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**Does leverage affect the financial performance  
of Nigerian firms?**

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**Abstract**

**Aim/purpose** – This study examines the relationship between leverage and financial performance of Nigerian firms between the years 2007 and 2016.

**Design/methodology/approach** – The study adopted *ex-post facto* research design to retrieve and study data for events which were already in existence. Inferential statistics adopted econometrics models with a concentration on panel data using regression analysis to achieve the three specific objectives of the study. The surrogates for the independent variable (financial leverage) were Debt Ratio (DR); Debt-Equity Ratio (DER); and Interest Cover Ratio (ICR) while Return on Capital Employed (ROCE), the only dependent variable, was used as financial performance proxy. Three control variables – Firm Size (SZ), Sales Growth (SG) and Growth in Gross Domestic Product (GGDP) were included in the model to capture other firms – specific and macroeconomic variables that may have an influence on the financial performance of the selected firms.

**Findings** – The Random Effects Generalised Least Squares (REGLS) revealed a positive and significant effect between leverage (DR and DER) and ROCE ( $p < 0.05$ ). However, ICR has a positive but insignificant effect on ROCE ( $p > 0.05$ ). The outcome of the study was consistent with the Static trade-off theory of capital structure.

**Research implications/limitations** – The study suggests that firms should continuously employ debt capital in order to benefit from available tax shields which ultimately enhance profitability. The limitation of the study is that only firms in the food and beverage sector in Nigerian business environment were covered by the study.

**Originality/value/contribution** – The study contributed to the existing theory and literature by using empirical evidence from an emerging market to bridge the existing gap in knowledge of the effect of leverage on the performance of firms.

**Keywords:** capital structure, leverage, Nigeria, performance.

**JEL Classification:** M41, M19.

## 1. Introduction

Financial leverage is the extent to which a corporate entity uses debt capital to finance investment opportunities available to the business. Gatsi, Gadzo, & Akoto (2013) opine that using debt capital effectively to generate returns on investment indicates the efficiency of corporate governance. The application of debt capital by an entity will increase the returns on equity capital in so far that the revenue generated from its usage is greater than the cost financing the project (Abdul & Adelabu, 2015).

However, Abubakar, Maishanu, Abubakar, & Aliero (2018) affirm that an appropriate combination of different sources of capital, particularly between debt and equity is desirable for every business entity. From the available literature, debt capital is seen to be cheaper (in terms of inherent risk) than equity capital. There are different schools of thoughts on the optimal level of leverage that a firm can undertake. One of the positions suggests a level where the trade-off between the cost of bankruptcy and tax advantage available to the firm by charging of interest expenses can be achieved (Ahmed, Awais, & Kashif, 2018). However, this position of an optimal level has been challenged by many authors, including Modigliani & Miller (1958).

The decision on the appropriate combination of debt and equity capital that constitutes capital structure is a significant financing decision that firms usually face. It is usually difficult for managers to ensure that business organisations operate on an optimal mix of equity and debt capital (Abdul & Adelabu, 2015). It is a task that management continually struggles with to ensure an adequate source of long-term financing that maximises shareholders wealth (Njeri & Kagiri, 2013).

There is an ever increasing and growing variance in performance of the food and beverage firms with relation to sourcing for the fund to finance opera-

tions. Nigeria food and beverage sector is a large sector and is in line with agriculture wholesale and retail trade. The food and beverage industry has a distinctive role to play in increasing economic opportunity because it is common to human life.

Available studies showed that many researchers from developed countries down to emerging economies like Nigeria have examined different areas of financial leverage, but relatively few studies have been undertaken in the food and beverage firms. Studies like those of Abubakar et al. (2018) focused on leverage and performance of Nigerian listed conglomerate firms. Onyenwe & Glory (2017) investigated the influence of leverage on the performance of Nigerian banks. Hussain, Shahid, & Akmal (2016) focused on the effect of leverage on the performance of Pakistani textile firms.

The motivation for the current work stemmed from the fact that few studies were conducted in developing countries and findings from these studies produced mixed results. Hence, this study attempts to reduce the knowledge gap to the barest minimum. The specific objectives are to:

1. Examine the effect of debt ratio on the financial performance of Nigerian companies.
2. Investigate the relationship between debt-equity ratio and financial performance of Nigerian companies; and
3. Evaluate the influence of interest cover on the financial performance of Nigerian listed companies.

