

AFRICAN JOURNAL OF MANAGEMENT, BUSINESS ADMINISTRATION & ENTREPRENEURSHIP

DETERMINANTS OF CAPITAL STRUCTURE IN THE NIGERIAN BANKING SECTOR

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Article history:

Received: FEB 2021;

*Received in revised form:
2 FEB 2021;*

Accepted: 2 MARCH 2021;

Keywords:

*Profitability, tax shield, tangible asset,
Leverage*

Abstract

Corporations need adequate funds to stay afloat, these funds can be gotten either from money capital market or money market or from both. This study seeks to ascertain the determinants of capital structure. This study beams its search light on the Nigerian banking sector because of its complex nomenclature. This sector has been in the turbulent waters in recent times. The spillover effect of the financial tsunamis that sweep across globe prompted lots of potential investors to withhold their funds rather than investing them. This precarious situation necessitated the need for the reexamination of the constituents of capital structure. This study employs ordinary least square method to analyze data collected from the field. The result shows that firm tangibility has no significant impact on capital structure while profitability has a positive effect on capital structure. Furthermore, the result shows that tax shield has negative effect on capital

structure. Finally the result shows that firm size has positive effect on capital. The study recommended that proper regulation guiding

Introduction

Modern capital structure theory begins with the irrelevance theory of Modigliani and Miller (1958). Their pioneering work showed that in a perfect market- without taxes, information asymmetry, and transaction and bankruptcy costs, the degree of leverage is not associated with the firm value. Later, Kraus and Litzenberg (1973), took the effects of costs in their research, and pointed out a tradeoff between leverage and agency and bankruptcy costs with tax benefits. As an alternative to the trade-off theory, Myers and Majluf (1984), come with the pecking order theory suggesting that, due to adverse selection, firms follows a financial hierarchy from internal to external financing and from debt to equity. Although each of these theories can explain some aspects of capital structure formation, none of them can extensively describe full aspects of capital structure.

Since mid-1980s, there has been an extensive works that compare two major capital structure theories that are trade-off and pecking order with various data sets. Studies both from developed and developing world provide mixed results that some are supporting trade-off and some support pecking order theories.

Capital structure decision is one of the most important decisions made by financial managers in this modern era. The capital structure decision is at the center of many other decisions in the area of corporate finance. One of the many objectives of a corporate financial manager is to ensure low cost of capital and thus

long term debt should be introduced into the Nigerian money market and capital markets.

maximize the wealth of shareholders. Hence, capital structure is one of the effective tools of management to manage the cost of capital. An optimal capital structure is reached at a point where the cost of the capital is minimal. But, what are the potential determinants of such optimal capital.

For the past sixty years, after the influential irrelevance theory of Modigliani and Miller (1958) on capital structure, capital structure choice has inspired and fascinated many researchers. Therefore, many studies theoretically and empirically investigated and structure explained firms' capital structure choices. There is still no clear answer to Myer's over three decade old questions -"How do firms choose their capital structure?" Different theories answer this question from different points of view.

For instance, Static trade-off theory postulates the existence of an optimal capital structure, which indicates the optimal choice of capital structure by firms, is a balance of corporate tax-shield against the bankruptcy cost and agency cost. Research on the determinants of capital structure was initially directed mainly to firms in the developed countries specifically in United States. One of the classical researches was carried out by Titman and Wessels (1988) where they studied the theoretical determinants of capital structure. The theoretical attributes namely; asset structure, non-debt tax shields, growth, uniqueness, industry classification, firm size, earnings volatility

and profitability were tested to see how they affect a firm's choice of debt-equity mix. To broaden the understanding of capital structure models,

Rajan and Zingales (2015) attempt to find out whether the capital structure choices in other countries are made based on factors that similar to those capital structure influencing ones in U.S firms. Four factors namely tangibility of assets, growth, firm size and profitability were suggested to influence leverage.

However, there were no many researches directed towards developing countries that saw the applicability of the theories of capital structure developed from the developed nations.

Booth et al. (2001), Maghyreh (2005), Amidu (2007), Abor (2008), and Bas et al. (2009) were among the scholars who have studied the capital structure issues in the developing nations. Thus, one of the prominent studies was done by Booth et al. (2001). They have undertaken an interesting study by taking secondary data from the International Finance Corporation (IFC) for the largest companies in 10 developing countries. Several variables were tested and analyzed to explain capital structure determinants by considering the impact of taxes, agency conflicts, financial distress and the impact of informational asymmetries. The variables used in their study include tax, business risk, asset tangibility, sales, return on assets and market-to-book ratio.

