International Journal of Advanced Multidisciplinary Research and Studies

Capital Structure and Performance of Quoted Non-Financial Firm in Nigeria (2015 – 2019)

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Abstract

This study investigated the effect of capital structure on corporate performance of quoted non-financial institutions in Nigeria. In specific term, the effect of debt, equity and debt equity mix on Return on Asset (ROA), Return on Equity (ROE) and Tobin's Q of quoted non-financial institutions. The work used the *ex post facto* research design. The population of the study is 101 non-quoted financial institutions in Nigeria. The sample of the study is 34 selected non-financial quoted firms. The model specification of regression model was formulated to capture the effect of the dependent variable on the independent variables. The fixed effect model, random effects model and pooled Ordinary least square (OLS) models were used. The result of the study showed that capital structure has no significant impact on return on asset, return on equity and Tobin's Q. The study concluded that debt, equity and debt equity mix do not significantly impact return on asset, return on equity and Tobin's Q. The findings showed that quoted companies in Nigeria do not use much of long-term debt in their respective capital structure choices. Therefore, the study recommend that the Nigerian Stock Exchange should strive to remove any rigid policies which could hinder the effective participation of the companies.

1. Introduction

The financing decision mix of debt and equity represents a fundamental issue faced by financial managers of firms. According to Kochar (1997) [15], poor capital structure decisions may lead to a possible reduction/loss in the value derived from strategic assets. Hence, the capability of a firm in managing its financial policies is important, if the firm is to realize gains from its specialized resources. The raising of appropriate fund in an organization will aid the firm in its operation. It is important for firms even in Nigeria to know the debt-equity mix that gives effective and efficient performance, after a good analysis of business operations and obligations. From our preliminary observation of the financial reports of firms considered in this study, debt financing for quoted companies in Nigeria corresponds mainly to short term debts. Also, external finance for Nigerian listed firms as observed from their annual reports often far exceed investments for most of the firms. However, using excessive amounts of external financing can result in the overleveraging of a company, which means the business has extensive obligations to institutional and individual investors who can disrupt the company's operations and financial returns. Debt financing affects a company's performance because companies will usually agree to fixed repayments for a specific period. These repayments occur regardless of the firm's performance. Although equity financing typically avoids these repayments, it requires companies to give an ownership stake in the company to venture capitalist or investors.

Thus, the choice of capital structure is fundamentally a financing decision problem which becomes even more difficult in times when the economic environment in which the company operates presents a high degree of instability like the case of Nigeria. Hence, making appropriate capital structure decision becomes crucial for Nigerian firms. In Nigeria, investors and stakeholders appear not to look in detail the effect of capital structure in measuring their firm's performance as they may assume that attributions of capital structure are not related to their firms' value. Indeed, a well attribution of capital structure will lead to the success of firms; hence the issues of capital structure which may influence the corporate performance of Nigerian firms have to be resolved. Also, the capital structure choice of a firm can lead to bankruptcy and have an adverse effect on the performance of the firm if not properly utilized. The actual impact of capital structure on corporate performance in Nigeria has been a major problem among researchers that has not been resolved. Hitherto, there is still no conclusive empirical evidence in the literature about how capital structure influences corporate performance of firms in Nigeria. Much empirical studies have been done on corporate structure and performance of quoted financial institutions (banks) in Nigeria, but little have been studied about

capital structure and performance of quoted non-financial institutions/ firms in Nigeria. This is a gap desirous to be filled hence the study. Consequently, this study is an attempt to determine the effect of capital structure on corporate performance of Nigerian quoted non-financial firms.

The specific objectives derived from the major objective are:

1. To examine the effect of capital structure quoted non-financial firms in Nigeria and their return on assets
2. To determine the effect of capital structure of quoted non-financial firms in Nigeria on their return on equity (ROE).
3. To ascertain the effect of capital structure of quoted non-financial firms in Nigeria on their Tobin's Q.

2. Literature review

The Capital structure has been defined as the proportionate mix of debt and equity. Singh and Hamid (1992) [29] and Singh (1995) [28] pioneered research into corporate capital structure in developing countries. Singh (1995) [28] observes that firms in developing countries finance their activities differently which is attributable to the differences in their financial environment. He examines financing patterns of top 100 corporations in ten developing countries in the 1980s. Secondly, top corporations in developing countries rely more heavily on equity issues than corporations in developed economies. In most developed economies, large issues of stocks by corporations are only done in periods of high takeover activity, while the developing corporations use the proceeds from equity to finance their regular investments. The study further reveals that government play substantial role in stock market formation and development in developing countries. The government pursues pro-equity financing policies and limit debt and equity of firms. In addition, according to the study, existence of global international markets gives a boost to stock market in less developed countries (LDCs).

