

Impact of Capital Structure and Financial Performance of Real Estates Companies in Nigeria

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Abstract

This study examined the impact of capital structure on the financial performance of listed construction and real estate companies in Nigeria from 2015-2019. The study made use of ex-post factor research design which involved gathering panel dataset from published annual reports and accounts of the sampled companies. Purposive/judgemental sampling technique was used to select five (5) listed construction and real estate companies as at December 2019. Descriptive statistics, correlation and regression analysis were used to evaluate the data. The findings revealed that, the capital structure had a negative and insignificant effect on the financial performance of construction and real estate firms in Nigeria for the period under study. Therefore, it was recommended that, management of construction and real estate companies in Nigeria should exercise caution while choosing the amount of debt to be use in their capital structure as it affect their performance negatively.

Keywords: Capital Structure, Financial Performance, Real Estate Companies

JEL Classification: M4

1. Introduction

From inception, companies were usually financed from the equity contributed by owners. With passage of time, companies begin to plough back part of their profits into their business to provide for expansion and to supplement equity finance. Moreover, as global competition heightened, the dream of every company is to increase its performance and competitive advantage. To this end, identifying the determinants of financial performance poised a current research question and the several studies dedicated to this area shows active interest of experts to find an explanation to this pertinent question. The impacts of capital structure on financial performance of businesses have been of particular research interest in the literature of corporate finance. Conflicting theories were proposed on the relationship between capital structure and its value relevance to the firm. The Traditional theorists of capital structure are of the view that capital structure affects firm value. Modigliani and Miller (MM), under the assumptions of perfect markets and no taxes, argue that capital structure decision is of no relevance (Pandey 2011). MM

later changed their stand when they later considered corporate taxes. They further maintained that tax savings resulting from interest paid on debt create value for the firm. They also opined that, tax advantage of debt is reduced by personal taxes and financial distress. Hence, the trade-off between cost and benefit of debt can turn capital structure into a relevant decision.

The construction or real estate sector is very crucial in any nation's social and economic development. Apart from the sector's potential with respect to employment generation, the various activities undertaken are germane to fostering effective sectoral linkages and enhancing, as well as sustaining economic development. The sector deserves attention because Nigeria is qualify for real estate development due to her growing population, rapid urbanization, and for the fact that the sector contributes up to 7.5% to the gross domestic product (Okeke 2016). Rufus and Ofoegbu (2017) noted that construction and estate development is capital intensive and that is one of the major problems confronting the sector in Nigeria is limited sources of funding. Yousef (2019) informed that apart from equity debt financing is also required. The author observed that the two major loans required to finance construction and real estate projects in Nigeria are short-term loan for financing the construction stage, and long-term mortgage loan which is permanent in nature for financing the project over its normal operating life. This expresses that excessive debt financing would definitely erode the profitability performance of the sector. Therefore, it is against this background that this study aims to examine the impact of capital structure on the financial performance of listed construction and real estate companies in Nigeria with a view to understanding how capital structure can be used to improve financial performance of firms.

Next to investment decision function, the second most important function is the financing decision function to be done by managers (Pandey 2011). Broadly, managers must decide when, where and how to acquire funds to meet the firm's investment needs. An appropriate capital structure decision is important for any organization not only in terms of additional value and maximizing returns, but also the impact of such a decision on its ability to compete favourably. Warokka, Herrera and Abdullah (2011) discerned that the subject of optimal capital structure has gained the attention of several researchers. These authors argued that, capital structure of a firm is a combination of debt and equity devoted in financing its operations. According to Akintoye (2008) capital structure decision is fundamental for the growing concern of any business enterprise as to the maximization of returns to stakeholders. Reviewed literature revealed that several studies have been conducted to investigate the relationship between capital structure and financial performance. However, the outcomes of these previous studies have been contradictory and mixed (Nazir 2017; Yousef 2019). While some researchers reported positive relationship between capital structure and company performance (Yimka, James & Victor 2015; Rufus & Ofoegbu 2017; Yousef 2019), others reported that the capital structure is negatively related with performance (Iorpev & Kwanum, 2012; Sadiq & Sher 2016; Nazir 2017; Chang & Wong 2019). More so, some researchers for instance in Pakistan reported that no relationship exists