Capital structure theory suggests that firms determine what is often referred to as a target debt ratio; which is based on various trade-off between the costs and benefits of debt versus equity (Niu,

2008). Most capital structure studies made to date are based on data from developed countries. There are few studies that provide evidence from developing countries. The determinants of capital structure of Nigerian are still in under-explored areas in the literature of financing decision.

The capital structure of banks has not also been investigated; there is no clear understanding on how banks construct their capital structure and what internal (firm-specific) factors influence their corporate financing decision. Therefore, given the unique financial features of banks and the environment in which they operate, there is a strong ground to conduct separate study on capital structure determinants in banks. This study, therefore, tried to examine determinants of capital structure of commercial banking environment by using its internal (firm-specific) determining factors.

Literature Review

Capital Structure

There are many definitions given to capital structure of companies. Brealey and Myers (1991) define capital structure as comprising of debt, equity or hybrid securities issued by the firm. VanHorn (1989) defines capital structure as the proportion of debt to the total capital of the firms. Pandey (2005) defines capital structure as a choice of firms between internal and external financial instruments. From the definitions given by many previous researchers, capital structure of a firm describes the way in which a firm raise capital needed to establish and expand its business activities. It is a mixture of various types of equity and debt capital a firm

maintains, resulting from the firm's financing decisions.

The amount of debt that a firm uses to finance its assets is called leverage. A firm with a lot of debt in its capital structure is said to be highly levered. The term capital structure is used to represent the proportionate relationship between debt and equity. Debt represents the creditors' claim i.e. liabilities or borrowings. Equity includes paid-up share capital, share premium, and reserve and surplus (retained earnings). Managers, in the extent to pursue wealth maximization objective of a firm, should examine the set of theories and at least major factors affecting the decision that help them choose the optimal capital structure. Normally firms have option of choosing debt financing, equity financing, or combination of the two, with the other option of internal financing mainly from the retained earnings. Such dealings of financing decisions are, in fact, termed as Capital Structure Decisions. Capital structure reveals all the sources of finance a firms utilized in financing its operation which is usually made up of ordinary share capital, preference share capital and debt capital (Akinsulire, 2011)

Determinants to Capital

Heavy capital investment is necessary for the success of all business organization. Profit is usually a long-term objective that determines not only the success of the product and business organization, but also of the development of the market. Magereth and Supartika (2016) opined that the profitability of a company gives a picture of a company's ability to generate profit for a certain period at a rate of sales, assets and certain of capital stock. Profitability ratios depict how effectively a firm's management is

generating profits on sales, total assets, and, most notably, stockholders' investment (Batchimeg, 2017).

One of the main theoretical controversies is the relationship between capital structure and profitability of a firm. Profitability is a measure of earning power of a firm. The earning power of a firm is the basic concern of its shareholders. The effect of profitability on leverage was well explained by the "pecking order" theory that was suggested by Myers (1984). According to this theory, firm has an ordered preference for financing whereby they prefer retained earnings as their main source of funds for investment which is followed by debt. The last resort sought by a firm would be external equity financing.

Firms with a higher ratio of tangible assets have incentive to borrow more because loans are available to them at a relatively cheaper rate. Consequently a positive relationship between tangibility of assets and firm's leverage is expected.

Titman and Wessels (1988) and Harris and Raviv (1991) argue that tangibility might be the major factor in determining the firm's debt levels. If debt is secured against assets, borrower is restricted to using loaned funds for a specific project, and creditors have an improved guarantee of repayment.

Tax-Shield is believed to be important factor that affects the amount of debt that a firm has in its capital structure (Barclay & Smith, 1999). The more profitable a firm is, the more is the amount of tax it would have to pay on its interest payments. To avoid paying a lot in tax, firms might prefer to take more debt because interest payments artificially reduce the profits of the firm and consequently they pay less tax on their profits. Therefore, by

taking more debt in their capital structure, firms benefit from the 'interest tax-shield. Some scholars are concerned directly with tax policy, for example:

DeAngelo and Masulis (1980), MacKie-Mason (1990.) and Graham (2000). DeAngelo and Masulis (1980) show that there are other alternative tax shields such as depreciation, research and development expenses, investment deductions, etc., that could substitute the fiscal role of debt.