In order to meet the expectations of different stakeholders, senior managers continuously strive to improve the performance of their organisations. Generally, organisational improvement processes follow a continuous circle of three major processes, namely corporate planning, strategy implementation (execution) and performance measurement or evaluation (David, 2005) [5]. The corporate planning phase involves setting goals and objectives that are congruent with the corporate vision, mission and value statements of the organisation. Goals and strategies are formulated after a careful and critical analysis of the organisation's internal strengths and weaknesses and also of the organisation's external opportunities and threats, conducted through a SWOT analysis, which is also sometimes referred to as corporate analysis. After the corporate analysis, strategies are formulated as a means to achieve the goals that have been set; and that is followed by the implementation of the corporate plans. Finally, corporate performance is measured to assess whether or not the goals and objectives that were set in the planning phase have been achieved in the implementation phase. A suitable feedback control system enables managers to use the information provided by performance measurement systems to plan further actions to ensure the continuous improvement of the organisation.

Theoretical aspect of this topic starts with the postulation of Modigliani and Miller which challenges the traditional view as to the effect of leverage on the cost of capital. They develop a behavioural justification support for the net operating income approach. Without taxes, the cost of capital and market value of the firm remain constant throughout all degrees of leverage (Modigliani & Miller, 1958) [17]. The Modigliani and Miller (MM) theory proves that under a very restrictive set of conditions, a firms value is unaffected by its capital structure which implies that the financing choice of firms is irrelevant. Miller and Modigliani (1963) [18] correct their earlier proposition on capital structure with the inclusion of corporate taxes. The theory proposes that the value of the firm is equal to the value of the firm's cash flow with no debt tax shield (value of an all-equity firm) plus the present value of tax shield in the case of perpetual cash flows. In the second place is the financial distress and bankruptcy costs theory which states that financial distress is generated by the presence of debt in the capital structure which could lead to bankruptcy. It states that the larger the fixed interest charges created by the use of leverage, the greater the probability of decline in earnings and greater the probability of incurrence of costs of financial distress. (Harris & Raviv, 1991; Riahi-Belkaoni, 1999) [11, 26]. Costs of financial distress include the legal and administrative costs of bankruptcy as well as the subtler agency, moral hazard, monitoring and contracting costs which could erode firm value even if formal default is avoided (Myers, 1984) [20]. Thirdly, Agency Costs (Free Cashflow) Theory envisages that an optimal capital structure can be obtained by trading off the agency cost of debt against the benefit of debt (Riahi-Belkaoni, 1999) [26]. Agency costs are costs due to conflicts of interest. Two types of conflicts are identified by Jensen and Meckling (1976) [12]: first is the conflicts between shareholders and managers arising from the situation of managers holding less than 100% of the residual claim and second is the conflict between debt holders and equity holders arising from the debt contract that make equity holders invest sub-optimally. Gleason, Mathur, and Mathur (2000) [9] are of the opinion that a negative relationship between capital structure and performance suggests that agency issues may lead to use of higher than appropriate levels of debts in the capital structure, thereby producing lower performances. Finally, the pecking order theory (Asymmetric Information Model) considers the possibility of asymmetric information whereby firm managers are assumed to know more about the characteristics of the firm's return stream or investment opportunities (Harris & Raviv, 1991; Riahi-Belkaoni, 1999) [11, 26]. The choice of capital structure by management therefore signals to outside investors some insider information. This asymmetry of information influences the choice between internal and external financing and between new issues of debt and equity securities. This choice is based on the „pecking order' hypothesis (Baskin, 1989) [1]. The pecking order theory of capital structure was first presented by Myers and Majluf (1984) [19], and relies heavily on information cost to explain corporate behaviour. They show in their pioneering work that, if investors are less well-informed than current firm insiders about the value of the firm's assets, then equity may be mispriced by the market. If firms are required to finance new projects by issuing equity, under-pricing may be so severe that new investors capture more than the NPV of the new project, resulting in a net loss to existing shareholders.

