Research Journal of Finance and Accounting www.iiste.org
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online)
Vol.9, No.4, 2018

Financial Leverage and its Effect on Corporate Performance of Firms in Nigeria (1999-2016)

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Abstract
The study examined financial leverage and its effect on corporate performance of firms in Nigeria, for the period (1999-2016). Secondary data were used and collected from the annual reports and accounts of various issues. The study used long-term-debt as dependent variable to measure financial leverage; whereas, return on asset and return on equity were used as the explanatory variable to measure corporate performance of firms in Nigeria. Hypotheses were formulated and tested using Ordinary Least Square (OLS) econometrics technique. The study revealed that return on asset had a positive significant effect on long-term debt of firms in Nigeria. Return on equity had a positive significant effect on long-term debt of firms in Nigeria. The coefficient of determination indicated that about 36% of the variations in long-term-debt can be explained by changes in corporate performance variables in Nigeria. The study also concluded that financial leverage has a significant influence on corporate performance of firms in Nigeria. The study recommended that there should be an effective management of long-term debts and other working capital component in firm's balance sheet. Again, quoted firms in Nigeria should reduce the debt levels in their capital structures so as to enhance positive performance to the interest of shareholders. Furthermore, the government should create an enabling business environment so that business can thrive and this will increase firm's performance in Nigeria.

Keywords: Financial, leverage, effect, corporate performance, firms, Nigeria

Introduction
Several empirical studies have been conducted in Nigeria on the effect of financial leverage on corporate performance of firms by Micheal (2012); Appah (2013); Uremadu (2014). They reveal a positive significant effect of financial leverage on corporate performance of firms in Nigeria. While the studies conducted by Candey (2006) and Kaluidchi (2012) show inconsistent result of the effect of financial leverage on performance of firms in Nigeria. Hence, the major objective of firm's financing decisions is shareholders' wealth maximization and profitability (Micheal, 2012). Financial decision making is very relevant for the profitability of any firm. These include long-term financing and short-term financial decisions. The long-term decisions are mode of capital sourcing and dividend decisions while the short term financing decisions involve liquidity decisions. Thus, the financial manager is responsible for determining the optimal mix of debt and equity that will ensure maximization of shareholders' wealth (Maina & Kondongo, 2013). Firm's performance and profitability is very important in any economy, among them are; first the profits to the firm means income to the shareholders and hence spillover effects and multiplier effects for individual, households and the economy in general. Secondly the corporate taxes that the government will earn will enable the implementation of infrastructure projects and social welfare programs. Thirdly when firms are profitable it means they can attract more investors and hence raising large capital for bigger and high returns projects.

Hence, the optimal capital structure decision seems to be relevant to finance managers and board of directors; because, such decision on capital structure might lead to increase profitability and shareholders' wealth maximization. Thus, most finance managers believe that the use of financial leverage is like a 'double-edged sword' because it can either magnify the firm's potential gains or losses. This was corroborated by the works of Alajekwu (2014) on effect of financial leverage on corporate performance of manufacturing firms in Nigeria. Other studies such as Habib (2011) and Johnsen (2000) see the use of both debt and equity as more appropriate means of financing firms' operation in Nigeria. Thus, corporate managers are faced with the problem of financing option; and, at what level in terms of magnitude that will bring about the efficient performance of firms in Nigeria. These different views and problems have created a knowledge gap in this study. Based on these contending views, the empirical investigation on financial leverage and its effect on corporate performance of firms in Nigeria becomes necessary.

Theoretical Framework
The theoretical framework underlining this study is the Modigliani and Miller (1958) theory of capital structure. The theory stated that capital structure decisions would have no impact on the value of the firm. The MM proposition I, emphasize that no matter the capital structure a firm chooses, the value of the firm will remain the

same. VL = Vu. Where; **VL** is the value of a levered firm and **Vu** is the value of an unlevered firm. Modigliani and Miller (1958) capital structure irrelevance theory only holds under the assumption of perfect capital markets. Modigliani and Miller (1963) modified their original theory to MM II by dropping the zero tax assumption, stating that levered firms will be more valued than the unlevered firms due to the fact that interest is a tax deductible expense but the cost of equity increases due to high debt since shareholders bear higher business risk due possibility of bankruptcy, hence no much difference between levered and unlevered firms, although levered firms are expected to have the tax advantage. In supporting MM proposition II, the work of Micheal, Todd and Anjan (2008) show that there is a positive correlation between financial leverage and firms profitability.

