

CAPITAL STRUCTURE AND FIRM PERFORMANCE NEXUS: NIGERIAN CONSUMER GOODS SECTOR ANALYSIS

Lyndon M. Etale¹ (PhD, FCA) and Paulina E. Sawyer² (MSc, FCA)

Department of Accountancy, Faculty of Management Sciences, Niger Delta University,
Wilberforce Island, Bayelsa State, Nigeria

(1) Senior Lecturer, Email: lyndonetale@yahoo.com; and (2) PhD Student.

ABSTRACT: *This study investigated the effect of capital structure on firm performance using a sample of seven companies listed under the consumer goods sector of the Nigerian Stock Exchange. The study adopted return on assets as proxy for performance (the response variable), while capital structure components such as debt to equity, debt to capital employed and equity to capital employed were used as the explanatory variables. Secondary data were collected from the annual published financial reports of the sampled consumer goods sector companies for the period 2009 to 2018. The study employed descriptive statistics and multiple regression technique based on the E-view 9.0 software as the methods of data analysis. The results revealed that debt to equity has insignificant positive impact on return on assets, debt to capital employed and equity to capital employed had negative but insignificant effect on return on assets. Over all, capital structure has no significant effect (at 5% level) on firm performance in the consumer goods sector. Based on the findings, the study recommended among others that the management of consumer goods sector companies should exercise caution in considering the use of debt finance (following the Pecking order theory) in their capital mix up to the optimal limits, as debt to equity ratio provided insignificant positive effect on performance; and that further studies be conducted on other sectors of the economy to provide more robust generalized inferences.*

KEYWORDS: assets, capital, debt, employed, equity, performance, returns, structure

INTRODUCTION

The Capital structure of an organisation is an important aspect of management decisions that is concerned with debt and equity mix toward meeting the firm's objectives. It is capable of influencing both financial and operating performance of the organization as a result of its interest and dividends elements. The performance of firms are aimed at meeting the interest of various stakeholders through effective and efficient operating activities such as increased turnover and efficient asset utilization. The capital mix of a firm can take many forms but the most realistic is that which combines both a certain percentage of debt and equity in the capital structure and thus, the advantages of leverage (if any) are exploited (Olokoyo, 2012). There is no doubt that benefits abound in the use of debts in the capital structure of firms which influences long term solvency of that firm. The main benefit of debt financing is the tax-deductibility of interest charges which results in the lower cost of capital (Krishnan & Moyer, 1997). Does it then mean that for growth potentials, firms should go on increasing the debts proportion in its capital mix? If every increase

in debt financing were going to increase the wealth of shareholders, then every firm would have been 100% debt financed.

However, there are certain costs associated with debt financing. So, between the two extremes of whole equity financing and whole debt financing, a particular debt equity mix is to be decided. Any attempt by a firm to design its capital mix therefore, should be undertaken in the light of two propositions. First, that poor capital structure decisions lead to a possible reduction in the value derived from strategic assets (Kochar, 1997). Capital mix can be designed in such a way as to lead to the objective of maximizing shareholders interest. Second, though the exact optimal capital structure may be impossible, efforts must be made to achieve the best approximation to the optimal capital structure to attain its long term solvency and stability of the firm.

When an organisation relies on debts because of interest payment which is treated as business expense for tax purposes, such debts may create financial risk. Financial risk is the increased risk to equity holders due to financial gearing as opposed to business risk which is associated with operating gearing. Business risk is the variability that a business firm experiences overtime on its revenue (Owualah, 2000). Financial risk does not arise from a company's investment, but solely from the capital structure and more specifically from the level of gearing. When a firm employs fixed interest debts into its capital structure, it increases its financial risk. This is partly because the interest must be paid whatever happens to earnings. When the companies are in default, the more the risk of compulsory winding up, more so, where the providers of debt finance have security for their investment in the form of mortgage over the firm's assets. In order to mitigate financial and business risk, consumer goods firms in Nigeria should be effective in their financing decision so as to boost their performances.

It is evident that when management is unable to adequately utilize the firm's assets, revenue of the firm may not be adequate to cover operating expenses and hence, may affect profitability. Previous studies such as Olokoyo (2012) and Muritala (2012) focused on firm's capital structure and financial performance in Nigeria and neglected its impact on operating performance. Studies that attempted to consider the performance of consumer goods firms concentrated on solvency of firms in India such as Sandeep (2012). Thus, there is a paucity of studies on capital structure and firm performance with specific focus on the consumer goods sector in Nigeria. Prior studies done on this subject have been inconclusive, controversial and open to further investigation. This indicates the existence of a research gap. This study on capital structure and firm performance association with special focus on the consumer goods sector in Nigeria was set to bridge that gap.