Empirically, in a study conducted by Habibu *et al.* (2019) [10] on the effect of financial performance capital structure and firm size on firms' value of insurance companies in Nigeria 227 quoted insurance companies on the Nigerian stock exchange covering the period (2012-2017) six years; Return on Capital employed, Return on Assets and Return on Equity proxied financial performance; short term debt/total assets Long-term debt/Total Assets and Total debt/Total Assets, proxied Capital Structure; Natural Logarithm of Total Assets proxied firm size while Tobin's Q proxied firms value. Firm age serves as control variable, defined as firms' incorporated period. The study used ex post facto research design method and longitudinal panel which comprises time series and cross-sectional data. The data were analysed using descriptive statistics and regression. The study revealed that all the explanatory variables, except Return on Capital Employed have positive, significant effect on Tobin's Q. Specifically Return on capital employed and firm age have insignificant effect on Tobin's Q. The study concludes that the explanatory variable affects insurance firm value in Nigeria. Therefore, the study recommends that management of Insurance firms in Nigeria should only use short debt in their capital structure as it enhances firm's value and desist using long term debt decreases the firm's value; the management should sustain or improve on the level of total assets as it enhances firm's value and size. Finally, the management should reduce the volume of shareholders' equity of the firms.

Olaniyan, Soetan and Simeon-Oke (2017) [23] investigated capital structure-firm performance relationship: Empirical evidence from African countries for the period 1996 and 2014. The findings revealed that capital structure has insignificant relationship with Tobin's Q while Firm size has negative insignificant relationship with firm's performance (Tobin's Q). Rizky, Nur and Siti (2017) reported positive significant effect of firm size on Tobin's Q after conducting a study of 30 companies listed on the Indonesian stock exchange (IDX) for a period of five years.

Michael and Babagide (2021) [21] examine the capital structure and firm performance of Nigeria consumer goods manufacturing firms listed on the Nigeria Stock Exchange. Inconsistencies in the results on the relationship between capital structure and firm performance necessitated the study. Secondary data, collected on consumer goods of manufacturing firms was used. 18 companies were used in the study from 2008-2018. The study adopted the popular accounting and financial measures used in the vast literature on the subject matter namely return on Equity, return on Assets. Tobin's Q and earning per share as the dependent variable. In measuring the independent variable of the study which is capital structure, long term debts, short term debt; total debts ratios and growth was adopted. The study also included the size as a controlled variable. The results from the regression analysis carried out in the study show that firm performance has a negative relationship with capital structure in listed Nigerian manufacturing firms. Additionally, growth and performance had a positive correlation for the 18 consumer goods manufacturing companies.

Oladeji *et al.* (2015) [22] studied capital structure decision of a firm's performance in the petroleum industry in Nigeria. The objectives of the study were to analyse the impact of capital structure on firm's performance. In Chevron PLC, Coin Oil PLC, Elema Oil PLC, Mobil Oil PLC, Oando PLC

and Total Nig. PLC. The study carried out panel data analysis by using fixed effect estimation. The study found out a negative relationship exists between leverage and firms' performance and the study established that a positive relationship exists between three of the explanatory variables (firm's size, tax and Lagged return on Assets) and firm performance.

Gbalam *et al.* (2020) [8] in their study of the impact of debt on Capital structure: Empirical evidence from Nigeria, the study evaluates the impact of tax shield on capital structure of quoted non-financial firms in Nigeria. Five hypotheses were formulated following the dependent variables of long-term debt ratio, and short-term debt ratio. The independent variables employed for the study are operating income, non-debt tax shield Debt shield, Trade credit ratio, firm's size and firm's size and firm's leverage. The study is based on ex post-facto research design and made use of panel data set collected from 35 (thirty-five) non-financial companies over a five years period 2015 and 2019 financial year. Data, were analysed using panel least square regression analysis. The result showed that both variable of debt tax shield and fir leverage significantly impact on capital structure of non-financial firms in Nigeria during the period under investigation.

Chowdhury and Chowdhury (2010) [3] examined the impact of capital structure on the value of shares of Bangladesh quoted firms. The study aims to provide a status on the extent to which a firm's capital structure may differ and how the value of firm changes as a result. The study analyses 77 companies from the four most dominant sectors of Bangladesh capital market. Cross sectional and time series fixed effect model is used to analyse available data to find out the impact of capital structure on the firm value (expressed by the share price in the market). The model used put value of the firm (share price) as dependent variable; firm size, profitability, public ownership in capital structure, dividend pay-out, asset and operating efficiency, growth rate, liquidity and business risk were taken as independent variables. Firm size is represented by share capital, profitability is measured through EPS, public ownership is in percentage, capital structure is represented by the ratio of long-term debt to total assets, dividend pay-out at actual, efficiency is measured through fixed asset turnover, growth rate is noted through sales growth rate, liquidity is measured by current ratio, and business risk is represented by operating leverage. All the variables used as independent variables are considered as proxy for the capital structure decision of respective firm. They establish from the empirical findings that there is a strong positive correlation between the firms' capital structure and value expressed by their share prices in the market.