Jensen and Meckling (2013) noted that the manager's interest and the interest of shareholder is not always the same. The manager who is responsible of running the firm tend to achieve his personal goals rather than maximizing returns to the shareholders. According to this theory agency costs are costs that occur as a result of conflicts of interest and appear in terms of conflicts between the managers and owners of firms or the debt holders and equity holders. For the Manager-shareholder agency cost; shareholders prefer leverage but managers do not prefer much of leverage. The shareholders view that debt is a tool to discipline management and avoid unnecessary expenditures. While Shareholder-debtor agency cost; shareholders most likely prefer dividend payouts but extreme dividend payout may likely suffocate liquidity of the firm while the debtors shield and protect themselves by introducing protective covenants in their loan contracts Roja & Valev, (2003). postulated that managers will use the excess free cash flow available to fulfill his personal interests instead of increasing return to the shareholders. Thus the critical problem facing shareholders is to make sure that managers do not finish the excess free cash by investing it in unprofitable or low/negative returns projects instead these cash flows should be returned to the shareholders. Excessive debt creates agency problems among shareholders and creditors and this could result in negative relationship between leverage and firm performance Efobi and Uremadu (2009).

Empirical Review

Gweji and Karanja (2014) investigated the effect of financial leverage on firm performance of deposit taking savings and credit co-operative in Kenya. The study utilized secondary data sourced from financial statements of 40 savings and credit co-operative societies (SCCOS) sampled for the study from 2000 to 2012. Descriptive and analytical designs were both adopted. The result shows perfect positive correlation between financial leverage surrogated by debt-equity ratio with ROE and profit after tax at 99% confidence interval, and a weak positive correlation between debt-equity ratio with ROA and income growth.

Thaddeus and Chigbu (2012) examined the effect of financial leverage on bank performance using 6 banks from Nigeria. The study utilized secondary data from Nigerian Stock Exchange fact book and the financial statements of the sampled banks. Debt-equity and coverage ratios were taken as proxies for financial leverage and these constitute the independent variables, while earning per share (EPS) representing performance is the dependent variable. Multiple regression technique was used to establish whether relationship exist between financial leverage and performance of sampled banks. The findings show mixed results. While some banks report positive relationship between leverage and performance, others revealed negative relationship between leverage and performance.

Hasanzadeh *et al.* (2013) investigated the effects of financial leverage on future stock value at stock exchange. The research statistical population consist of those listed in Tehran stock exchange from 2005 to 2008. Taking financial leverage and market book value ratio as variable, to analyze data and test hypothesis of the present research, descriptive and inferential analyzing methods. They concluded that leverage does not affect future stock value of the firm. The results indicate non-response of capital market against levered nature of the firm. Lack of relationship between leverage and firm value approves net operational income (NOI) theory and Miller and Modigliani (MM) theory.

Akinmulegun (2012) evaluated of financial leverage on selected indicators of corporate performance [Earnings per Share (EPS), Net Assets per Share (NAPS)] in Nigeria using the Vector Auto-Regression (VAR) technique. Findings indicated that leverage shocks exert significantly on corporate performance. Also, the measures of corporate performance (EPS, NAPS) depends more on feedback shock and less on leverage shock but the leverage shocks on EPS indirectly affect NAPS of firms as the bulk of the shock on NAPS was received from EPS of the firms. Shah (2013) employed a sample of 35 listed companies from Food Producer sector of KSE. The research was conducted to find out the Relationship between financial leverage and financial performance.

Rehman (2013) investigated the relationship between financial leverage and financial performance in listed sugar companies of Pakistan. The results show positive relationship of debt equity ratio with return on asset and sales growth, and negative relationship of debt equity ratio with earning per share, net profit margin and return on equity. This negative relationship between debt equity ratio and earnings per share (EPS) support the fact that as debt increases, the interest payment will also rise, so EPS will decrease.