The second part of the paper deals with conceptual, theoretical and empirical reviews of literature. The third section discusses the methodology adopted for the study while the fourth part presents research findings and results. The fifth section presents the discussion of findings, while section six concludes the study and makes recommendations based on the outcome of the results of the study.

## **2. Literature review**

### **2.1. Conceptual review**

Financial leverage measures how much a firm employs equity and debt capital to finance its investment opportunities. This involves the use of third-party funds to finance operating profit and taxes (Abdul & Adelabu, 2015). According to Pandey (2010), a firm can be unlevered or levered. An unlevered firm does

not make use of debt capital in its capital structure. It is an all-equity firm. On the other hand, a levered firm employs both debt and equity capital to finance its operation.

Debt Ratio (DR), a proxy of leverage, can be described as a measure of the proportion of funds provided by creditors in relation to the total assets of the firm. It is simply the ratio of total debt to total assets. A higher ratio indicates higher leverage and lowers debt capacity. Myers (2002) suggests that use of a high level of debt has the advantage of tax shield, which enhances profitability, but this can also lead to the possibility of being taken over by the creditor; causes financial distress and increases agency cost (Mule & Mukras, 2015).

Another proxy of leverage according to Enekwe, Agu, & Eziedo (2014) is Debt-Equity Ratio (DER). It measures the proportion of equity to debt used to finance company's assets. DER is commonly used as an indicator of financial leverage, but there are several methods that can be used to compute it. The ratio of long-term debt to total equity is adopted in this study.

Interest Cover Ratio (ICR) or Coverage Ratio (CR), is a measure of financial leverage which indicates the capacity of a firm to meet fixed financial charges. This ratio recognises the fact that some organisations in Nigeria make use of assets on a lease contract and incur long-term payment of premium (Ezeamama, 2010). Investors usually have an idea of the financial risk of a firm by comparing the interest coverage ratios with the acceptable industry standard. The higher the ICR is, the better the ability of the firm to service interest obligations on debt (Bonazzi & Mattia, 2014).

## **2.2. Theoretical framework**

Capital structure studies have continued to attract interest from academics and professionals since the seminal work of Modigliani & Miller's (1958) 'irrelevance theory of capital structure'. Since the last four decades, several theories of capital structure have been developed with the sole objective of challenging the 'irrelevance theory' by relaxing some of the assumptions of the theory. Two such theories are relevant to this study.

The first of the modern theories is referred to as Static trade-off theory. The theory assumes that firms trade off the benefits and costs of debt and equity financing and move towards an 'optimal' mix of the various sources of finance. The theory suggests that a firm can continue to make use of debt in its capital structure until an optimum level is reached, where the benefit of using the debt

(tax shield) is equal to the cost of using the debt (bankruptcy). This theory, therefore, predicts a direct association between capital structure and performance.

The other one is the Pecking order theory, which was propounded by Myers (1984) and Myers & Majluf (1984). The theory explains that firms follow a financing hierarchy in selecting the combination of sources of capital that are available. This arose as a result of information asymmetry between the firm's managers-insiders and the outsider shareholders (Myers, 1984). The theory suggests that funds can be obtained from internal and external sources. The firm will, first of all, employ the internal source (retained earnings) to finance its investment project and if this is not enough, then the use of the external source is considered. However, the debt capital (which is considered to be cheaper than equity capital because of its tax shield) is used before equity capital (Chen & Chen 2012; Luigi & Sorin, 2014; Onaolapo & Kajola, 2010; Paramasivan & Subramanian, 2016). The theory predicts a negative association between capital structure and performance.

### **2.3. Empirical review**

Ahmad, Abdullah, & Rosian (2012) explored the impact of leverage on the performance of 58 Malaysian firms for the period of 2005-2010. Using regression analysis, the result revealed that the two capital structure proxies (short-term and long-term debts) have a significant association with return on assets (ROA) and return on equity (ROE). However, using lagged values, the result indicated that short-term debt (STD), total debt (TD) and long-term debt (LTD) have no significant relationship with performance.