David and Olorunfemi (2010) [4] investigated the relationship that exists between earnings per share and leverage ratio on one hand and dividend per share and leverage ratio on the other hand in the Nigerian petroleum industry. The earnings per share and dividend per share are used as performance measures. The study employs panel data analysis using Pooled regression estimation, Fixed-effect estimation, Random-effect estimation and Maximum likelihood estimation. They find that there is positive relationship between earnings per share and leverage ratio on one hand and positive relationship between dividend per share and leverage ratio on the other hand.

De Jong, Kabir and Nguyen (2008) [6] analysed the importance of firm- specific and country- specific factors in the capital structure choice of firms from 42 countries around the world. The study employs data sourced from Compustat Global database and World Bank database for the period 1997 to 2007. The data are analysed using the firm-level Ordinary Least Square (OLS) regression method with leverage as the dependent variable and the simple Pooled OLS regression method. The authors also test the null hypothesis formulated in the paper using an unrestricted regression model and seven restricted models which are related to the joint test of significance of regression coefficients. The study finds that the firm-specific determinants of leverage differ across countries and shows an indirect impact of country-specific factors on the capital structure of firms. Overall, the empirical results indicate that the conventional theories on capital structure developed using listed firms in the United States as a role model, work well in similar economies with developed legal environment and high level of economic development.

Tian and Zeitun (2007) [31] investigated the effect of capital structure on corporate performance of corporations in Jordan using a panel data sample representing 167 companies during the period 1989 to 2003. The study used panel data models to estimate different measures of corporate performance such as the return on assets (ROA), return on equity (ROE), earnings before interest and tax plus depreciation to total assets (PROF) as accounting performance's measurements and Tobin's Q, market value of equity to book value of equity (MBVR), price/earnings (P/E) ratio and market value of equity plus book value of liabilities divided by book value of equity (MBVE) as market performance's measurements. The study also analysed the variables using descriptive statistics and correlation matrix. The empirical results show that a firm's capital structure has a significant negative impact on the firms' performance using both the accounting and market measurements. The study finds that the short-term debt to total assets (STDTA) as a leverage measure has a significantly positive effect on the market performance measure (Tobin's Q) contrary to other measures of leverage such as the total debt to assets and long-term debt to total assets.

Salawu (2007) [27] carried out an empirical analysis of the capital structure of 50 selected non- financial quoted companies in Nigeria between the period 1990 and 2004. The study investigates the main determinants of the capital structure of the selected quoted firms in Nigeria. The study employs two different analytical techniques namely the descriptive statistics and the inferential statistics (panel data econometrics techniques) in analysing secondary data obtained from the annual reports of the selected companies and reports of the Nigerian Stock Exchange. The descriptive analysis used in evaluating the selected variables are the mean, mode, median, range and standard deviation. The pooled ordinary least square (OLS) model, Fixed Effects model and Random Effects model are used in the analysis of data. The study also excludes the financial quoted companies. The empirical results show that debt financing for listed companies in Nigeria for the period studied corresponds mainly to a short-term debt nature. Leverage is found to be negatively correlated with profitability. The size of the firms is however found to be positively correlated with total debts which according to the author, suggests that large firms can better support higher debt ratios than small firms.

3. Research methodology
The study research design is the ex-post facto research design. This is used because the researcher cannot manipulate the result of the variable. Owing to the fact that the data used for the study is pure secondary sourced. From the population of 226 firms from 32 subsectors listed on the Nigerian Stock Exchange (NSE) market, a sample of 101 non-financial quoted companies from 26 subsectors were purposively selected for analysis. The judgemental sampling technique was adopted for the study. The study excludes companies from the financial and securities sector as their financial characteristics and use of leverage are substantially different from other companies. First, their leverage is strongly influenced by explicit investor insurance scheme such as deposit insurance and regulations such as the minimum capital requirements may directly affect their capital structure. Secondly, their debt-like liabilities are not strictly comparable to the debt issued by non-financial firms. Moreover, the balance sheets of the firms in the financial sectors (banks, insurance companies, mortgage companies, leasing, unit trust and funds, real estate, investment trust and other financial institutions) have a strikingly different structure from those of non-financial companies. Other companies whose financial reports were not up to date and that are no longer in existence as at 2007 (e.g., companies in the Aviation Sector) were also excluded. As a result, the final sample set consists of a balanced panel of 101 firms from 26 subsectors over a period of five years. Based on the data provided by the fact book of the Nigerian stock exchange on the listed non-financial quoted firms in the study population of 101. The sample size adopted for this study is 32 companies as that meets the requirement of the selection of 6.0-6.99 as shown in the fact book of 2015-2019.