MacKie-Mason (1990) study the tax effect on corporate financing decisions and provided evidence of substantial tax effect on the choice between debt and equity. The author concluded that changes in the marginal tax rate for any firm will affect financing decisions of policy makers. When already exhausted (with loss carry forwards) or with a high probability of facing a zero tax rate, a firm with high tax shield is less likely to finance with debt. The reason is that tax shields lower the effective marginal tax rate on interest deduction. On the other hand, Graham (1999) concluded that in general, taxes do affect corporate financial decisions, but the magnitude of the effect is mostly "not large".

Theoretical Framework

After the work of Modigliani and Miller (1958) on capital structure, several theories of capital structure have emerged to explain the relationship between capital structure and firm value and financial performance. These include Modigliani and Miller theory, trade off theory, pecking order theory and agency theory. In this study, trade – off theory, agency theory and pecking order theory will be used to underpin the study.

Trade-off Theory of Capital Structure

The trade-off theory is one the theory used to underpin this study. This theory describes an optimum capital structure as one in which the benefits of debt are offset by the cost of debt () according to Kraus and Litzenberger (1973) a trade-off exist between the benefits of tax shield and the cost of financial distress in selecting firm capital structure. When firms increase their borrowings, they can be beneficial by the reduction in the tax payables as the interest payables are left out before calculating the firm income tax. This reduction in tax payable there by improving the profit after tax.

The static trade off theory predicts a direct relationship between debt and profitability. Firms give preference to the use of debt financing in other to attract tax shield benefit available on borrowed fund (Nwanna & Ivie, 2017).

Trade-off theory validates the existence of more moderate capital structure decisions (Apostol, 2017). As the name suggests, the theory rely on the simple idea of a firm obliging to a certain capital structure by evaluating the benefits and costs of increased leverage against each other. (Salami & Iddirisu, 2011.) In practice, the evaluation of costs and benefits is carried out by equating the marginal benefit of a dollar of debt and the marginal cost of increased exposure to default (Abel, 2017).

The theory has been criticized through empirically works that discovered most profitable firms around the world commonly have increasing conservative capital structures. This contradicts the theory as the theory suggest that the use of

high debt in order to utilize the corporate tax shield. (Salami & Iddirisu, 2011).

Review of Empirical studies

Chechet and Olayiwola (2014) conducted a study on capital structure and profitability of the Nigerian listed firms from the Agency Cost Theory perspective. The study used a sample of seventy (70) draw from a population of two hundred and forty-five (244) firms listed on the Nigerian Stock Exchange (NSE) for the period of ten (10) years: 2000 - 2009. The study confirmed that debt ratio was negatively related with profitability, while equity was directly related with profitability. Although this study was carried out on all listed firms in Nigeria, the study lags nine years behind and did not take into consideration the recession period which is a significant event in Nigeria.

Al-tally (2014) conducted a study on the relationship between leverage and profitability in Saudi Arabia's public listed companies. The study used a sample of 57 firms from 2002 to 2010. The study found that debt to equity has negative and significant effect on return on asset and equity. The study concluded that in the long term, in the absence of acute economic downturns, lower leverage levels tend to lead to higher profit margins and returns on both assets and equity.

Habimana (2014) investigates the relationship between capital structure and profitability. They performed their analysis on a large cross-sectional dataset of firms operating in Africa, Middle East, Asia, Eastern Europe, Russia and China in year 2014. The study used a sample of 18,876 firms operating in emerging markets. Ordinary Least Squares technique employed in the study provided evidence that capital

structure matters for firm's financial performance. They found that Leverage (total liabilities-equity ratio) is negatively and significantly related to profitability.

Muhammad, Shah and Islam (2014) investigated the effect of capital structure performance of listed at cement sector of Karachi Stock Exchange. The study used five (5) years period 2009 to 2013. The findings from the study confirmed that debt to equity has positive impact with gross profit margin (GPM) and net profit margin (NPM) while there exist negative relation with return on assets (ROA) and return on equity (ROE). The work concluded that in order to achieve the efficient levels targeted by business, an optimal level of capital structure would be developed.

Adesina, Nwidobie and Adesina (2015) conducted a study on the impact of post-consolidation capital structure on the profitability of Nigeria quoted banks. The study used a sample of ten (10) Nigerian banks quoted on the Nigerian Stock exchange (NSE) for eight (8) years period from 2005 to 2012. The Ordinary least square regression analysis confirmed that debt and equity has a significant positive relationship with the financial performance of Nigeria. The findings further confirmed that management of Nigerian banks regularly use debt and equity capital in financing to improve earnings.

