826***		(0.000)	- 3.04965***	39.2045***	(0.006)	41.0791**	(0.003)
Astang	-3.39713***		(0.000)	-0.73452**	27.8591	(0.112)	36.7517**	(0.012)

***, **, * Implies the level of significance from 1%, 5% to 10% respectively Source: Results from E-views 9

Table 2. Granger causality tests

Null Hypothesis:	Obs	F-Statistic	Prob.
ROE does not Granger Cause ROA	50	0.53357	0.5902
ROA does not Granger Cause ROE		1.59083	0.2150
DR does not Granger Cause ROA	50	0.22296	0.8010
ROA does not Granger Cause DR		0.94976	0.3945
ASTANG does not Granger Cause ROA	50	0.24566	0.7832
ROA does not Granger Cause ASTANG		0.20208	0.8178
AGE does not Granger Cause ROA	50	1.09960	0.3418
ROA does not Granger Cause AGE		0.28415	0.7540
DR does not Granger Cause ROE	50	0.35427	0.7036
ROE does not Granger Cause DR		0.54334	0.5846
ASTANG does not Granger Cause ROE	50	0.03123	0.9693
ROE does not Granger Cause ASTANG		0.34190	0.7122
AGE does not Granger Cause ROE	50	3.11123	0.0543
ROE does not Granger Cause AGE		0.25064	0.7794
ASTANG does not Granger Cause DETERA	50	3.23793	0.0486
DETERA does not Granger Cause ASTANG		0.16068	0.8520
AGE does not Granger Cause DETERA	50	2.63952	0.0824
DETERA does not Granger Cause AGE		0.10738	0.8984
AGE does not Granger Cause ASTANG	50	0.24846	0.7811
ASTANG does not Granger Cause AGE		0.01618	0.9840

Source: Results from E-views 9

Results and Discussions

The outcome from the regression results in table 3 below shows that Debt to equity ratio (DETERA) is a significant variable that determines the financial performance (ROE) of banks in Nigeria. However, it has a negative impact on Banks financial performance. Possible reasons for nonconformity of this result to a priori expectation might be that the selected deposit money banks in Nigeria takes more of short term deposits than long term deposits from customers which takes longer time before maturity as deposits made by customers are being used for investments to generate profits. Banks who take delight in sourcing for short term loan in form of deposits to Finance its operations are mostly vulnerable to financial instability. The panel regression also revealed that all the explanatory variables accounted for about 17% in the variation of return on Equity.

Table 3. Regression results dependent variable: ROE

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	5.284	1.283	4.118	0.000***
DETERA	-5.357	1.447	-3.703	0.000***
ASTANG	-0.353	0.548	-0.643	0.522
LOG(AGE)	-0.149	0.093	-1.597	0.115
R-squared				
Adjusted R-square		0.169		
F-statistic		5.674		
Prob.(F-statistic)		0.001**		
Durbin-Watson stat		1.012		

***, **, * *implies the level of significant from 1%, 5% to 10% respectively; Source: Author's Data Analysis, 2022*

Looking at the regression results in table 4 below, all the capital structure variables (Debt to equity ratio, asset tangibility and age) are negatively significant to return on asset of Banks in Nigeria. Though debt to equity ratio was significant, it could not increase the return on assets of banks as expected, hence there is approximately 13% (0.1266×100) decline in the returns accrued to the Bank over the years. This result negates the position of the a priori expectation as they are negatively related to Bank performance. In the same vein, asset tangibility was negatively significant to financial performance of Banks in Nigeria. This implies that if banks were to rely on tangibility of its asset for survival, the performance over the years will still not be encouraging as expected as the amount of losses incurred from irrecoverable debts overwhelms

the available tangible assets that would have serve as collateral securities in times of financial distresses. Age on the other hand also impacted returns on bank assets negatively.

Table 4. Regression results dependent variable: ROA

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	0.182	0.029	6.347	0.000***
DETERA	-0.127	0.032	-3.911	0.000***
ASTANG	-0.023	0.012	-1.92	0.059**
LOG(AGE)	-0.014	0.002	-6.746	0.000***
R-squared		0.497		
Adjusted R-square		0.474		
F-statistic		21.758		
Prob.(F-statistic)		0.000***		
Durbin-Watson stat		0.525		

***, **, * *implies the level of significance from 1%, 5% to 10% respectively; Source: Author's Data Analysis, 2022*

The adjusted R-squared of 0.47 indicates that 47% in the variation of return on asset is explained by debt to equity ratio, asset tangibility and age. On a whole, the results does not conform with the a priori expectation and it is also supported by the work of Abbadi, & Abu-Rub (2012), Ahmad, Hasan, Roslan (2012), Ishaya, Abduljeleel (2014), Myers & Majulf (1984), Mustafa, Osama (2012), Puwanenthiren (2011), Siddik, Kabiraj, Joghee (2017). It is therefore established that capital structure has a negative influence on Bank performance and brings no improvement to the wealth of shareholders.

Conclusions and Recommendations

This study focused on capital structure and the performance of deposit money banks in Nigeria. On the premise of the findings of the study, the study concluded that Debt to equity as a key capital structure component was significant even though it impacted negatively on the returns on asset and return on equity of deposit money banks in Nigeria. Furthermore there is no direction of causality between debt to equity ratio, age of banks, asset tangibility and return on asset of banks. The research work considered the peculiarities of financial institutions (Banking industries) because financial sector is very imperative to any nation generally and Nigeria in particular.

The study specifically shifted attention to banking sector as most attention was focused on manufacturing companies in Nigeria and relying on the findings of this study, the following recommendations are made: First, there is need for alertness of finance managers as to movement in the stock market. Secondly, the appropriate capital mix should be tailored towards viable investment opportunities for maximum return of shareholders wealth and value of the company. Thirdly, Nigeria banks should take precautionary measures for mitigating credit risk associated with lending and borrowing.

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