between capital structure and performance (Khan, 2012). Thus, the relationship that exists between capital structure and performance remain controversial and open for further research. Also vast majority of these studies concentrated on all the listed firms of the developed capital markets, with only a few giving attention to specifically capital markets of developing countries like Nigeria. Okeke (2016) observed paucity of literature on capital structure and performance of listed construction and real estate companies in Nigeria. Furthermore, Nigeria's growing population makes it a perfect place for real estate development due to her, rapid urbanization, and for the fact that the sector contributes up to 7.5% of the gross domestic product (GDP) of Nigeria (Okeke 2016).

Very few studies were conducted in the construction/real estate sector of the Nigerian economy. This study was therefore, motivated by these gaps and was designed to cover these noticeable empirical research gaps in the capital structure of literature in Nigeria. The aim of this study is to investigate the impact of capital structure on firms' performance using (return on capital employed ROCE, return on equity ROE, and return on assets ROA) as measures of financial performance as dependents and (debt-to-equity ratio) as independent variable. The aim of this study is to assess the impact of capital structure on the financial performance of listed construction and real estate companies in Nigeria. The specific objectives of this study are to determine the impact of capital structure of return on capital employed (ROCE) of listed construction and real estate companies in Nigeria; to ascertain the impact of capital structure on return on equity (ROE) of listed construction and real estate businesses in Nigeria; and to assess the impact of capital structure on return on assets (ROA) of listed construction and real estate firms in Nigeria.

2. Literature Review

Conceptual Framework

Capital structure otherwise known as financial structure has been defined by numerous authors. Pandey (2011) views it as the firm's mix of debt and equity. Nirajini & Priya (2013) define capital structure as the way in which an organization is financed. It is a combination of long term capital (ordinary shares and reserves, preference shares, debentures, bank loans, convertible loan stock and so on) and short term liabilities such as a bank overdraft and trade creditors. Dare & Sola (2010) as cited in Akeem, Terer, Kiyajui and kayode (2014) explained that there are various alternatives of debt-equity ratio. These includes; 100% equity: 0% debt, 0% equity: 100% debt and X% equity: Y% debt. From these alternatives, option one is that of the unlevered firm, that is, the firm that shuns the advantage of leverage (if any). Option two is that of a firm that has no equity capital and it's financed exclusively by debts. This option may not actually be realistic or possible in the real life economic situation. This is because no provider of funds will invest his money in a firm without equity capital. This is what is referred to as 'trading on equity'. It means that, it is the equity element that is present in capital structure that motivates the debt providers to give their scarce resources to the business (Chechet & Olayiwola, 2014). Option three is the most realistic one in that, it combines both a certain percentage of debt and equity in the capital structure and the advantages of leverage (if any) are exploited. To further elaborate on capital structure, it is

important to explain the elements: Debt financing which according Cheng (2009) defined debt financing as the borrowing of loans from other companies, banks or other financial institutions. It is a kind of finance that becomes a commitment for the company to repay back interest and principal at the end of a particular period. The inability of the company to repay this commitment and the interest accruable to this commitment would attract distress for the company and this would ultimately lead to bankruptcy (Khan 2012). Equity financing entails the ability of firms to raise its external finance from the public and at the same time issue out a part of the firm's ownership right as evidenced by share certificate. The equity holders are part owners of the company. At the end of each financial period if there is profit, the firm reward the equity holders with dividend from the profit made by the company (Efobi 2008). From the above definitions, it can be deduced that capital structure is simply the proportion of equity and debt that a firm employed to finance its operations.

Theoretical Framework

The publication of "The Cost of Capital, Corporate Finance, and the Theory of Investment" in 1958 by Franco Modigliani and Merton Miller mark the beginning of modern theory of capital structure. Modigliani & Miller's theory argues that changes in capital structure should not affect firm's market value or cost of capital in a perfect capital market without taxes and transaction costs. It implies that the financial instruments issued by the company have no effect on firm's productivity and value. According to Akinlo (2011), the unrealistic assumptions in MM irrelevance theory with respect to capital structure has paved way for the emergence of other principles. Since then several theories exist to guide discussions on capital structure. However, for the purpose of this study, three theories were adopted. These are trade-off theory, pecking order theory and agency theory.