The main purpose of this study was to examine the link between capital structure and firm performance using data obtained from companies listed in the consumer goods sector of the Nigerian Stock Exchange. The study adopted return on assets (ROA) to represent performance (the response variable), while proxies for capital structure include debt to equity ratio (DEQ), debt to total capital employed ratio (DCE) and equity to total capital employed ratio (ECE). The specific objectives were to examine the effect of DEQ, DCE and ECE on ROA. These objectives informed the research questions addressed and the hypotheses tested. The findings of this study will equip managers of consumer goods firms in Nigeria with useful information that will assist them in

making financial decisions. Also other academics and researchers would find the outcome of this study useful for future studies, even as the study would contribute information to the body of existing literature.

The rest of this study is organized as follows. Following the introduction above in section two is the review of related literature. The study methodology is presented in section three, while section four deals with data presentation, results of analysis and discussion of findings. Finally the summary, conclusion and recommendations are covered in section five.

REVIEW OF RELATED LITERATURE

Conceptual Clarifications

Capital Structure

Capital Structure may be defined as the combination of debt and equity employed in financing a firm's assets. Capital structure includes mixture of debt and equity financing (Chou & Lee, 2010). According to Dandy (2000) capital structure refers to the mix of long-term debt, preference share capital and ordinary share capital including reserves and surpluses. Abor (2005) defined capital structure as the specific mix of debt and equity a firm uses to finance its operations. Pratheepkanth (2011) defined capital structure as the mixture of a variety of long-term sources of funds and equity shares including reserves and surpluses of an enterprise.

Determinants of Capital Structure

It is necessary to examine the determinants of a firm's financing or capital structure decisions. This involves a wide range of policy issues according to Pratheepkanth (2011). The capital structure of a firm can be determined by internal and external factors. The external factors are the macroeconomic variables which include tax policy of government, inflation rate and capital market conditions. The characteristics of an individual firm, growth rate, profitability, debt servicing capacity and operation leverage according to Baral (2004), are determinants of capital structure. Tekel (2009) identified the determinants of capital structure of firms to include tangibility, size, growth opportunities, profitability and non-debt tax shields.

The determination of capital structure in practice, according to Pandey (2001) involves: additional considerations about earnings per share, value and cash flow preference of managers with regards to financing decisions; and are quite often influenced by their desire not to lose control; to maintain operating flexibility; and to have convenient and cheap means of raising funds.

Firm Performance

Performance is a key factor in determining the perpetuity of any business set-up. It is the most important objective of all profit-oriented organizations. A well-performing organization adheres to its standards while effectively and efficiently utilizing its available resources in attaining achieving higher performance. Corporate entities employ managers who are saddled with the responsibility of achieving the goals and objectives of the stakeholders and shareholders. These objectives range from management efficiency to wealth maximization. There are various measures of performance which include gross profit margin, net profit margin and return on assets. Return

on assets is used as the dependent variable in this study because it is more comprehensive in measuring the effectiveness of all the assets used in the production process.

Theoretical Framework

Several theories of capital structure have been highlighted in the literature. Some of which are Modigliani-Miller theory, Agency theory, Static Trade-off theory, Signalling theory, Pecking order theory and Free cash flow theory. Nevertheless, this study is anchored on the Pecking order, Trade-off and Traditional theories.

Static Trade-off Theory

This theory states that a firm's capital composition of debt and equity is determined by taxes and costs of financial distress. The static trade-off theory of capital structure states that firms will choose their mix of debt and equity financing to balance the costs and benefits of debt. A point/range is reached beyond which debt becomes more expensive because of the increased risk (financial distress) of excessive debt to creditors as well as to stakeholders. The excessive amount of debt makes the shareholders position very risky. This has the effect of increasing the cost of equity. Thus, up to a point, the overall cost of capital decreases with debts, but beyond that point, the cost of capital would start increasing and therefore it would not be advantageous to employ debt further, so there is a combination of debt and equity which minimizes the firm's average cost of capital and maximizes the market value per share. The trade-off between cost of capital and earnings per share (EPS) set the maximum limit to the use of debt.