Akande (2013) adopted the Ordinary Least Square (OLS) regression analysis on panel data collected from financial statements of 10 Nigerian firms over 20 years from 1991-2010. ROA, ROE, EPS and DPS on one hand and DC (total debts to capital employed) on the other hand, were surrogated for firm's performance and debt financing respectively. The findings show that positive relationships exist between DC and ROE, EPS and DPS, while negative relationship exists between DC and ROA. The study therefore, concluded that financial leverage will considerably impact on firm performance.

Rajni (2012) conducted a study to ascertain the impact of financial leverage on shareholders return and business sector underwriting from the Indian Telecom part organizations. Study period consisted of years 2004-2010. Hypothetical framework comprises of Independent variable as financial leverage and dependent variable comprise of Shareholder return & market capitalization. The population includes 7 companies of Indian Telecommunication Industry. It was concluded that a Positive Correlation is found between budgetary influences and shareholders return for Telecommunication Industry and negative connection is found between monetary power and business promotion for telecom Industry. The total valuation of a firm can be Increased by the different bounding of three variables as Financial leverage, Shareholder return & market capitalization.

Al cock (2013) determined the effect of financial leverage in the performance of private equity real Estate funds. He inspected the short & long haul effect of monetary power on execution of private value land venture supports by taking specimen of private equity real estate funds from the period 2001-2011. Data was obtained from Property Funds Research (PFR). Data on the Underlying Direct real estate market return was obtained from IPD. To examine the hypothesis in the study they used single factor market model augmented by style interactions, Main effect of leverage, Timing effect of leverage and alternative timing effect of leverage. The results indicate that store execution is practically straightforwardly social to profit for underlying land market, meaning that fund manager effectively tracks the performance of their target markets. Further results show that Influence can't be embraced as a technique in the long haul to upgrade execution.

Moses and John (2014) investigated the impact of money related influence on monetary execution of deposit taking savings & credit cooperative in Kenya. Study was an attempt to investigate the impact of influence on execution of stock taking in Kenya. They adopted the Analytical & descriptive designs for research and the correlation analyses was done using Pearson's correlation method. SPSS was brought in to play to find out the significant relationship among variables which consisted of financial performance as dependent &financial leverage as independent variable. Study time period comprise of years 2010-2012.Outcomes of their search showed that there is strong correlation financial performance of stocks in Kenya. Pearson correlation b/w debt to equity ratio & variables was 0.994 and exhibited a strong relationship between the two variables while on the other side Pearson correlation b/w debt to equity ratio & profitability variables was 0.662 and showed strong relationship b/w the variables since Sigma 2 tailed value $S < 0.05$.

Ahmed (2014) investigated the effect of financial leverage on firms' financial performance in Saudi Arabia's public listed companies has demonstrated that since the Incorporation of Saudi stock market in the year 2003, corporations have been in the position to substitute equity for more debt. Assets and equity and leads to higher profit margins. It also brought in to view the evidence that Saudi firms could attempt to enhance their financial performance by balancing their Zakat liabilities with leverage borrowing trends. A separate research is required to examine the effects of Zakat on capital structure and financial performance for each sector may provide In-depth knowledge regarding this relationship.

Rajkumar (2014) examined the Impact of financial leverage on financial execution with extraordinary reference to John Keells holding plc in Srilanka. John Keells holding plc is the biggest recorded Company in Colombo stock trade having joined in ahead of schedule 1870's as a produce and trade brooking business by two English men named as Edwin & George john. To test the hypothesis and relationship between dependent and Independent variables, data of John Keells plc was taken from period 2006-2012. NP ratio, ROE, ROCE are used to measure independent variables; whereas Debt to equity ratio was employed to measure dependent variable. For identifying the pattern of relationship between financial leverage & financial performance correlation and regression analysis were adopted. Correlation analysis displayed a strong negative relationship of -.789 between the variables at significance level of 0.05. ANOVA test was also brought into play. Finally, it was concluded that there is negative relationship between financial performance and financial leverage.