Lim (2015) examines the relationship between capital structure and profitability in universal banks in the Philippines. The sample of the study was eleven (11) universal banks in the Philippines from 2006 to 2013. The study used correlation analysis and found that debt to equity ratio has a significant positive relationship with return on equity. Clearly, higher debt ratio leads to higher

profitability. The finding support static trade-off theory that tax savings are taken advantage by banks increases the net income. Furthermore, it suggested that profitable banks depend largely on debt rather than equity to finance their assets.

Negasa (2016) investigated the relationship between capital structure and firms' profitability of Ethiopian Large Private Manufacturing Firms. The study used panel data of five consecutive years from 2006 to 2010. The study used a sample size of thirty three (33) large private manufacturing firms in Ethiopia. The study employed linear regression model and found that a significant positive relationship between firms' profitability and total debt ratio which indicate firm's capital structure. Lim (2015) study also showed debt to asset ratio has a significant positive relationship with return on equity.

Foyeke, Olusola and Aderemi (2016) evaluated the relationship between financial Structure and profitability of manufacturing companies in Nigeria. This study employed the Spearman's Rank correlation and regression techniques for data analysis. The study used a sample of 25 firms for the period of 2008 to 2012. The study showed that equity has a significant positive relationship with the profitability of manufacturing companies in Nigeria.

Muhammad and Fateh (2016) evaluate the relationship between capital structure and profitability of Automobile companies listed in Karachi stock exchange. The study used a sample of nine (9) from 2006 to 2012. The study used regression analysis and correlation test and the

findings revealed that capital structure (Debt/Equity) is negatively associated with the profitability. The study concluded that an increase in debt capital caused a decrease in the profitability of the firms. Although they revealed a negative finding, the study sample size was limited to nine firms with a period lag of five years.

Mathewos (2016) investigates the relationship between capital structure and profitability of selected commercial banks in Ethiopia over the past five (5) year period from 2011 to 2015. The results indicated that capital structure (debt to equity ratio) is negative and significantly associated with financial performance.

Mauwa, Namusonge and Onyango (2016) appraised the relationship between capital structure and profitability of firms listed on Rwanda Stock Exchange (RSE) the study used both primary and secondary data. Primary data was used to capture the capital structure while secondary source used to measure financial performance. The study used purposive sample technique to selected six companies for the study. The study findings showed that capital structure is negatively associated with ROA and ROE. The study concluded that capital structure is negatively and significantly related to financial performance of firms listed at the RSE.

Nwaolisa and Chijindu (2016) examine the relationship between capital structure and profitability of agricultural and health care firms listed in Nigerian Stock Exchange. The study used period of twenty one (21) years from 1993 to 2013. The study used a sample of fifteen (15) listed on agricultural and healthcare sectors. They study was analyzed using regression and the findings reveals

revealed that total debt to total equity ratio significantly impacts on earnings per share but does not impact on return on equity, return on asset and profit before tax. Although this study was carried in Nigeria but the focus is on a single sector further lagging five years behind.

Hashim and Hassan (2017) carried out a study on the relationship between capital structure and profitability of publicly listed construction firms in Malaysia for the period of six years from 2011- 2015 using a sample size of 36 firms. The analyses of the study revealed that debt to asset has no significance with firm's financial performance.

Duru, Okpe and Ugwu (2017) examine the relationship between capital structure and profitability of Food and Beverages companies in Nigeria. The findings revealed that total debt to equity has a no significant relationship with profitability of Food and Beverages industries in Nigeria.

Hashim and Hassan (2017) revealed negative significant relationship between debt to equity and financial performance. They assert that debt to equity is crucial determinant of financial performance and may affect how a firm performs financially. Nwude and Anyalechi (2018) evaluate the relationship between financing mix and profitability of commercial banks the study a sample of ten 10 commercial banks over the 14 year- period from 2000 to 2013. The findings revealed that debt-equity ratio has positive and significant influence on return on equity while debt to equity exerts negative and significant impact on return on asset.

Nasimi and Nasimi (2018) study the relationship between capital structure and firms' profitability of non-financial firms

listed at Pakistan Stock Exchange. The study used sample of 20 non-financial firms from 2009 to 2015. The study employed ordinary least squares and the findings showed that debt to equity has significant impact on return on equity and insignificant on net profit margin and return on asset. They concluded that performance of an organization is sensitive to the type of capital structure the firms adopt.