Myers (2001), proposed the Trade-off Theory that supports the relevance of capital structure. This theory suggests that firms have optional capital structure and they move towards the target. It went further to state that when debt is employed in capital structure, firms are faced with the challenge of tax benefits and bankruptcy cost, thus the need for trade-off between the two. Under trade-off theories, the firms with high growth opportunity should borrow less because it is more likely to lose value in financial stress. Firms with more tangible assets and more taxable income to shield should have high debt ratios.

Pecking Order Theory

The Pecking Order theory is popularized by Myers and Majluf (1984) where they argue that equity is a less preferred means to raise capital because when managers (who are assumed to know better about true condition of the firm than investors) issue new equity, investors believe that managers think that the firm is over-valued and managers are taking advantage of this over-valuation. This theory states that firms will not have an optimal capital mix but will instead follow a pecking order of incremental financial choices that places internally generated funds at the top of the order, followed by debt issues and finally only when the firm reached its "debt financing" limits, new equity financing would be used. The cost of equity includes the cost of new issues of shares and the cost of retained earnings. Pecking Order theory states that the purpose of a firm is to maximize the shareholders' wealth. There is a hierarchy in choosing sources of finance (Smart, Megginson & Gitman, 2007). Every firm will choose to use internal financing other than external financing. This theory is of the opinion that the main problem in determining capital structure of a firm is asymmetric information between managers and investors (Amidu, 2007). It postulates that cost of

financing increases with asymmetric information. Financing comes from 3 sources – internal funds (retained earnings), debt and new equity. Companies prioritize their sources of finance, first preferring internal financing and then debt, lastly raising equity as a last resort. Hence internal financing is used first, when that is depleted, then debt is issued and when it is no longer sensible to issue any more debt, equity is issued. This theory maintains that businesses adhere to a hierarchy of financing sources and prefer internal financing when available, and debt is preferred over equity if external financing is required (equity would mean issuing shares which meant bringing external ownership into economy). Thus the form of debt a firm chooses can act as a signal of its need for external finance.

Traditional Theory

The traditional theory was propounded by Solomon and Weston (1973) believing strongly on the relevance of optimal capital. They asserted that the proper and right combination of debt and equity will always lead to market value enhancement. When the weighted average cost of capital (WACC) is minimized, and the market value of assets is maximized, an optimal capital structure exists. This is achieved by utilizing a mix of both equity and debt capital. A firm's value increases to a certain level of debt capital, after which it tends to remain constant, and eventually begins to decrease if there is too much borrowing.

Debt capital is cheaper than equity and as such a company can increase its value by borrowing up to a certain limit. The theory assumes that:

- i. The cost of debt will remain constant until a significant point is reached where it would start to rise;
- ii. The Weighted Average Cost of Capital (WACC) will fall immediately an external source of finance is introduced and will commence rising thereafter as the level of gearing increases. The company's market value and the market value per share will be maximized where WACC is not at the lowest point.

It is believed that there is an optimal capital structure which maximizes the firm's value and minimizes the cost of capital, and that the firms' value cannot be the same at different levels of capital structure.

Empirical Review

Sunday (2015) in his study on capital structure and corporate performance in emerging markets such as Nigeria found that long-term debts contributes significantly and positively in boosting returns to equity owners. Also, Arowoshegbe and Idialu (2013) conducted a study on capital structure and profitability of quoted companies in Nigeria and found that leverage (debt equity ratio) and firm performance are significantly and relatively associated. However, the study of Saeedi and Mahmoodi (2011) on capital structure and firm performance in Iran revealed evidence of positive association between capital structure components (short-term debt, long-term debt and total debt) and ROE.

A study by Akintoye (2008) found that performance measures (for instance returns on assets, earnings per share) are significantly responsive to leverage (degrees of financial leverage and operating leverage). The study aimed at investigating the relationship between Capital structure and performance of selected food and beverage companies in Nigeria. Abor (2005) conducted a

study on the influence of capital structure on profitability of listed companies on the Ghana Stock Exchange and found that short-term debt and return on equity (ROE) are significantly and positively related. The result also indicated that firms that earn a lot use more short-term debt to finance their business than firms that earn less. In other words, short-term debt is a vital source of financing operation of Ghanaian firms, because it represents 85% of total debt financing. Roden and Lewellen (1995) examined the capital structure of 48 U.S firms during the period (1981-1990) and revealed a positive relationship between profitability and capital structure.