Mahmoudi (2014) examined the effect of leverage on cement industry profitability. The study was an attempt to highlight the crucial issue that the managers are confronting today, that how to choose the combination of debt & equity to achieve the optimal capital structure that would minimize the firms cost of capital & improves returns to the business owners. Using leverage on capital structure as Independent variable and profitability as dependent variable and time period comprised of years 2008-2011. They used descriptive and regression models to test the theory. Results of the exploration demonstrate that there is critical negative relationship between firm's profitability & leverage. It was evidenced through this research that top management of every firm should be focused on making prudent financing decisions in order to remain profitable and competitive and therefore managers should realize to what extent leverage had an influence on the financial performance.

Summary of Empirical Review

The review of empirical studies revealed that effect of financial leverage on corporate performance of firms in Nigeria debate has been mixed, inconclusive and at times controversial. Roja and Valev (2003) posit that there is no universal model in dealing with this issue. These authors argue that what appears not to have a significant effect on one area may have a positive and significant effect on other areas with different degrees of significance. Thus, the studies conducted by various researchers' in Nigeria have not resolved the effect of financial leverage on corporate performance of firms in Nigeria controversy. It is against this background that we attempt to investigate financial leverage and its effect on corporate performance of firms in Nigeria with the variables such as: Long-Term Debt, Returns' on Equity and Return on Asset in Nigeria using time series econometrics models for a period of 17 years.

Methodology

This study employed the *ex-post facto* research design. An *ex-post-facto* research design is a systematic empirical inquiry that requires the use of variables which the researcher does not have the capacity to change its state or direction in the course of the study (Onwumere, 2009). The study employed secondary data, obtained from the Annual Reports and Accounts of some firms in Nigeria. The data covers a period of seventeen (17) years, from 1999-2016. The rationale of selecting this period is because of the problem of accessibility of data from the firms. Ordinary Least Squares (OLS) technique is employed to analyze the data collected. The study used long-term-debt as dependent variable to measure financial leverage; whereas, return on asset and return on equity were used as the explanatory variable to measure corporate performance of firms in Nigeria. Ordinary Least Squares (OLS) technique is used because it minimizes the error sum of squares and it also has a number of advantages such as unbiasedness, consistency, minimum variance and efficiency. The statistical test of parameter estimates will be conducted at 5% level of significance. Hence, the Durbin- Watson test is used to test the presence of autocorrelation.

Model Specification

Model specification is the determination of the endogenous and exogenous variables to be included in the model as well as the a priori expectation about the sign and size of the parameters of the function (Ibenta, 2012). The hypotheses of the study are: Return on asset has no positive significant effect on long term debt of firms in Nigeria; Return on equity has no positive significant effect on long term debt of firms in Nigeria Thus, multivariate linear regression model is used to test the null hypotheses proposed for the study: Based on these hypotheses, a model is adopted from the wok of Micheal (2012). The model is stated as: $K = f(ROE , ROA)$

Where: K = Cost of capital as proxy for Long-Term-Debt (LTD) and used as the dependent variable. The above model is modified in this study by introducing Long-Term-Debt (LTD) as proxy for cost of capital *(K)* and employed as dependent variable. The modified model is written as: $LTD = f(ROE, ROA)$.. .(2)

The equation form for the model is stated as:

$LnLTD = \delta_0 + \delta_1 LnROE + \delta_2 LnROA + \mu$ ……………………………………………………(3)

Where:LTD = Long- Term- Debt proxy for cost of capital used as the dependent variable

ROE = Return on Equity, ROA = Return on Asset

δ_0 = intercept and δ_1 and δ_2 are the coefficients of the regression equation. μ is the stochastic or error term, while Ln is the natural log of the variables. Log transformation is necessary to reduce the problem of heteroskedasticity because it compresses the scale in which the variables are measured, thereby reducing a tenfold difference between two values to a twofold difference (Gujarati, 2004).

Data Presentation

The study focused on the effect of financial leverage on corporate performance of firms in Nigeria for a period of, 1999-2016. Data for this study consist of 17-years annual observation period and were collected from Annual Reports and Accounts of firms in Nigeria (1999-2016). The study used annual data, because quarterly data may not be accessed for some of the variables. Return on Equity (ROE) and Return on Asset (ROA) were employed as the independent variables to measure corporate performance; while, Long-Term-Debt (LTD) was employed as the dependent variable to measure financial leverage as indicated in **appendix 1**.