Accordingly, a functional relationship between firms' performance (PER) and the chosen explanatory variables (different measures of leverage, size and tax) is shown below:

$$PER = f\ (LEV,\ S,\ Tax) \qquad (1)$$

PER represents the different measures of performance (ROA, ROE and Tobin's Q) and LEV shows the different measures of leverage (Lev1, Lev2, Lev3),

S =connotes the size of the firms and
T= represents the corporate tax of the firms.

Where:
ROA = Return on asset and is measured by earnings before interest and tax (EBIT) divided by total assets
ROE = Return on equity, measured by earnings before interest and tax (EBIT) Preference
Dividend), all divided by equity
Tobin's Q = Market value of equity plus total debt to total asset [(E+TD)/TA]
Lev1 = the ratio of total debt to total asset (TD/TA)
Lev2 = the ratio of long-term debt to total asset (LD/TA)
Lev3 = the ratio of short-term debt to total asset (STD/TA)
S = Size of the firm measured by log of turnover

T = Tax measured as total corporate tax to earnings before interest and tax

The relationships between the components of PER and the different independent variables can be re-written implicitly as follows:

$$ROA_{it} = f(Lev1_{it}, Lev2_{it}, Lev3_{it}, S, Tax, u_{it}) \quad (2)$$

$$ROE_{it} = f(Lev1_{it}, Lev2_{it}, Lev3_{it}, S, Tax, \mu_{it}) \quad (3)$$

$$TobQ_{it} = f(Lev1_{it}, Lev2_{it}, Lev3_{it}, S, Tax, v_{it}) \quad (4)$$

With:
i = 1, ……. N
t = 1, ……. T and

u_{it}, μ_{it}, and v_{it} = Error terms (the time-varying disturbance term is serially uncorrelated with mean zero and constant variance).

4. Result and analysis
Summary of Descriptive Statistics
Table 1 depicts descriptive analysis on the selected variables captured in this study. As indicated in table, the mean values of return on assets, return on equity, Tobin's Q, TDTA, STDTA, LTDTA, firm size and tax were: 0.165201, 2.315281, 0.650106, 0.491398, 0.386277, 0.229660, 6.492608, 0.141432, respectively during the evaluation period. The standard deviation of the variables were: 0.393814 for consumption ROA, 4.777581 for ROE, 0.756648 for TOBQ, 0.730748 for TDTA, 35.98064 for STDTA, 0.230066 for STDTA, 0.221859 for firm size, and 0.333488 for tax. Examination of the Skewness showed that all the distributions were positively skewed, given their positive values except tax. Examination of kurtosis showed that the distributions for all the variables have peak curve except firm size that seem to have a flattened curve. The results of the Jarque Bera test revealed that the Jarque Bera Statistics for ROA, ROE, TOBQ, TDTA, STDTA, LTDTA, SIZE and TAX are not normally distributed (p<0.05).

Table 1: Descriptive analysis of variables

	ROA	ROE	TOBQ	TDTA	STDTA	LTDTA	SIZE	TAX
Mean	0.165201	2.315281	0.650106	0.491398	0.386277	0.229660	6.492608	0.141432
Median	0.121500	1.532700	0.511405	0.327100	0.163800	0.147000	6.481940	0.171627
Maximum	3.710000	31.88800	5.779240	5.702800	5.428300	0.952540	6.986560	0.521639
Minimum	-1.400000	-18.62000	0.011190	0.012600	0.000000	0.000000	6.046000	-2.347200
Std. Dev.	0.393814	4.777581	0.756648	0.730748	0.712183	0.230066	0.221859	0.333488
Skewness	4.865771	2.849322	4.909704	5.309750	5.238115	1.388805	0.176969	-4.072940
Kurtosis	50.87069	23.70151	31.19324	36.24979	35.98064	4.220494	2.045031	26.72916
Jarque-Bera	13721.26	2650.906	5124.858	7005.352	6885.474	52.92714	5.964126	3619.213
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.050688	0.000000
Sum	22.79770	319.5088	89.71460	67.81294	53.30620	31.69306	895.9799	19.51759
Sum Sq. Dev.	21.24727	3127.063	78.43468	73.15702	69.48700	7.251467	6.743324	15.23640
Observations	138	138	138	138	138	138	138	138