The trade-off theory advocates balancing the cost and benefits by companies when making decision about what percentage of debt and/or equity should constitutes it capital structure (Muritala, 2012). The decision of a firm about the use of debt finance or equity finance should depend on the costs and benefits attached to each source of funds. In the determination of optimal capital structure for instance, the firm should consider the trade-off between costs and benefits of each source of finance since each has some costs and benefits. Tax saving for instance is one of the benefit of using debt but it may lead to bankruptcy as well. To avoid financial distress, the firm should strike a balance at that point where any additional debt becomes riskier and hence more expensive to both creditors and shareholders (Khan 2012).

Pecking order theory does not take an optimal capital structure as a starting point. It rather engages the fact that firms show a distinct preference for using internal sources of funds such as retained earnings and excess liquid assets over external finance. According to this theory, it is only in the absence of internal sources that firms should opt for the acquisition of external financing if the need be or if so desired. Olowe (2011) opined that even the selection of the external fund must follow the ranking of the cheapest to the dearest ones. In Pecking order hypothesis, the expectation is that profitable firms that generate significant earnings should use

less debt capital than those who generate insignificant earnings (Ahmad, Abudullah & Roslan 2012).

The involvement of debt as part of the capital structure of a firm also leads to agency cost. The agency cost theory suggests that due to the effect of the separation of control and ownership, the agents (managers) of a firm will not always work on behalf of the shareholders hence disagreement between the two parties (Rufus & Ofoegbu 2015). The raising of company debts also results into conflicts between the shareholders and debt investors. Thus, the dispute between the interests of shareholders and managers describes the agency problem. The agency problems give rise to agency costs. The principal must incur some agency costs to ensure that the agent acts in his interests. Such costs can be called the expenses of monitoring managers. Without increasing the agency cost, trading off equity to debt controls the principal-agent problem. By increasing the debt to equity ratio, managers will tend to run businesses more efficiently. The use of debt limits the scope of managerial discretion because debt calls for required interest payments which result in cash outflows (Modugu 2013).

Review of Empirical Studies

Capital structure is an important aspect of company's operations. This study is an attempt to identify the impacts of capital structure on companies' financial performance. A lot of researchers have both locally and internationally conducted their work in this area of study with the view of helping both growing and grown firms to structure their finances efficiently yet the results are mixed. Omukaga (2017) scrutinized the effect of capital structure on profitability of firms listed at Nairobi Stock Exchange for the period covering from 2012 to 2016. The study measured capital structure by debt to equity while firm performance was measured by return on equity, earning per share, and profit after tax, and profit before tax. The findings of the study showed that return on equity, profit before tax, and profit after tax are determinants of capital structure. Yousef (2019) investigated the determinants of capital structure in the context of the Gulf Cooperation Council (GCC) and United Kingdom (UK) real estate sectors. The results of a bivariate analysis indicate that leverage in the UK is much higher than in GCC countries. This may be attributable to UK companies facing a lower cost of debt, which facilitates their rising of debt capital from the market. In addition, UK real estate firms tend to be larger and have higher levels of tangibility and retained earnings compared with GCC firms that tend to be more profitable and have more growth opportunities. The results of panel and Tobit regression analyses support both trade-off and pecking order theories in this study. Moreover, company size was found to have a significant positive impact on different types of debt measurements (market and book debt ratios), which is consistent with the trade-off theory, while profitability and retained earnings to total assets exhibited a significant negative impact for GCC and UK real estate firms, which is consistent with the pecking order theory. Importantly, these results hold true regardless of whether the regressions are estimated using random effects, fixed effects, OLS panel estimation or Tobit model technique. Chang and Wong (2019) examined the relationship between capital structure and profitability applying correlation and regression

analysis on dataset from 2003 to 2016 for the firms in the four Asian tiger economies. The data was collected from the Compust at global vantage database and include 46,301 observations. The study found a significant negative relationship between leverage and profitability, a significant positive relationship between growth and leverage in Taiwan, Korea and Hong Kong and a significant positive relationship between size and leverage in each of three countries.