Leon (2013) assessed the effect of leverage on the performance of 30 manufacturing outfits in Sri Lanka for 2008-2012. Findings revealed that leverage had a negative and significant association with the return on equity and no significant relationship with the return on assets.

Muhoro (2013) examined the relationship between capital structure (leverage) and financial performance of 5 listed construction and allied companies in Kenya between 2003 and 2012. The result of the regression analysis revealed an insignificant relationship between leverage proxies and performance.

Enekwe et al. (2014) investigated the influence of Leverage-Debt Ratio (DR), Debt-Equity Ratio (DER) and Interest Cover Ratio (ICR) on performance (ROA) of 3 Nigerian pharmaceutical companies over the period of 2001-2012.

The results showed that DR and DER have an negative relationship with ROA while ICR has a direct association with ROA.

Investigating the nexus between leverage and performance, Ngambi & Wase (2015) used data from 40 manufacturing firms located in Doula and Yaoundé, Cameroun during the period of 2009-2011 to address the issue. Findings revealed that leverage was negatively related to performance.

The relationship between leverage and performance of companies listed in Nigeria was examined by Dada & Ghazali (2016). The study covered a large sample of 100 companies out of 186 listed companies for a 5-year period (2010-2014). The result suggested that asset turnover and tangibility have a positive and significant relationship with Tobin's Q, but the relationship between risk and Tobin's Q was negative and significant.

El-Maude, Addul-Rahman, & Ahmad (2016) assessed the effect of leverage on the financial performance of 4 Nigerian listed cement companies for 2010-2014. Using correlation and regression techniques, the result revealed an insignificant relationship between capital structure (long and short-term liability) and performance (ROA and ROE).

Abubakar et al. (2018) studied the relationship between leverage and financial performance (measured with Return on Asset) of quoted conglomerate firms in Nigeria for 2005-2016. The regression results of the fixed effects revealed that short-term debt ratio (STDR) has a positive and significant effect on return on asset at 1% level of significance, while LTDR and DER have an inverse and significant effect on ROA.

### **3. Research methods and procedure**

The study adopted *ex-post facto* research design to retrieve and study data for events which were already in existence. The population of the study comprises 26 listed food and beverages firms as of 31 December 2017. Seven (7) firms were selected for the periods, 2007-2016 using a probabilistic random sampling technique. Secondary data adopted for the study were generated from the audited financial reports of the selected companies. These financial statements of the companies were audited by reputable professional audit firms and prepared in accordance with institutional and statutory requirements.

The independent variable of the study is financial leverage and in line with prior studies of Enekwe et al. (2014) and Nabeel & Hussain (2017), which was measured by debt ratio (DR); the debt-equity ratio (DER) and interest cover ratio

(ICR), while Return on Capital Employed (ROCE) was used as a proxy for the dependent variable, performance. The study covered a period of ten years (2007 to 2016). Inferential statistics adopted econometrics models with a concentration on panel data using regression analysis to achieve the three specific objectives of the study.

### **3.1. Statement of hypotheses**

The following research hypotheses were postulated and tested:

H<sub>01</sub>: There is no significant relationship between the debt ratio and financial performance.

H<sub>11</sub>: There is a significant relationship between the debt ratio and financial performance.

H<sub>02</sub>: There is no significant relationship between the debt-equity ratio and financial performance.

H<sub>12</sub>: There is a significant relationship between the debt-equity ratio and financial performance.

H<sub>03</sub>: There is no significant relationship between the interest cover ratio and financial performance.

H<sub>13</sub>: There is a significant relationship between the interest cover ratio and financial performance.

### **3.2. Model specification**

The general model for the study is:

$$Y = f(X, C)$$

where:

Y = Performance (dependent variable),

X = Financial Leverage (independent variable),

C = Control Variables.

The empirical model is specified as in equation (1):

$$\text{ROCE} = f(\text{DR}; \text{DER}; \text{ICR}; \text{SZ}; \text{SG GGDP}) \quad (1)$$

where:

ROCE = Return On Capital Employed,

DR = Debt Ratio,

DER = Debt-Equity Ratio,  
 ICR = Interest Cover Ratio,  
 SZ = Firm Size,  
 SG = Sales Growth,  
 GGDP = Growth in GDP.