Deepanjali, (2018) analyzed relationship between capital structure and profitability for 9 Infrastructural companies for the last 10 years from 2007 to 2017. The study used a sample size of 9 major infrastructural companies draw from a population of 34 listed Infrastructure - General companies in India. The analysis of their data was done using ratio analysis and correlation matrix. The study provided a mixed result on relation between capital structure and performance of the firm. They concluded that the firms under consideration have moderate debt-equity composition in their capital structure. The mixed findings could have resulted from the choice of technique of analysis.

Sokang and Ratanak (2018) in other to add to knowledge examined the relationship between capital structure and growth on profitability of domestic commercial banks in Cambodia. The study used a sample size of ten (10) for the period of 2005 to 2013. The study used a panel least squares (PLS) method to analyzed the relationship and finding revealed that debt to equity has significantly negative impact on return on assets (ROA) and return on equity (ROE).

Kumah and Mensah (2018) carry out a study on the relationship between capital structure and profitability of insurance companies in Ghana within 5

years (2012 -2016).the result from the analysis disclosed a positive and statistically significant relationship between financial performance and debt to equity ratio.

The outcome suggested that profitable insurance firms depend more on debt. Consistent with the finding, Abdulkarim, Ahmadu and Sulaiman (2018) also found that total-debt equity ratio has a significant positive influence on the financial performance proxy by return on equity while Uremadu and Onyekachi (2018) study showed that total debt ratio to equity has negative and insignificant impact on returns on assets.

Ekwueme and Atu (2018) studied capital structure and firms performance in Nigeria Quoted Insurance companies. The study used sample of (22) insurance firms for (14) years period from 2002 to 2016. The study used correlation analysis and discovered a weak relationship between debts to assets ratio return on equity. The study concluded the firm's capital is significant in determining variation in the firms return on equity value.

Ajibola, Wisdom and Qudus (2018) examined the impact of capital structure on financial performance of quoted manufacturing firms in Nigeria over the period 2005-2014. Panel methodology was applied to analyze the impact of capital structure on financial performance of quoted manufacturing firms in Nigeria. The study revealed a positive statistically insignificant relationship between ROE (return on equity) and STD (Short term debt ratio). Also, negative and insignificant relationship between short term debt ratio and Return on assets.

Variables Measurement

Kerosi (2018) carried out a study on the relationship between capital structure and profitability of 37 selected firms listed at the NSE between 2009 and 2013 Long-term debt was inversely correlated with ROCE and significant. Short-term debt was found to have a negative statistical significance relationship with profitability.

Methodology

Population, Sampling Technique and Sampling size

The total number of banks as at 31st December 2021 are 18. The sample size of the study is ten banks (10) listed firms drawn from the adjusted population and it is arrived at by the technique of filtering. The criterion used is based on the fact that the banks firms don't have financial report covering the period of the study, 2012 – 2021.

Model Specification

The model specification for this study incorporates capital structure variables and financial performance variable. The models:

$$CSTR = \beta_0 + \beta_1TANB_{it} + \beta_2FPROF_{it} + \beta_4TAXSH + \beta_5FSIZE + \epsilon_{it} \dots \dots \dots 3.1$$

Where:

CSTR	=	Capital structure	
α	=	Constant	
TANB	=	Tangibility of firm	
TAXSH	=	Tax-shelter	
FSIZE	=	firm size	
FPROF	=	Firm profitability	
β	=	Coefficients	of
		parameter estimate	
ϵ	=	Error term	
t	=	Time	
i	=	Firm	

Table 1: Measurement of Variables

No.	Variables	Types of Variable	Measurement	Authors
1.	CSTR	Dependent	Firm debt to equity ratio is the proportion of the firm's debt in relative to the total equity finance.	Schulz (2017)
2.	Tangibility (TANB)	Independent	Tangibility is then defined as the ratio of tangible (fixed) assets to total assets.	Rao and Suryanarayana (2018)
3.	Tax-shield (TAXSH)	Independent	Tax-shield is calculated as interest expense multiplied by corporate tax rate.	Rao and Suryanarayana (2018)
4.	Profitability (PROF)	Independent	Ratio of profit before tax to equity employed	Rao and Suryanarayana (2018)
5.	Firm size	Control variable	Natural log of total asset	Mahmud and Bukar (2016)

Source: Author compilation, (2022)

Method of Data Analysis

Given the nature of hypotheses formulated to guide the research, the data would be analyzed using descriptive statistics and multi regression analysis. Descriptive statistics involve the use of mean, median, standard deviation

maximum and minimum value to evaluate the selected variables while regression will be used to determine the effect of one variable on another. The analysis will be performed through the use of statistical package, e-view.