3. Methodology

This study adopted an ex-post facto design to investigate the impact of capital structure on financial performance of listed construction and real estate companies in Nigeria. This is the most widely used design by previous researchers such as Yimka, et.al.(2015), (Muritala, 2012), (Nasimi 2016) and Akeem, et.al. (2014).For the purpose of this study, secondary method of data collection was employed to obtain relevant data. This includes Nigerian Stock Exchange (NSE) fact books and the annual reports and accounts of the sampled companies for the period of five years from 2015-2019. The population of this study comprises of the eight (8) Construction and Real estate companies listed on the Nigerian Stock Exchange (NSE) as at December 2019. These include Arbico Plc, Julius Berger Nigeria Plc, Roads Nig. Plc, SFS Real Estate Investment Trust, Smart Product Nigeria Plc, UACN Property Development Co. Limited, Union Homes Real Estate Investment Trust (REIT) and UPDC Real Estate Investment Trust.

The study employed purposive sampling technique to select five (5) out of total eight (8) listed construction and real estate companies on the floor of Nigerian stock exchange. This is base on their relative size as large, medium and small enterprises to give fair representation of the industry and the fact that their annual reports and accounts disclosed the data needed for the study. The selected five are Arbico Plc, Julius Berger Nigeria Plc, Smart Product Nigeria Plc, UACN Property Development Co. Limited and UPDC Real Estate Investment Trust. This study adopted the technique used by Yimka et.al.(2015) to analyse the data which was basically a descriptive statistical technique of ratio analysis. This was done by evaluating the financial performance with respect to the return on capital employed (ROCE), return on equity (ROE) and return on assets (ROA). In addition, correlation and regression analysis was also used in order to determine the relationship between the dependent and the independent variables. This is necessary in order to find the extent to which the independent variable can explain the dependent variable. Regression was used because it will show the extent or degree of relationship between both the independent and the dependent variables.

In this study, the structure of equity and debt is the independent variable while the financial performance proxy by return on capital employed (ROCE), return on equity (ROE) and return on assets (ROA) are the dependent variables. This is hereby operationalized as below;

Pf = f (Eq, Dbt) 1

Where Pf = financial performance, Eq= equity value, Dbt = debt value, and Pf = ROA, ROE & ROCE

This implies that performance is determined by dependent variables such as; return on assets, return on equity & return on capital employed.

Hence;

$$\text{ROA} = f(\text{Eq}, \text{Dbt}) \dots\dots\dots 2$$

$$\text{ROE} = f(\text{Eq}, \text{Dbt}) \dots\dots\dots 3$$

$$\text{ROCE} = f(\text{Eq}, \text{Dbt}) \dots\dots\dots 4$$

The model simply explains that all those dependent variables are subject to respective combination of equity and debt to determine performance.

Such that:

$$Y = b_1X_1 + b_2X_2 + \mu \dots\dots\dots 5$$

$$y_1 = a + \text{eqt}_1 + \text{dbt}_2 + \mu \dots\dots\dots 6$$

$$y_2 = a + \text{eqt}_1 + \text{dbt}_2 + \mu \dots\dots\dots 7$$

$$y_3 = a + b_1x_1 + b_2x_2 + \mu \dots\dots\dots 8$$

Where $Y = y_1, y_2, y_3$; Y = financial performance; $y_1, y_2, \& y_3$ = ROA, ROE & ROCE.

4. Result

This section deals with the presentation, analysis and interpretation of data. It also discusses the findings with detailed analysis of the relationship between capital structure and financial performance of construction and real estate companies in Nigeria. The results obtained from the analyses were accordingly used to test the hypotheses of the study.

Descriptive Statistics

The summary of the descriptive statistics of the variables are presented in table 4.1.