Therefore, the specific model is as presented in equation (2):

$$ROCE_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 DER_{it} + \beta_3 ICR_{it} + \beta_4 SZ_{it} + \beta_5 SG_{it} + \beta_6 GGDP_{it} + \varepsilon_0 \quad (2)$$

where:

$\beta_0$  = constant,

$\beta_1, \dots, \beta_6$  – coefficients of the independent/control variables,

$\varepsilon$  = stochastic error term.

### 3.3. Variable description and measurement

Table 1 presents the way the variables used in the study were described and measured.

**Table 1.** Measurement of variables

| Variable                         | Abbreviation | Type        | Measurement  |
|----------------------------------|--------------|-------------|--|
| Return on capital employed       | ROCE         | Dependent   | <b>Profit before tax</b><br>Capital employed                               |
| Debt ratio                       | DR           | Independent | <b>Total Liabilities</b><br>Total Asset                                    |
| Debt to equity ratio             | DER          | Independent | <b>Total liabilities</b><br>Total equity                                   |
| Interest cover ratio             | ICR          | Independent | <b>Earning per period</b><br>Interest expense                              |
| Firm size                        | SZ           | Control     | Natural log of Total Asset   |
| Sales growth                     | SG           | Control     | <b>Turnovers – Turnover<sub>t-1</sub></b><br><b>Turnover<sub>t-1</sub></b> |
| Growth in Gross Domestic Product | GGDP         | Control     | <b>GDP<sub>t</sub> – GDP<sub>t-1</sub></b><br>GDP <sub>t-1</sub>           |

Source: Akinlo & Asaolu (2012); Enekwe et al. (2014); Kajola, Adedeji, Olabisi, & Babatolu (2018); Mohammed (2017); Nabeel & Hussain (2017).

## 4. Research findings/results

In this section, the data collected were analysed using descriptive, multiple regression analyses (fixed and random effects models).



## 4.1. Descriptive statistics

The descriptive statistics of the study variables are presented in Table 2.

In Table 2, the Jarque–Bera statistics of DR, DER, ICR, ROCE have a probability value of 0.000, 0.000, 0.000, 0.000, indicating the rejection of the null hypothesis that DR, DER, ICR, ROCE, follow a normal distribution. The maximum value of DR is 1.12 and a minimum value is 0.32. The average is 0.60 with a standard deviation of 0.18. The maximum value of DER is 45.7 and a minimum value is –10852. The average is –153 with a standard deviation of 1297.3. ICR ranges between –6.25 and 2076. The average is 48.4 with a standard deviation of 248. ROCE ranges between –5.55 and 3.24. The average is 0.23 with a standard deviation of 0.82.

**Table 2.** Summary of descriptive statistics

| Specification | ROCE    | DR    | DER      | ICR     | SZ     | SG      | GGDP   |
|---------------|---------|-------|----------|---------|--------|---------|--------|
| Mean          | .225    | .597  | –153.064 | 48.381  | 10.871 | .113    | .055   |
| Median        | .235    | .565  | 1.290    | 6.175   | 10.845 | .074    | .059   |
| Maximum       | 3.320   | 1.120 | 45.700   | 2076.00 | 11.470 | 1.318   | .095   |
| Minimum       | –5.550  | .320  | –10851.9 | –6.250  | 10.440 | –.230   | –.016  |
| Std. Dev      | .8201   | .1802 | 1297.30  | 248.016 | .274   | .244    | .030   |
| Skewness      | –4.270  | .630  | –8.186   | 7.975   | .370   | 2.849   | –1.010 |
| Kurtosis      | 39.035  | 3.236 | 68.012   | 65.681  | 2.469  | 13.784  | 3.570  |
| Jarque-Bera   | 4000.08 | 4.794 | 131      | 122     | 2.423  | 433.872 | 12.858 |
| Probability   | .000    | .000  | .000     | .000    | .298   | .000    | .002   |
| Observations  | 70      | 70    | 70       | 70      | 70     | 70      | 70     |

Source: Authors' own computation (2018).