Whereas, the study of Maina and Ishmail (2014) revealed components of capital structure (such as long-term debt, short-term debt and total debt) had no significant effect on the performance (Tobin's Q) of listed firms in Kenya. But that firm size, asset tangibility, opportunity growth and sales growth are important determinants of capital structure. Another study also in Malaysia by San and Heng (2011) on capital structure and corporate performance based on construction companies revealed that capital structure and ROA, as well ROE had no relationship for large, medium and small construction companies. Other studies showed either poor or no statistical relationship between capital structure and performance (Ebaid, 2009; Tang & Jang, 2007). Ebaid (2009) in particular, investigated the impact of capital structure choice on performance of 64 firms covering the period 1997-2005 in the Egyptian capital market. He employs three accounting-based measures; including ROA, ROE and gross profit margin and concludes capital structure choices, generally, have a weak to no-impact on firm performance.

But the study carried out by Soumadi and Hayajneh (2012) examining the effect of capital structure on the performance of listed Jordanian firms found that capital structure is statistically and negatively in association with performance. Their study also found out that high financial leverage and low financial leverage firms have no significant difference in their performance. Their study utilized Ordinary Least Squares (OLS) technique in analysing the data obtained from 76 firms for the period 2001-2006. Ahmad, Abdullah and Roslan (2012) examined the effect of capital structure on the firm performance of public listed companies in Malaysia covering two major sectors (Consumers and Industrial sectors). Fifty-Eight (58) firms were used as the sample covering the period 2005-2010. The result indicated that there is significant relationship between capital structure variables (long-term debt and short-term debt) and performance variable (return on asset). They found that short term debt is negatively and significantly related to returns on assets. In addition, Huang and Song (2006) found a negative correlation between leverage and performance (earnings before interest and tax to total assets) in Chinese firms. Kester (1986) found a negative relationship between capital structure and performance (profitability) in the U.S and Japan. Similar results were reported by Friend and Lang (1988), Rajan and Zingales (1995) in the G-7 countries.

Research Gap

The literature on the relationship between capital structure and firm performance has produced mixed results. Some have found a positive relationship between long term financing choices and performance, while some found no relationship at all, yet others reported that capital structure had negative impact performance. For instance, the studies conducted by Sunday (2015), Arowoshegbe and Idialu (2013) and Saeedi and Mahmoodi (2011) revealed positive connection between capital structure and performance. While the studies of Maina and Ishmail (2014), San and Heng (2011)

and Ebaid (2009) reported no relationship; yet the studies carried out by Soumadi and Hayajneh (2012), Ahmad, Abdullah and Roslan (2012) and Huang and Song (2006) provided evidence of negative impact. These controversies in the study findings of previous researchers indicated the existence of a gap in literature, which calls for further investigations. This study was therefore aimed at contributing to that gap in literature.

METHODOLOGY

Research Design and Source of data

This study adopted a content analysis approach based on ex post facto research design. This approach was adopted because the study made use of historical data which had been generated through past activities of the companies included in the study. This makes it extremely impossible for the researchers to manipulate the data since they involve events that had already taken place. The focus of this study was the impact of capital structure on the performance of listed consumer goods firms in Nigeria. Secondary data for the study was collected from annual financial statements of seven (7) firms in consumer goods sector listed on the Nigerian Stock Exchange for the period 2009 to 2018 through content analysis.

Population and Sample of the Study

The population for the study is made up of the twenty eight (28) consumer goods sector companies listed on the Nigerian Stock Exchange as per NSE (2019) listing. The sample size includes seven (7) companies making up to 25% of the population. Sampled companies were selected based on the availability of data on the adopted variables for the ten years period covered by the study. The sampled seven companies are Champion Breweries, Flour Mills of Nigeria, Guinness Nigeria, Honeywell Flour Mill, Nestle Nigeria, Union Dicon Salts, and Vitafoam Nigeria.

Variables of the Study

This study adopted return on assets (ROA) as the measure of performance and the dependent variable. Components of capital structure (the independent variables) include debt to equity ratio (DEQ), debt to capital employed ratio (DCE) and equity to capital employed ratio (ECE). Return on assets ratio: This is calculated by dividing net income or profit after tax by total assets multiplied by 100. It is a measure of performance which indicates the efficient management and utilization of a company's assets in generating income or profits, and it takes into account the interest of all stakeholders of a firm. Debt to equity ratio: This is the total long term debts or liabilities scaled by the shareholders equity multiplied by 100. It is a measure of the amount of borrowed funds relative to owners' funding employed by a firm. Debt to capital employed ratio: This is calculated by dividing the company's long term debts or liabilities by total capital employed multiplied by 100. Capital employed is long term interest bearing debt plus shareholders equity. It measures the claim of debt owners over the assets of the company or the proportion of a firm's assets financed with borrowed funds. Equity to capital employed ratio: This is the owners' equity or funds scaled by total capital employed multiplied by 100. Capital employed refers to total assets less total current liabilities or share capital, reserves, and retained earnings plus long- term debts. It is a measure of the owners' claim over the assets of a firm or the proportion of the company's assets financed with shareholders' funds.