Table 1: Descriptive statistics

Variables	Min.	Max.	Mean	Std. Dev.
ROCE	-.1283752	2.377297	0.2004526	0.4806913
ROE	-.2781427	5.068578	0.5089980	.2144170
ROA	-.0567575	1.565725	0.1055434	0.3089226
GEARING	-10.68003	32.31706	4.4898380	9.2834150

Source: Authors' Computation

Table 1 presents the descriptive statistics for the dependents and explanatory variables. From the table above, the standard deviation of 0.4807 signifies that the data deviate from the mean value from both sides. This implies that there is no much wide dispersion of the data from the mean even though the standard deviation is higher than the mean value. The table also shows that the mean of return on equity of the sampled firms is 0.508998 with standard deviation of 1.214417. This implies that the performance of the firms in terms of return on equity is on average 0.508998, and the standard deviation value indicates that ROE of the sampled firms deviates from the mean value from both sides by 1.214417, implying that there is

significant dispersion of the data from the mean because the standard deviation is higher.

Moreover, the table shows that the mean of the return on asset of the firms is 0.1055434 with standard deviation of 0.3089226. This implies that return on asset of the sampled firms is on average 0.1055434 and the standard deviation value indicates that the value deviates from the mean from both sides by 0.3089226. This implies that there is no significant dispersion of the data from the mean because the standard deviation is lower. Finally, the table portrays that the mean of the debt-to-equity ratio (gearing) of the firms is 4.489838 with standard deviation of 9.283415 respectively. This implies that long term debt to total assets of the firms is on average 0.8527. The standard deviation indicates that the value of the firms` gearing ratio deviates from the mean value from both sides by 9.283415. This implies that there is significant dispersion of the data from the mean because the standard deviation is higher.

Correlation Matrix

The correlation matrix explains the degree of relationship between the dependent and independent variables of the study as well as the dependent variables among themselves. The summary of the associations among the variables of the study is presented in table B.

Table 2: Correlation matrix

Variables	ROCE	ROE	ROA	GEARING
ROCE	1.0000			
ROE	0.7222	1.0000		
ROA	0.0048	-0.0227	1.0000	
GEARING	-0.0194	0.2110	0.1225	1.0000

Source: Authors' Computation

Table 2 reveals that return on equity and return on asset of the firms are positively correlated with debt-to-equity ratio. The values of 0.2110 and 0.1225 of the variables indicated that an increase in gearing ratio will lead to increase in return on equity and return on asset. In contrast, return on capital employed have negative relationship with gearing ratio, implying an increase in gearing ratio will lead to decrease in return on capital employed of the sampled firms for the period under study. The relationship of the dependent variables among themselves indicates that return on capital employed is positively correlated with return on equity and return on asset. On the other hand, return on equity and return on asset are negatively correlated among themselves.

Regression Analysis

This section presents the regression results from the data that were utilized in examining the impact of the explanatory variable that would help in testing the hypothesis.

Hypothesis 1 is intended to determine the relationship between capital structure and return on capital employed. Regression analysis was conducted in order to

determine the relationship. The output of the regression exercise is represented in the table below:

Table3: Result output for Gearing & Return on Capital Employed

ROCE	Corf. Int	Std Err.	T	p>t	95% conf.
DBTEQT	-.001002	.0107948	-0.09	0.927	-.0233327
	.0213287				
Cons	.2049514	.1094981	1.87	.094	-.0215626
	.4314655				

Source: Authors' Computation

The panel regression of the above estimates showed that there exists a negative relationship between ROCE and gearing. This is indicated by the sign and size of the coefficients, that is $-0.001002 < 0$. The F-statistic p-value shows 92.68% for the sampled companies. This shows that the panel regression result is not statistically significant because it is greater than 5%. The coefficients showed that one unit change in gearing will cause a negative -0.001002 unit changes in ROCE of the sampled companies. This implies that gearing has a negative effect on ROCE. This effect is however not statistically significant for the period of this study. Therefore, from the panel regression estimate, gearing has no significant effect on ROCE, thus, the null hypothesis is accepted. This result is consistent with the findings of Pratheepkanth (2011), Ogebe, Ogebeand Alewi (2013) and Yimka, et. al. (2015). The results of their work also showed a negative relationship between capital structure and firm`s financial performance.

Hypothesis 2 was designed to ascertain the extent to which gearing influences return on equity. Regression analysis was conducted in order to determine the extent of that influence. The output of the regression exercise is represented in the table below.