For the control variables, the average firm size is about N75 billion or \$246 million (log inverse 10.871) with a minimum value of N28 billion or the United States \$92 million (log inverse 10.44) and maximum value of N295 billion or \$967 million (log inverse 11.47). The firm growth in sales (SG) averaged 11.34%, while average growth in the gross domestic product (GGDP) in the economy during the period of study was about 5.5%.

The variable with the highest variability from mean is ICR with a standard deviation of 248.016 and the variable with the least variability from mean is GGDP, with a standard deviation of 0.030.

## 4.2. Stationarity test

Table 3 depicts the result of stationarity test (through Augmented Dickey–Fuller approach) of the dependent and explanatory variables used in the study.

From Table 3, debt ratio (DR) has an augmented dickey fuller test statistics value of  $-6.183136$ , which is absolutely greater than the MacKinnon value at 1% level. This is significant at 1% and integrated at the level. The null hypothesis that DR has a unit root cannot be validated.

For Debt Equity Ratio with an Augmented Dickey–Fuller test statistics value of  $-3.000335$  implies that it is absolutely greater than the MacKinnon values at 10% level. This is significant at 10% and integrated at the level. The null hypothesis that DER has a unit root is rejected.

Interest cover ratio has an Augmented Dickey–Fuller test statistics value of  $-3.052366$ , which are absolutely greater than the MacKinnon values at 10% levels. This is significant at 10% and integrated at the level. The null hypothesis that ICR has a unit root is hereby rejected.

**Table 3.** Unit root test of the variables

| Variables | ADF Unit Root Test      |                         |                   |                      |
|-----------|-------------------------|-------------------------|-------------------|----------------------|
|           | At level                | First difference        | Second difference | Order of integration |
| DR        | $-6.183136$<br>(0.0017) | –                       | –                 | I(0)                 |
| DER       | $-3.000335$<br>(0.0722) | –                       | –                 | I(0)                 |
| ICR       | $-3.052366$<br>(0.0671) | –                       | –                 | I(0)                 |
| ROCE      | $-2.279045$<br>(0.1961) | $-3.736272$<br>(0.0336) | –                 | I(1)                 |

Source: Authors' own computation (2018).

ROCE has an Augmented Dickey-Fuller test statistics value of  $-3.736272$ , which at absolute is greater than the MacKinnon value at 5% level. This is significant at 5% and integrated at order one. The null hypothesis that ROCE has a unit root is hereby rejected.

### 4.3. Multicollinearity test

The study adopted the Variance Inflation Factor (VIF) method to test for multicollinearity among the explanatory variables. Gujarati & Porter (2009) and Wooldridge (2009) submit that an explanatory variable that has VIF of above 10.0 shows high multicollinearity with another explanatory variable. The result of the VIF test of the study is depicted in Table 4.

From Table 4, none of the explanatory variables has VIF of above 10.0. It ranges between 1.042 and 1.211; hence, there is no problem of multicollinearity between the study's explanatory variables.

**Table 4.** Summary of a multicollinearity test result

| Variable | VIF   | 1/VIF |
|----------|-------|-------|
| DR       | 1.211 | .826  |
| DER      | 1.100 | .908  |
| ICR      | 1.042 | .959  |
| SZ       | 1.141 | .876  |
| SG       | 1.082 | .915  |
| GGDP     | 1.092 | .916  |

Source: Authors' own computation (2018).

#### 4.4. Regression

Following the works of Muhoro (2013), Farrukh & Asad (2017), Abubakar et al. (2018) and Mouna, Ye, & Kenza (2018), the study conducted multiple regression analysis by using Fixed Effects Least Squares (FELS) and Random Effects Generalized Least Squares (REGLS) approaches. The results are presented in Table 5.

In Table 5, the Hausman (1978) specification test indicates a probability of 0.858, which is not significant at 5% level. It suggests that the Random Effect Generalized Least Squares (REGLS) is the appropriate tool for the data analysis (Gujarati, 2003; Gujarati & Porter, 2009; Wooldridge, 2009). The adjusted  $R^2$  value of 0.821 means that about 82% of the total variation in profitability is explained by the financial leverage and the rest which is not explained but covered by the error term. The Durbin–Watson value of 1.871 showed that there is no serial autocorrelation between the variables because the value is within the acceptable threshold.