Model Specification

This study adopted a modified version of a regression model which has often been employed by most researchers such as Etale (2019). The model is as follows:

$$ROA = f (DEQ, DCE, ECE)$$

The above model is specifically expressed in equation form as follows:

$$ROA = \beta_0 + \beta_1 DEQ + \beta_2 DCE + \beta_3 ECE + \mu \quad \text{Equation 1}$$

Where:

ROA = Return on assets used as a measure of firm performance

DEQ = Debt to equity ratio, a component of capital structure and one of the dependent variables

DCE = Debt to capital employed ratio

ECE = Equity to capital employed

β_0 = Constant or intercept term

$\beta_1, \beta_2, \beta_3$ = coefficients or parameters of the independent variables to be estimated through the regression. By expectation each of them is not equal to zero

μ = the error term of the regression equation

Data Analysis Techniques

The study used descriptive statistics and multiple regression analysis based on the E-view 9.0 software as the techniques of data analysis. The multiple regression technique possesses the unique property of best linear unbiased estimator including efficiency and consistency when compared with other estimating techniques.

Data Presentation, Results and Discussion of Findings

Data Presentation

Data generated through content analysis of the companies included in the study are presented in Table 1. The data represent average annual figures for the variables computed from the seven companies included in the study for the ten years period 2009 to 2018.

Table 1: Average Annual Ratios of the Study Variables

Year	ROA	DEQ	DCE	ECE
2009	-695.24	9.23	5.68	5.62
2010	-100.71	4.53	1.43	4.87
2011	-14.23	2.78	-13.04	8.71
2012	22.17	5.05	1.83	5.60
2013	51.29	5.83	2.02	5.52
2014	-40.78	11.42	6.21	5.28
2015	28.91	11.33	6.19	5.34
2016	313.13	12.78	7.43	5.37
2017	-57.81	6.06	3.45	5.65
2018	-164.03	4.78	2.18	5.80

Source: Researchers' Computation from Annual Reports of Sampled Firms

Descriptive Statistics

Table 2 shows the summary descriptive statistics of the variables. The table shows that ROA, DEQ, DCE and ECE has mean of -65.73, 7.379, 2.338, and 5.77 respectively. The maximum values of

ROA, DEQ, DCE and ECE are 313.13, 12.78, 7.43 and 8.71 respectively, while the minimum values are -695.24, 2.78, -13.04 and 4.87 respectively. Table further shows that the standard deviation of ROA, DEQ, DCE and ECE are 254.82, 3.49, 5.83, and 1.06 respectively. This indicates that ROA is the most dispersed variable among the variables in the study, while ECE is the least dispersed among the variables. The Jarque-Bera statistics and the associated probability values show that ROA and DEQ are normally distributed with probabilities of 0.07 and 0.6 (which are greater than 5 per cent), respectively; while DCE and ECE are not normally distributed with probability values of 0.005 and 0.0002 (which are less than 5 per cent), respectively.

Table 2: Descriptive statistics

	ROA	DEQ	DCE	ECE
Mean	-65.73000	7.379000	2.338000	5.776000
Median	-27.50500	5.945000	2.815000	5.560000
Maximum	313.1300	12.78000	7.430000	8.710000
Minimum	-695.2400	2.780000	-13.04000	4.870000
Std. Dev.	254.8242	3.497982	5.829577	1.062881
Skewness	-1.364615	0.369310	-1.981431	2.361774
Kurtosis	5.213722	1.624542	6.111147	7.246062
Jarque-Bera	5.145527	1.015602	10.57647	16.80873
Probability	0.076324	0.601817	0.005051	0.000224
Sum	-657.3000	73.79000	23.38000	57.76000
Sum Sq. Dev.	584418.5	110.1229	305.8558	10.16744
Observations	10	10	10	10