Source: E-Views output on research data

Panel Data Analysis
MODEL 1: A Regression Analysis of the effect of firm's capital structure on its accounting performance as measured by the return on assets (ROA)

Table 2: ROA = TDTA + LDTA + STDTA + SIZE + TAX

	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.740270	1.571415	-1.107454	0.2701
TDTA	0.037438	0.181944	0.205766	0.8373
STDTA	-0.268999	0.244176	-1.101661	0.2726
LTDTA	-0.011897	0.180902	-0.065764	0.9477
SIZE	0.333844	0.239148	1.395973	0.1651
TAX	0.202808	0.150485	1.347703	0.1801
R-squared	-0.928649	Mean dependent var		0.164476
Adjusted R-squared	-1.016315	S.D. dependent var		0.392478
S.E. of regression	0.557307	Akaike info criterion		1.717645
Sum squared resid	40.99798	Schwarz criterion		1.865425
Log likelihood	-112.3764	Hannan-Quinn criter.		1.777699
F-statistic	-10.59305	Durbin-Watson stat		1.473222
Prob(F-statistic)	1.000000			

Source: E-Views output on research data

Interpretation of results of regression model with ROA as the dependent variable
- TDTA does not have a significant effect on the return on assets. It has a coefficient of 0.037438 and a p-value of 0.8373; this value is greater than 0.05 which means that TDTA has no significant effect on the ROA of the companies. A one unit change in TDTA will result to 0.037438 unit change in ROA. TDTA has a positive relationship with ROA, which means that as TDTA increase ROA increases.
- LTDTA has a coefficient of 0.268999 and a p-value of 0.2726; this value is greater than 0.05 which means that LTDTA does not have a significant relationship with the ROA of the companies. LTDTA has a negative relationship with ROA, which means that as LTDTA increase ROA decreases. One unit change in LTDTA will result to 0.268999 unit change in ROA. LTDTA does not have a significant effect on the return on assets.
- STDTA has a coefficient of 0.011897 and a p-value of 0.9477; this value is greater than 0.05 which means that STDTA does not have a significant effect on the ROA of the companies. STDTA has a negative relationship with ROA, which means that as STDTA increase ROA decreases. One unit change in STDTA will result to 0.011897 unit change in ROA. STDTA does not have a significant effect on the return on assets.
- SIZE has a coefficient of 0.333844 and a p-value of 0.1651; this value is greater than 0.05 which means that SIZE does not have a significant effect on the ROA of the companies. SIZE has a positive relationship with ROA, which means that as SIZE increase ROA increases. One unit change in SIZE will result to 0.333844 unit change in ROA. SIZE does not have a

significant effect on the return on assets. TAX has a coefficient of 0.202808 and a p-value of 0.1801; this value is greater than 0.05 which means that TAX does not have a significant effect on the ROA of the companies. TAX has a positive relationship with ROA, which means that as TAX increase ROA increases. One unit change in TAX will result to 0.202808 unit change

in ROA. TAX does not have a significant effect on the return on assets.

Model 2: A Regression Analysis of the effect of firm's capital structure on its accounting performance as measured by the return on equity (ROE)

Table 3: ROE = TDTA + LDTA + STDTA + SIZE + TAX

	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.976260	13.54423	-0.588905	0.5569
TDTA	0.478834	1.560646	0.306818	0.7595
STDTA	0.050429	1.553117	0.032470	0.9741
LTDTA	-1.956011	2.086075	-0.937652	0.3501
SIZE	1.586799	2.060906	0.769952	0.4427
TAX	2.127060	1.285229	1.655004	0.1003
R-squared	0.051285	Mean dependent var		2.315281
Adjusted R-squared	0.007833	S.D. dependent var		4.777581
S.E. of regression	4.758834	Akaike info criterion		6.007275
Sum squared resid	2966.691	Schwarz criterion		6.155759
Log likelihood	-407.5020	Hannan-Quinn criter.		6.067615
F-statistic	1.180255	Durbin-Watson stat		1.422703
Prob(F-statistic)	0.320749			

Source: E-Views output on research data

Interpretation of results of regression model with ROE as the dependent variable

- TDTA does not have a significant effect on the return on assets. It has a coefficient of 0.478834 and a p-value of 0.7595; this value is greater than 0.05 which means that TDTA has no significant effect on the ROE of the companies. A one unit change in TDTA will result to 0.47883 unit change in ROE. TDTA has a positive relationship with ROE, which means that as TDTA increase ROE increases.