Table 1:
Dependent Variable: LTD
Method: Least Squares
Date: 22/01/2018. Time: 04:34
Sample Period: 1999-2016

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.478362	5.717256	0.0000895	0.00031
ROE	6.26E-06	0.036272	0.0000131	0.00113
ROA	7.12E-32	5.76E-03	0.0000005	0.00009
R-squared	0.364057		Mean dependent var	-4.72156
Adjusted R-squared	0.341964		S.D. dependent var	16.64821
S.E. of regression	35.54678		Akaike info criterion	3.165378
Sum squared resid	3533.650		Schwarz criterion	9.132495
Log likelihood	-24.5468		F-statistic	5.748734
Durbin-Watson stat	1.910459		Prob(F-statistic)	0.000000

Source: Author's computation with the use of E-view 8.0

Discussion of Findings

From table 1, the result reveals that long-term debt has a positive significant effect on return on asset of firms in Nigeria. There is also a positive significant effect of long-term debt on return on equity of firms in Nigeria. Coefficient of determination (R^2 =0.364057) indicates that about 36% of the variations in return on asset can be explained by changes in firm's performance variables (ROE and ROA) in Nigeria. This implies that an insignificant portion of financial leverage variable can be explained by changes in corporate performance variables. The F-Statistics of (5.748734) which is significant at 5% confirms the effect of financial leverage on corporate performance of firms in Nigeria; and the influence of the explanatory variables on the dependent variable is statistically significant; and, this is also confirmed by the F-probability which is statistically zero. Finally, the value of Durbin-Watson (DW) indicates the absence of autocorrelation.

Conclusion and Recommendations

The study concludes that financial leverage has a significant influence on corporate performance of firms in Nigeria as observed from the empirical evidence of the study. Hence, the performance of firms' in Nigeria depends on proper management of financing options. The empirical analysis reveals the effect of long-term debt on the corporate performance of firms in Nigeria. The study recommends that firms should use an optimal financial leverage, and that listed firms in Nigeria should employ an appropriate capital structure model that meets the corporate long term survival and growth of the firm. There should be an effective management of long-term debts and other working capital component in firm's balance sheet. Again, quoted firms in Nigeria should reduce the debt levels in their capital structures so as to enhance positive performance to the interest of shareholders. Furthermore, the government should create an enabling business environment so that business can thrive and this will increase firm's performance in Nigeria. This is evident in the fact that macroeconomic variables positively affect the performance of most quoted firms in Nigeria. In conclusion, it should come to the knowledge of the policy makers, and economic agents (individual investors and firms) that the profitability and performance of firms in Nigeria depend on proper management and composition of their capital structure.

Contribution to Knowledge

This study was able to modify the model, expansion of the existing literature, geographical spreads and updated the data of the study that will enable researchers and scholars to use it for further studies. The study also concludes that financial leverage has a significant influence on corporate performance of firms in Nigeria.

Scope for Future Study

The study made the following suggestions for further research:

i. Future investigation could be conducted to know the effect of capital structure on the performance of firms in Nigeria.
ii. Further research could use time series econometrics such as unit roots, co-integration and Granger Causality tests to know the direction of financial leverage and its effect on corporate performance of firms in Nigeria; and, therefore suggest for further investigation.
iii. Finally, the study suggests that the period should be 1981-2016 to enable the findings to be more robust.

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Appendix 1: Financial Leverage and its Effect on Corporate Performance of Firms in Nigeria (1999-2016)

YEAR	Long-Term- Debt (%)	Return on Asset (%)	Return on Equity (%)
1999	0.46794	47.17	57.23
2000	0.78754	26.12	70.12
2001	0.48969	19.16	45.22
2002	0.38609	68.72	53.52
2003	0.37869	38.44	65.14
2004	0.17456	42.3	94.25
2005	0.47351	17.16	40.1
2006	0.16389	59.58	66.52
2007	0.68754	30.22	86.18
2008	0.69367	77.50	35.15
2009	0.78456	68.14	68.17
2010	0.15689	68.42	85.62
2011	0.86949	95.33	56.92
2012	0.25648	45.2	64.78
2013	0.68497	35.15	75.15
2014	0.68740	37.34	98.67
2015	0.57606	23.39	43.93
2016	0.57647	23.73	43.96

Source: Annual Reports and Accounts of Various Issues (1999-2016)