Source: E-view 9.0 Output

Regression Results

Table 3: OLS Regression Results

Dependent Variable: ROA				
Method: Least Squares				
Date: 08/13/19 Time: 06:01				
Sample: 2009 2018				
Included observations: 10				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1189.732	1585.126	0.750560	0.4813
DEQ	65.63702	58.30533	1.125747	0.3033
DCE	-76.06806	71.88356	-1.058212	0.3307
ECE	-270.4208	295.7406	-0.914385	0.3958
R-squared	0.178719	Mean dependent var		-65.73000
Adjusted R-squared	-0.231922	S.D. dependent var		254.8242
S.E. of regression	282.8344	Akaike info criterion		14.41677
Sum squared resid	479971.9	Schwarz criterion		14.53781
Log likelihood	-68.08387	Hannan-Quinn criter.		14.28400
F-statistic	0.435220	Durbin-Watson stat		0.749462
Prob(F-statistic)	0.735818			

Source: E-views 9.0 Output

Table 3 shows the results of the OLS regression analysis. From the results, none of the explanatory

variables is significant to explain the dependent variable. Secondly, the coefficient of determination (R-squared) and its counterpart adjusted R-squared are less than the 0.25 threshold for acceptance (fitness or goodness) of the model. Furthermore, the Durbin-Watson statistics (0.749) is less than the 2.0 benchmark, which indicates the presence of serial correlation. This makes the model unsuitable for the purpose of explaining the dependent variable; as the results would be spurious. The model is therefore adjusted by differencing the variables as follows. The differenced OLS regression results are presented on Table 4.

Table 4: Differenced OLS regression results

Dependent Variable: D(ROA)				
Method: Least Squares				
Date: 08/13/19 Time: 06:02				
Sample (adjusted): 2010 2018				
Included observations: 9 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	64.78627	77.52999	0.835629	0.4415
D(DEQ)	87.07039	43.65281	1.994611	0.1026
D(DCE)	-118.5838	49.36532	-2.402167	0.0615
D(ECE)	-441.3688	184.0768	-2.397743	0.0618
R-squared	0.539591	Mean dependent var		59.02333
Adjusted R-squared	0.263346	S.D. dependent var		268.0386
S.E. of regression	230.0537	Akaike info criterion		14.01560
Sum squared resid	264623.5	Schwarz criterion		14.10326
Log likelihood	-59.07022	Hannan-Quinn criter.		13.82644
F-statistic	1.953305	Durbin-Watson stat		1.657288
Prob(F-statistic)	0.239430			

Source: E-views 9.0 Output

DISCUSSION OF FINDINGS

Table 4 shows the differenced OLS regression results. From table 4, DEQ has a positive coefficient of 87.07, meaning that a unit increase in DEQ will result in 87.07 units increase in ROA. However, this is not so with DCE and ECE, which have negative coefficients. DCE has a negative coefficient of -118.58, meaning that a unit increase in DEC will result in 118.58 units decrease in ROA. Also, ECE has a negative coefficient of -441.37, meaning that a unit increase in ECE will result in 441.37 units decrease in ROA.

The t-statistics and their associated probabilities show that DEQ has a t-statistic of 1.994 with a Probability value of 0.103, which is not significant at 5 per cent; but significant at 10 percent. DCE has a t-statistic of -2.402 with a probability value of 0.062, which is not significant at 5 percent, but significant at 10 per cent. Finally, ECE has a t-statistic of -2.398 with a probability value of 0.062, which is not significant at 5 percent, but significant at 10 percent. The overall result shows that none of the variables is significant at 5 percent, but all of them become significant at

10 per cent level.

R-squared is 0.54 and adjusted R-squared is 0.26. This is an indication that the model is good enough to explain the dependent variable. Also, the R-squared value of 0.5395 means that about 54 per cent of changes in the dependent variable ROA are accounted for by combined changes in the explanatory variables DEQ, DCE, and ECE. F-statistic is 1.9533 with a Probability value of 0.2339, are not significant at 5 per cent. This means that the explanatory variables, jointly do not significantly explain the changes in the dependent variable ROA at 5 per cent.

Over all, the regression results used to verify the relationship between capital structure (DEQ, DCE and ECE) and firm performance (ROA) indicated no significant relationships between the explanatory variables and response variable. Consequently, the null hypotheses are accepted leading to the conclusion that capital structure does not significantly affect firm performance of listed companies in the consumer goods sector of Nigeria.

Test of Hypotheses

DEQ and ROA

DEQ has no significant effect on ROA. From Table 4, the coefficient of DEQ is 87.07 and the P-value is 0.10. This means that DEQ has positive effect on ROA but this is not significant at 5% level. Therefore the null hypothesis is accepted. This is in line with the findings of (Sunday, 2015; Arowoshegbe & Idialu, 2013; and Saeedi & Mahmoodi, 2011).