- STDTA has a coefficient of 0.050429 and a p-value of 0.9741; this value is greater than 0.05 which means that STDTA does not have a significant relationship with the ROE of the companies. STDTA has a POSITIVE relationship with ROE, which means that as STDTA increase ROE increases. One unit change in STDTA will result to 0.050429 unit change in ROE. STDTA does not have a significant effect on the return on assets.

- LTDTA has a coefficient of 1.956011 and a p-value of 0.3501; this value is greater than 0.05 which means that LTDTA does not have a significant effect on the ROE of the companies. LTDTA has a negative relationship with ROE, which means that as LTDTA increase ROE decreases. One unit change in LTDTA will result to 1.956 unit change in ROE. LTDTA does not have a significant effect on the return on assets.

- FIRM SIZE has a coefficient of 1.586799 and a p-value of 0.4427; this value is greater than 0.05 which means that FIRM SIZE does not have a significant effect on the ROE of the companies. FIRM SIZE has a positive relationship with ROE, which means that as FIRM SIZE increase ROE also increases. One unit change in FIRM SIZE will result to 1.5867 unit change in ROE. FIRM SIZE does not have a significant effect on the return on assets.

- TAX has a coefficient of 2.127060 and a p-value of 0.1003; this value is greater than 0.05 which means that TAX does not have a significant effect on the ROE of

the companies. TAX has a positive relationship with ROE, which means that as TAX increase ROE also increases. One unit change in TAX will result to 2.1270 unit change in ROE. TAX does not have a significant effect on the return on assets.

MODEL 3: A Regression Analysis of the effect of firm's capital structure on its market performance as measured by Tobin's Q

Table 4: Tobin's Q = TDTA + LDTA + STDTA + SIZE + TAX

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.646108	0.674813	0.957463	0.3401
TDTA	0.881940	0.078855	11.18437	0.0000
STDTA	0.338758	0.075858	1.829173	0.0496
LTDTA	0.099200	0.137147	0.723308	0.4708
SIZE	-0.077985	0.103373	-0.754401	0.4519
TAX	-0.000267	0.061248	-0.004360	0.9965
Effects Specification				
			S.D.	Rho
Cross-section random			0.184929	0.4833
Idiosyncratic random			0.191203	0.5167
Weighted Statistics				
R-squared	0.892676	Mean dependent var		0.274093
Adjusted R-squared	0.888641	S.D. dependent var		0.568277
S.E. of regression	0.189579	Sum squared resid		4.780031
F-statistic	221.2478	Durbin-Watson stat		1.733789
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.886330	Mean dependent var		0.650611
Sum squared resid	8.916219	Durbin-Watson stat		0.929493

Source: E-Views output on research data

5. Discussing the findings

FIRM SIZE has a coefficient of 0.077985 and a p-value of 0.4519; this value is greater than 0.05 which means that FIRM SIZE does not have a significant relationship with the Tobin's Q. FIRM SIZE has a negative relationship with Tobin's Q, which means that as FIRM SIZE increase Tobin's Q decreases. One unit change in FIRM SIZE will

result to 0.077985 unit change in Tobin's Q. FIRM SIZE does not have a significant effect on the Tobin's Q. Modigliani and Miller 1963 [18] work incorporated corporate taxes and concluded that with corporate income taxes, leverage will increase a firm's value. This occurs because interest is a tax-deductible expense; hence more of a levered firm's operating income flows through to investors. DeAngelo and Masulis (1980) [7] present a trade-off model of optimal capital structure that incorporates the impact of debt and non-debt corporate tax shields. They argue that deductions for depreciation and tax-loss carry forwards are substitutes for the tax benefits of debt financing. Their model suggests that firms with large tax benefits relative to assets should also include less debt in their capital structure. According to Kahle and Shastri (2005) [13], ignoring the effect of these tax benefits can potentially impact our understanding of firm profitability and capital structure. However, in the case of companies with large tax benefits from option exercise, operating earnings can increase even if the profitability of the company's basic business has not changed.