Presentation and Analysis of Result

Table 2 Regression Result

Variable	Coefficient	t-statistics	Prob
C	-0.288567	-1.627109	0.1061
TANB	3.67E-05	0.560229	0.5763
ROE	0.041403	2.965009	0.0036
TAXSH	-0.004432	-7.601616	0.0000
FSIZE	0.102298	3.6683	0.0004
R ²	0.950		Adj R ² 0.681
F(Stat)	3.541		Prob(stat)
	0.008		
WD=	1.973		

Source: Research's computing (2021)

Table 2 above shows the ordinary least squares regression result conducted using Eviews 7.0. The white heteroskedasticity-consistent standard error is used to control for possible heteroskedasticity in the model. As observed, the R² and coefficient of determination is 0.980 which indicates that

the model explains about 98% of the systematic variations in the dependent variable. The Adjusted R² which controls for the effect of inclusion of successive explanatory variables on the degrees of freedom stood at 0.68. The F-stat value of 3.54 and the associated p-value of 0.009 indicate that the hypothesis of a joint

statistical significance of the model cannot be rejected as 5% and the linearized specification of the model is not inappropriate.

The evaluation of the slope coefficients of the explanatory variables reveals the existence of positive relationship between Capital structure and tangibility as depicted by the slope coefficient of 0.281. This result is not significant as the p-value of 0.567 exceeds the critical p-value of 0.05 at 5% level ($p > 0.05$). Consequently, the null hypothesis (H_0) that tangibility has no effect on capital structure is retained.

Profitability (ROE) is found to have positive effect on capital structure. This effect is significant at 5% indicated by its slope coefficient value of 0.0414 and p-value of 0.0036 which less than the critical p-value of 0.05 at 5% level ($p < 0.05$). Hence we do not accept the null hypotheses (H_0) which Return on Equity has no significant effect on capital structure is retained.

Tax shield shows a negative effect on capital structure as revealed in its slope coefficient of -0.0042 and p-value of 0.000 found to be less than the critical p-value of 0.05 at 5% level. Thus, the null hypothesis (H_0) which states that Tax shield has no

significant effect on capital structure is not retained.

The impact of firm size on capital structure is found to be positive as revealed by the slope coefficient of 0.102. The impact is observed to be significant as the p-value of 0.000 is less than the critical p-value of 0.05 at 5% level Hence we reject the hypothesis (H_0) which states that firm size has significant effect on capital structure.

Finally, the Durbin-watson value of 1.9 indicates that stochastic dependence between successive units of the error term is unlikely in the model.

Robustness Test for the model.

The following tests are conducted for the model to ensure that basic ordinary least squares assumptions have not be violated and that the estimates resulting from the model are the best, linear unbiased estimates of the population parameters. The tests include; Autoregressive Conditional Heteroskedasticity (ARCH) for heteroskedasticity test, the LM test for autocorrelation and the Ramsey reset test for the model specification.

Table 3 Heteroskedasticity Test

F-statistic	0.614215	Prob. F(4,134)	0.6531
Obs*R-squared	0.502648	Prob. Chi-Square(1)	0.6442

Source: Researcher’s computation (2022)

The table 3 reveals that the p-value s for both the f-statistics and the observed R-squared stood at 2.50 and 0.614

respectively using residual lag length of 2. The values are greater than the critical value of 0.05 at 5% significance level. This shows that there is no evidence for the presence of heteroskedasticity since the p-values of the f-statistic is considerably in excess of 0.05. Hence there is violation of the constant variance assumption of the ordinary least squares.

Table 4. Ramsey RESET Test

Specification: CSTR C TANB TAXSH FSIZE

	Value	Df	Probability
t-statistic	1.904258	133	0.0590
F-statistic	3.626198		0.0590
Likelihood ratio	3.739042	1	0.0532

Source: Researcher's computation (2022)

The Ramsey Reset Test shows that the p-values for the t-statistic and f-statistic of 0.059 and 0.059 respectively are greater than the critical value of 0.05. This shows

that there is no apparent non-linearity in the regression equation and it would be concluded that the linear model is appropriate.