The t-statistics for debt ratio and debt to equity are 5.570 and 17.032, respectively and significant at 1% level. We, therefore, invalidate the null hypothesis that debt ratio and debt-equity ratio have no significant effect on profitability when measured by return on capital employed. Thus, the alternate hypotheses 1 and 2 are validated.

The t-statistics of interest cover being 0.204 with a p-value of 0.839 implies that p-value is greater than 5%. We, therefore, fail to reject the null hypothesis that interest cover has no significant effect on financial performance (ROCE).

With DR, DER, and ICR having coefficients of 1.803, 0.001 and 0.0003, respectively, imply that all the independent variables have a positive relationship with financial performance.

**Table 5.** Regression results

|                         | Fixed effects |            |                        |      | Random effects |            |        |      |
|-------------------------|---------------|------------|------------------------|------|----------------|------------|--------|------|
|                         | Coeff         | Std. Error | t-stat                 | Prob | Coeff          | Std. Error | t-stat | Prob |
| Const                   | -6.624        | 3.831      | -1.729                 | .089 | -6.11          | 3.256      | -1.877 | .065 |
| DR                      | 2.000         | 0.341      | 5.859                  | .000 | 1.803          | .324       | 5.570  | .000 |
| DER                     | 0.001         | 3.3E-5     | 16.915                 | .000 | .001           | 3.26E-5    | 17.032 | .000 |
| ICR                     | 2.46E-5       | .0001      | .151                   | .880 | 3.3E-5         | .000       | 0.204  | .839 |
| SZ                      | .509          | .349       | 1.459                  | .150 | .473           | .295       | 1.603  | .114 |
| SG                      | .222          | .168       | 1.320                  | .192 | .207           | .167       | 1.238  | .220 |
| GGDP                    | 3.362         | 1.516      | 2.217                  | .031 | 3.262          | .452       | 2.245  | .028 |
| R-Square                |               |            | 0.875                  |      |                |            | 0.836  |      |
| Adjusted R <sup>2</sup> |               |            | 0.849                  |      |                |            | 0.821  |      |
| F-statistics            |               |            | 33.338***              |      |                |            | 53.694 |      |
| Prob (F-stat)           |               |            | .0000                  |      |                |            | 0.000  |      |
| Durbin-Watson stat      |               |            | 2.032                  |      |                |            | 1.871  |      |
|                         |               |            | Hausmans test (Chi-sq) |      |                |            | 1.938  |      |
|                         |               |            | Hausmans test (Prob)   |      |                |            | 0.858  |      |

\* Denotes statistical significance at 10%, \*\* denotes 5%, and \*\*\* denotes 1%.

Source: Authors' own computation (2018).

Regarding the control variables, Firm Size (SZ) has a t-value of 1.603 and p-value of 0.114 indicating a positive but an insignificant relationship with performance. The sales growth also has an insignificant relationship with performance (t-statistics of 1.238 and p-value of 0.220). However, Growth in the Gross Domestic Product (GGDP) with the t-statistics value of 2.245 and p-value of 0.028 has a positive and significant effect at 5% level on financial performance.

The F-statistics is 53.694 with a probability of 0.0000 indicating that the joint significance of the variables p-value is less than 5%. The null hypothesis that financial leverage has no significant effect on the financial performance of the selected food and beverage companies is invalidated. Thus, financial leverage has a significant influence on the financial performance of Nigerian firms.

## 5. Discussion of findings

From the results of the study, the debt ratio produced a positive and significant association with financial performance. It can be argued that in line with the submission of Myers (2002), Nigerian firms employed debt capital in order to

enjoy the benefit of the tax shield, which ultimately enhances profitability during the period of study. This finding is consistent with prior studies by Bei & Wijewardana (2012), Abdul & Adelabu (2015), Abubakar (2015) and Onyenwe & Glory (2017) but contrary to the study of Oyedokun et al. (2018), where results established no significant association between debts ratio and Return on assets. The null hypothesis 1 is hereby rejected. Thus, there is a significant effect of debt ratio on the performance of Nigerian quoted firms and this is in agreement with financial theory (Static trade-off).