TAX has a coefficient of 0.000267 and a p-value of 0.9965; this value is greater than 0.05 which means that TAX does not have a significant relationship with the Tobin's Q. TAX has a negative relationship with Tobin's Q, which means that as TAX increase Tobin's Q decreases. One unit change in TAX will result to 0.000267 unit change in Tobin's Q. TAX does not have a significant effect on the Tobin's Q. The capital structure for firms varies from one sector to another and so do their optimal capital structures (see Bradley, Jarrell and Kim, 1984). Also, a firm's growth and business cycle vary from one industry to another. Since capital structure, risk, growth, business cycle, and a firm's access to external sources of funds, and the sensitivity to external stocks, vary across industries, the corporate profitability could be affected by the industrial sectors (Tian and Zeitun, 2007) [31]. Therefore, the industrial sector is expected to have an impact on corporate performance.

TDTA has a coefficient of 0.881940 and a p-value of 0.0000; this value is less than 0.05 which means that TDTA has a significant relationship with the Tobin's Q. TDTA has a positive relationship with Tobin's Q, which means that as TDTA increase Tobin's Q increases. One unit change in TDTA will result to 0.0.881940 unit change in Tobin's Q. TDTA has a significant effect on the Tobin's Q. From literature, there is evidence that a firm's performance is affected by the capital structure (Tian & Zeitun, 2007, Salawu, 2007, Kim *et al* 1998, Krisnnan & Moyer, 1997, Rajan & Zingales, 1995, Blaine, 1994) [31, 27, 14, 16, 25, 2]. If capital structure does affect a firm's performance and value, then a strong correlation between firm's performance and capital structure is expected. This study therefore argues that a firm's debt ratio affects its performance negatively. LTDTA has a coefficient of 0.099200 and a p-value of 0.4708; this value is greater than 0.05 which means that LTDTA does not have a significant relationship with the Tobin's Q. LTDTA has a positive relationship with Tobin's Q, which means that as LTDTA increase Tobin's Q increases. One unit change in LTDTA will result to 0.099200 unit change in Tobin's Q. LTDTA does not have a significant effect on the Tobin's Q.

STDTA has a coefficient of 0.338758 and a p-value of 0.0496; this value is less than 0.05 which means that STDTA has a significant relationship with the Tobin's Q.

STDTA has a positive relationship with Tobin's Q, which means that as STDTA increase Tobin's Q increases. One unit change in STDTA will result to 0.338758 unit change in Tobin's Q. STDTA has a significant effect on the Tobin's Q. It has been further argued that short term debt influences a firm's performance negatively because short term debt exposes firms to the risk of refinancing (Tian & Zeitun, 2007, Pandey, 2001, Kim *et al.*, 1998, Stohs and Mauer, 1996) [31, 24, 14, 30].

6. Conclusion and recommendations
A remarkable difference between the capital structure of Nigerian firms and firms in developed economies is that Nigerian firms presumably prefer short term finance and have substantially lower amounts of long-term debt. This reveals that Nigerian firms rely heavily on short term financing rather than long term finance. This difference in long-versus short- term debt, to an extent, might limit the explanatory power of the capital structure theories in Nigeria. It suggests that the theoretical underpinnings of the observed correlations are still largely unresolved. The results of this empirical study suggest that some of the insights from modern capital structure theories are portable to Nigeria in that certain firm-specific factors that are relevant for explaining capital structure and corporate performance in the Western countries are also relevant in Nigeria. This is true despite profound institutional differences that exist between Nigeria and the Western countries. Overall, the empirical results from this study offer some support for the Pecking Order Theory and Static Trade-off Theory of capital structure.

Nigerian firms should try to match their high market performance with real activities that can help make the market performance reflect on their internal growth and accounting performance. The firms should rely less on short term debt, which formed the major part of their leverage and focus more on developing internal strategies that can help improve more on their accounting performance as their accounting performance for the period studied was very low. The firms should develop a good strategy targeted at using more of equity to maximize their market performance in such a way that it yields growth opportunities. The findings show that quoted companies in Nigeria do not use much of long-term debt in their respective capital structure choices. This may be due to the general poor participation of both public and private sectors in the bond market. The Nigerian Stock Exchange should therefore strive to remove any rigid policies which could hinder the effective participation of the companies. Economic policies that could help further develop the capital market in such a way that it can absorb increase in demand for funds should be formulated.

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