DCE and ROA

DCE has no significant influence on ROA. Again from Table 4, the coefficient of DCE is -118.58 with P-value of 0.06. This means DCE has negative influence on ROA, which is also not significant at 5% level. So the null hypothesis is accepted. This finding agrees with the study results of (Soumadi & Hayajneh, 2012; Ahmad, Abdullah & Roslan, 2012; and Huang & Song, 2006).

ECE and ROA

ECE has no significant impact on ROA. Table 4 shows that the coefficient of ECE is -441.37 with P-value of 0.06. This means DCE has negative influence on ROA, but also not significant at 5% level, and the null hypothesis is accepted. This finding agrees with the study results of (Soumadi & Hayajneh, 2012; Ahmad, Abdullah & Roslan, 2012; and Huang & Song, 2006).

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

This study examined the link between capital structure and firm performance in the consumer goods sector of Nigeria using secondary data for the period 2009 to 2018. The summary of the findings are as follow: Debt to equity ratio is positive but insignificantly related to return on assets; Debt to total capital employed ratio is negatively associated with return on assets but the link is not significant; and Equity to total capital employed ratio is also negative but insignificantly linked with return on assets. Over all, capital structure has no significant effect on firm performance in the consumer goods sector. This implies that other factors not included in the model of this study

rather than the adopted independent variables are the determinants of performance in the consumer goods sector.

CONCLUSION

This study analysed the link between capital structure and performance of consumer goods companies in Nigeria using as sample of seven firms representing 25% (Champion Breweries, Flour Mills of Nigeria, Guinness Nigeria, Honeywell Flour Mill, Nestle Nigeria, Union Dicon Salts, and Vitafoam Nigeria). The study adopted return on assets as proxy for firm performance (the response variable), while debt to equity ratio, debt to capital employed ratio and equity to capital employed ratio were the components of capital structure used as explanatory variables. Secondary data was generated from the annual reports of the sampled companies through content analysis for the period 2009 to 2018. The employed descriptive statistics and regression analysis based on the E-view 9.0 software as techniques to analyse data. The results revealed that capital structure had no significant effect of the performance of listed consumer goods sector companies. The study concluded that other factors influence performance in the consumer goods sector rather than DEQ, DCE and ECE. In other words, the selected capital structure variables are not the major determinants of firm performance in the consumer goods sector in Nigeria.

Recommendations

Based on the findings of the study the following recommendations are made:

- (a) That firms in the consumer goods sector should finance their activities with retained earnings and use debt as a last option as this is consistent with the Perking Order theory, which states that there is hierarchy in choosing sources of financing.
- (b) That future researchers should analyse the indirect effects of capital structure on firm performance by the introductions of other factors. Also, further studies can be conducted on other sectors of the economy to be able to make more generalized inferences.
- (e) Managers are advised to consider the use of debt finance in their capital mix up to the optimal limits, though with caution, as debt to equity ratio provided positive effect though not significant on performance.

References

- Abor, J. (2005) The effect of capital structure on profitability: Empirical analysis of listed firms in Ghana, *Journal of Risk Finance*, 6(5), 438-445
- Ahmad, Z., Abdullah, N. M. H. & Roslan, S. (2012) Capital structure effect on firms Performance: Focusing on consumers and industrial sectors on Malaysian firms, *International Review of Business Research Papers*, 8(5), 137-155
- Akintoye, I. R. (2008) Sensitivity of performance to capital structure, *European Journal of Social Science*, 7(1), 23-31
- Amidu, M. (2007) Determinants of Capital Structure of Banks in Ghana: An Empirical Approach, *Baltic Journal of Management*, 2(1), 67-79
- Arowoshegbe, A. O. & Idialu, J. O. (2013) Capital structure and profitability of quoted companies in Nigeria, *International Journal of Business and Social Science Research*, 3(3), 99-106