The result further confirmed a positive and significant effect of debt-equity ratio on the performance of Nigerian firms. This result is in agreement with prior empirical studies of Flannery & Rangan (2006), Salawu & Agboola (2008) and Abdeljawad, Mat-Nor, Ibrahim, & Abdul-Rahim (2013), but was contrary to the outcome of the study of Abubakar et al. (2018) whose study discovered a positive and insignificant association between DER and ROA. Null hypothesis 2 is hereby rejected and the alternate hypothesis accepted. Thus, the debt-equity ratio affects the performance of Nigerian listed companies. This also supports the prediction of Static trade-off theory.

However, the result of regression confirmed that interest cover ratio has no significant influence on the financial performance of Nigerian firms. Null hypothesis 3 is upheld. The outcome of the study is supported by Enekwe et al. (2014), where the interest cover ratio has no significant effect on financial performance. This finding did not provide empirical support for any of the modern capital structure theories underpinning this study.

By juxtaposing the results of the effect of the three proxies of leverage on the financial performance of Nigerian firms, one can safely conclude that financial leverage has a combined effect on the performance of the firms. The findings of Salawu & Agboola (2008), Bei & Wijewardana (2012), Njeri & Kagiri (2013), Haron (2014), Abdul & Adelabu (2015), Yabs (2015), Abubakar (2015) and Onyenwe & Glory (2017) also support this outcome.

## **6. Conclusions**

### **6.1. Contribution to knowledge**

The effect of leverage on the financial performance of seven selected companies in the food and beverage sector of the Nigerian business environment for the period of 2007-2016 was investigated in this study. The combined result of

the study showed that all the identified measurements of financial leverage have a combined effect on the financial performance of listed firms. However, debt ratio and debt-equity ratio are the major predictors. It is concluded that financial leverage certainly affects performance especially in terms of return on capital employed.

The outcome of this study is not only unique to the Nigerian business environment, it is similar to other studies in emerging markets but different from the studies conducted in developed countries.

This finding, however, contradicts results of some prior empirical studies conducted in the developed markets, which were in line with the prediction of Pecking order theory, a negative and significant relationship was observed between leverage and performance (Acaravci, 2015; Hall, Hutchinson, & Michaelas, 2004; Kaya, 2014; Tzelepis & Skuras, 2004).

The primary cause of divergent results between studies conducted in developing/emerging economy and those of the developed countries may be as a result of underdevelopment of the capital market in the developing countries. Furthermore, weak regulatory institutions are common in the developing countries and this makes it extremely difficult for firms and individuals to access debt capital from financial and capital markets. All these impediments are not there in the developed markets.

## **6.2. Recommendations and implications of findings**

Following the outcome of this study, it is recommended that the debt ratio and the debt-equity ratio should be employed by corporate managers and professional financial experts in such a way that the costs of borrowing do not erode firms' return on capital employed so as to meet the overall firms' objective of shareholders' wealth maximisation.

Also, the regulatory agencies in charge of the capital market should come up with a robust institutional framework that will deepen the capital market and make the market attractive to investors who want easy access to less costly funds to finance their projects.

The study clearly shows the importance of leverage as a determinant factor of performance in listed firms in an emerging market, Nigeria. This outcome of the study encourages firms to make good use of debt financing in their capital structure because of the advantage of the tax shield.

By the outcome of this study, managers, top decision makers and financial management researchers are encouraged to provide necessary assistance (through technical and professional advice) to corporate organisations in the optimum use of debt capital by corporate firms in their capital structure.

### 6.3. Research limitations and future studies

The study was limited to the sample of seven food and beverages firms listed on the Nigerian stock exchange (2007-2016). The period of study was also limited to 10 years (2007-2016).

For the future line of studies, efforts should be made at increasing both the sample size and time frame. The use of other variables to proxy for financial performance, such as Return on Asset (ROA), Return on Equity (ROE) and Tobin's Q could be explored. As leverage issues affect companies globally, this study can also be replicated in other sectors of the economy such as consumer goods, industrial goods, insurance, banking, and the small and medium-sized companies in both developing/emerging and developed economies.

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