Table4:Result Output for Gearing and Return on Equity

ROE	Corf. Int	Std Err.	t	p>t	95% conf.
DBTEQT	.0275996	.026663	1.04	0.311	-.0275569
	.827561				
Cons	.3850802	-.2704592	1.42	0.168	-.1744072
	.9445677				

Source: Authors' Computation

The panel regression estimate shows that there exists a positive relationship between gearing and ROE. This is indicated by the sign and size of the coefficients, that is $0.0275996 > 0$. The F-statistic p-value shows 31.14%. This shows that the panel regression result is not statistically significant because it is greater than 5%. The coefficient shows that one unit change in gearing will cause a positive change of 0.0275996. Although, gearing has a positive effect on ROE, this effect is however not statistically significant for the period studied. Therefore, from the foregoing panel regression estimates, gearing have no significant effect on ROE, thus, the null hypothesis is accepted. This is supported by Alawad (2013), Nirajini and Priya (2013), and Yimka, (2015).

Hypothesis 3 the purpose of research Hypothesis H₀₃ was to determine at what level of gearing return on assets (ROA) is enhanced. Regression analysis was conducted in order to determine the level of optimism. The output of the regression exercise is represented in the table below:

Table5: Result Output for Gearing on Return on Asset

ROA	Corf. Int	Std Err.	t	p>t	95% conf.
DBTEQT	-.004754	.0068865	-0.59	0.560	-.0183212
	-.00101703				
Cons	.1238414	.0698537	1.77	0.089	-.020662
	.2683449				

Source: Authors' Computation

The panel regression of the foregoing estimates shows that there exists a negative relationship between gearing and ROA of the companies. This is indicated by the sign and size of the coefficients, that is $-0.0040754 > 0$. The F-statistic p-value shows 55.98% for Nigeria sampled companies. This shows that the panel regression result is not statistically significant because it's greater than 5%. The coefficient shows that one unit change in gearing will cause a negative -0.0040754 unit change in ROA of sampled companies. This indicates that gearing has a negative effect on ROA of Nigerian construction/real estate companies sampled. These effects are however not statistically significant for the period in this study. Therefore, from the panel regression estimate, gearing has an insignificant negative effect on ROA for sampled construction/real estate companies in Nigeria, thus, the null hypothesis is accepted. This is supported by Pratheepkanth (2011), Ana, Dragan and Monica (2012), Ogebe, et. al. (2013) andYimka, et.al. (2015).

5. Conclusion and Recommendations

This study examined the impact of capital structure on financial performance of construction/real estate companies in Nigeria. The study viewed how the dependent variables like ROCE, ROE, and ROA is affected by the independent variable, which is the gearing. The study established that capital structure has negative effect on return on capital employed and return on assets. However, it has a positive effect on return on equity. Findings of this study therefore, provide insight into the effect of capital structure as it influences ROCE, ROE and ROA. The study concludes that overall, individual capital structure does not affect ROA, ROE and ROCE significantly. However, firm specific factors may cause some combined capital structure effect to significantly affect ROA, ROE and ROCE.

The following recommendations are drawn from the conclusions of the study. In line with the findings of the study, the researcher strongly recommends that management of construction and real estate companies in Nigeria should exercise caution while choosing the amount of debt to use in their capital structure as it has an insignificant negative effect on their performance. Also in determining which source(s) of finance to adopt in funding their business activities, managers of construction and real estate companies should consider those sources of funds that can enhance returns and also increase the performance of the organization. The study also recommends that companies should focus on efficient and effective use

of their resources to generate more profits because success may result from improved performance in the use of assets. It was also recommended that, the management of the listed companies in the Nigerian construction and real estate industry should ensure a proper trade-off between equity and debt to reduce the risk of overburdened external financing so as to improve financial performance for the benefit of equity holders. Furthermore, the study recommends that capital structure and its impacts on all the facet of firms' live should move from theoretical level to practical level. In doing this the managers and captains of industries as well as stock exchange operators should be fully involved in the issue of optimal capital structure and how it affects firm performance.

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