- Baral, K.(2004). Determinants of Capital Structure: A case study of listed companies of Nepal. *Journal of Nepalese Business Studies*, 1(1), 1-13
- Chou, S. & Lee, C. (2010) The Research on the effects of capital structure on firm Performance and evidence from the non-financial industry of Taiwan 50 and Taiwan mid-cap 100 from 1987-2007, *Journal of Statistics and Management Systems*, 13(5), 1069-1078
- Dandy, J. (2000) Financing Issues: Who issues Stocks? *Journal of Financial Econometrics*, 76(3), 549-582
- Ebaid, I. E. (2009) The Impact of capital structure choice on firm performance: Empirical evidence from Egypt, *Journal of Risk Finance*, 7(5), 477-487
- Etale, L. M. (2019) Reassessing the link between fiscal policy and economic growth in Nigeria, *International Journal of Developing and Emerging Economies*, 7(3), 1-13
- Friend, I. & Lang, L. (1988) An empirical test of the impact of managerial self-interest on corporate capital structure, *Journal of finance*, 43, 271-281
- Huang, S. & Song, F. (2006) The determinants of capital structure: Evidence from China, *China Economic Review*, 17(1), 14-36
- Kester, W. (1986) Capital and ownership structure: A comparison of United States and Japanese manufacturing corporations, *Financial Management*, 15, 5-16
- Kochar, A. (1997) An empirical investigation of rationing constraints in rural credit markets in India, *Journal of Development Economics*, 53(2), 339-371
- Krishnan, V. S. & Moyer, R. C. (1997) Performance, Capital Structure and Home country: An analysis of Asian corporations, *Global Finance Journal*, 8(1), 129-143
- Myers, S. C. (2001) Capital Structure, *The Journal of Economic Perspectives*, 15(2), 81-102
- Myers, S. C. & Majuf, N. S. (1984) Corporate financing and investment and investment decisions when firms have information that investors do not have, *The Journal of Financial Economics*, 13(2), 187-221
- Maina, L. & Ishmail M. (2014) Capital structure and financial performance in Kenya: Evidence from firms listed at the Nairobi Securities Exchange. *International Journal of Social Sciences and entrepreneurship*, 1(11), 209-223
- Muritala, T. A. (2012). An empirical analysis of capital structure on firm's performance in Nigeria. *International Journal of Advances in Management and Economics*, 1(5), 116-124
- NSE (2019) Listed companies in the Nigerian Stock Exchange, <https://nigerianinfopedia.com/listed-companies-nigeria-stock-exchange/> Accessed on 17, July 2019
- Olokoyo, F. O. (2012) Foreign direct investment and economic Growth: A case of Nigeria, *Journal of Management Research*, 4(1), 1-20
- Owualah, S. I. (2000) *Principles of Financial Management*, Lagos, G. Mag Investments Ltd
- Pandey, I. M. (2001) Capital structure and firm characteristics: Evidence from an emerging market, Indian Institute of Management, Ahmedabad, Working Paper 2001-10-04
- Pratheepkanth P (2011). Capital structure and financial performance: Evidence From selected business companies in Colombo Stock Exchange Sri Lanka, *Journal of Arts, Science and Commerce*, 2(2), 171-181
- Rajan, R. G. & Zingales, L. (1995) What do we know about capital structure? Some evidence from international data, *Journal of Finance*, 50(5), 1421-1460

- Roden, D. & Lewellen, W. (1995) Corporate capital structure decisions: Evidence from leveraged buy-outs, *Financial Management.*, 24, 76-87
- Saeedi, A. & Mahmoodi, I. (2011) Capital structure and firm performance: Evidence from Iranian companies, *International Research Journal of Finance and Economics*, 70, 20-30
- San, T. O. & Heng, B. T. (2011) Capital structure and corporate performance of Malaysian construction sector, *International Journal of Humanities and Social Science*, 1(2), 28-36
- Sandeep, G. (2012) The link between operational efficiency and insolvency: The case of food processing industry in India, *Journal of Accountancy, Business and the Public Interest*, 3(3), 143-159
- Smart, S. B. Megginson, W. L. & Gitman, L. J. (2004), *Corporate Finance*, 1st Edition Mason, Thomson South-Western
- Solomon, E & Weston, F (1973) *The Theory of Financial Management*, New York, Columbia University Press
- Soumadi, M. M. & Hayajneh, O. S. (2012) Capital structure and corporate performance: Empirical study on the public Jordanian shareholding firms listed in the Amman Stock Market, *European Scientific Journal*, 8(22), 173-189
- Sunday, I. (2015) Another look at capital structure and corporate performance in emerging markets: The case of Nigeria, *Asian Journal of Business Management*, 7(1), 1-12
- Tang, C. H. & Jang, S. S. (2007) Revisit to the determinants of capital structure: A comparison between lodging firms and software firms, *International Journal of Hospitality Management*, 26(1), 175-187
- Tekel, A. (2009) Determinants of capital structure for Turkish firms: A panel data analysis, *International Journal of Finance and Economics*, 29, 180-187