Table 5. Breusch-Godfrey Serial Correlation LM Test:

Obs*R-squared	16.567	Prob. Chi-Square(2)	0.0703
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Source: Researcher's computation (2022)

Table 5 shows the Breusch-Godfrey correlation LM tests for the presence of autocorrelation. The result reveals that the p-value of the f-statistics and the observed R-squared is 16.56 and 0.07 respectively using a residual lag length of 3. When compared to the critical value of 0.05, the p-values are noticed to be higher and this shows the non-existence of autocorrelation. Hence the estimates of the regression follow the non-violation of the zero covariance assumption of the ordinary least squares and the estimates are free from any bias.

Discussion of Findings

This study examines the determinants of capital structure in the Nigerian banking structure. The result shows that firm tangibility has no significant impact on capital structure. This finding is at variance with our a priori expectation as well as studies (Gray 2000, 2008, Gray, Kouhy and Lavers 1995, Owolabi 2008, and Suttipun and Stanton, 2012) which found that tangibility has positive effect on capital structure.

The further shows that profitability has positive effect on capital structure. The finding is in tandem with our theoretical expectation and is also consistent with the

studies such as Russio and fount (1997) and Islam (2010). On the other hand, the finding varies with that of King and Lenox, (2001) Suttipun and Stanton (2012).

In addition, the result shows that tax shield has negative effect on tax shield. This is at variance with Sahay (2004) which shows a positive relationship between tax shield and capital it however in line the extant negative of Owolabi (2008) and Ayoola (2011).

Fina

lly, the result shows that firm size has positive effect on capital structure. This is line with extant positive gotten by Ming, Rahman and Sannacy (2017). This result is at variance with a priori expectation.

Conclusion

This study is rooted in core area of finance that it is based on how firm are funded. Capital is the substratum of survival of any firm. This study is aimed at ascertaining the determinants of capital structure. The study is motivated by the dearth of research on subject matter. The model was built based on a study of extant literature. The result shows that firm tangibility has no significant effect on capital structure. The result further reveals that profitability has positive effect on

capital structure this implies that capital structure is directly proportionate to profitability which implies that increase in profitability will lead to increase in debt/equity ratio.

In addition, the result reveals that, tax shield has negative effect on capital structure in the Nigerian Banking sector, this implies that Capital structure is directly proportionate to tax shield which infers that increase in tax shield will lead to decline in debt equity ratio.

Finally, the result reveals that firm size has positive effect on capital structure in Nigerian banking sector. This implies that capital is directly proportionate to firm size which implies that the larger the firm the greater the debt/equity ratio.

Recommendations

This study recommended that proper regulatory guiding of long term debt be introduced into the Nigerian money market and capital markets. It also evidence the recent financial crises in financial snowballed many banks into excessive Liquidity statutes .We further suggest that CBN should encourage banks to introduce portable capital structure to bridge the gap between the excess liquidity and scared investment outlet

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Appendix 1

Variance Inflation Factors

Date: 07/04/21 Time: 14:24

Sample: 1 140

Included observations: 139

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.053244	91.29089	NA
TANB	4.99E-08	1.089655	1.075361
ROE	0.001098	1.453727	1.008801
TAXSH	2.74E-05	1.035528	1.009627
FSIZE	0.001062	91.37289	1.077645

Appendix9

Dependent Variable: CSTR

Method: Panel Least Squares

Date: 07/04/21 Time: 14:37

Sample: 2010 2019

Periods included: 10

Cross-sections included: 14

Total panel (unbalanced) observations: 139

White cross-section standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.288567	0.177350	-1.627109	0.1061
TANB	3.67E-05	6.56E-05	0.560229	0.5763
ROE	0.041403	0.013964	2.965009	0.0036
TAXSH	-0.004432	0.000583	-7.601616	0.0000
FSIZE	0.102298	0.027886	3.668353	0.0004
R-squared	0.950609	Mean dependent var		0.449065
Adjusted R-squared	0.680613	S.D. dependent var		0.295029
S.E. of regression	0.284727	Akaike info criterion		0.360739
Sum squared resid	10.86334	Schwarz criterion		0.466296
Log likelihood	-20.07139	Hannan-Quinn criter.		0.403635
F-statistic	3.541516	Durbin-Watson stat		1.972584
Prob(F-statistic)	0.008819			