**Capital Structure and Performance of Selected Industrial Goods Firms on the Nigerian Stock Market**

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**Abstract:** How really is performance influenced by capital structure? There have been different views by different scholars on this topic. Therefore this study examined the relationship between capital structure and firm’s performance of quoted industrial goods on Nigeria Stock Exchange (NSE). Five firms were selected for the study with secondary data covering for six years (2014-2019). We employed the multiple regression model in testing our hypotheses, return on equity (ROE) serve as the dependent variable for measuring performance while the independent variables are measured by three variables which Non-current debt to total assets (NCD), current debt to total assets (CD) and total debts to equity (TDE). Our findings revealed that two of our independent variables (NCD and TDE) have a statistical significant relationship with ROE however TDE have a negative relationship with ROE, while the other independent variable CD has no statistical significant on performance. We therefore recommend that in considering the capital mix/structure of the firms long term financing should be consider first, while CD should be consider last and also proper matching should be carried out between equity and debt.

**Keywords:** Assets, Capital, Debt, Equity, Performance, Long Term, Short Term, Returns

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**I. Introduction**

In financial management literature, the organization of capital the firms use for its operations is also known as the capital mix, and is very important finance decisions. Capital mix comprises of all the finance both debts and equities the firms source to finance its operations, because any wrong combination or decisions taken may lead the firms into bankruptcy or extinction. Therefore it is essential decision for the survival of any firm because it has a long effect in determining the prospect, development and viability of firms over a period of time. Gambo, Ahmad, and Musa (2016) “The capital structure is the overall sources of finance used by a company in financing its operations ranging from retained earnings to equity and debt finance. Capital structure has been considered as one of the most important factors in firm financing policy due to its crucial role in corporate performance”.

The objective of every seeking entity is to maximise the wealth of its shareholders and maintain good corporate social responsibility with its host community hence the financial managers is concerned in what way the firm can obtain its sources of finance in order to meet the need the of the various stakeholders and also in making sure the firms continue as a going concern both in the short and long run, managers therefore will concentrate how much should they borrow to finance the firms operations however the manager must consider also the sources of finance available to his disposal and go for the cheapest source after considering all options. Therefore proper care must be taken in making this crucial decisions in order balance the interest of various stakeholders because any wrong combination of debts or equity is going to affect the performance and the value of the firm.

In developing country like Nigeria, majority of the internal and external stakeholders do not look critically are not interested in the capital mix of the firms because they believe that it does not contribute in measuring its performance and does not contribute to the value of the firm (Samson & Omotunde, 2017). Researchers have different views on capital mix in relation to the performance of an entity both in developed and developing countries like Nigeria. Samson and Omotunde, (2017) in their study found out that capital mix has no significant effect on return on equity. However Philip (2018) and Ibrahim (2013), have a contrary view. Although their data only cover different sector and used data from 2002-2015 but this study used most recent data from 2015 to 2019.
In Nigeria, different researchers such as Shehu (2011), Ezeoha (2010) and Adesola (2009) to mention but a few has researched on capital structure and its determinants although there studies focused on the entire quoted firms of the capital market, with only a few directing their attention to specific sub-sectors of the capital markets of developing countries like Nigeria. Any wrong capital mix may lead the firm to bankruptcy; hence the future of capital structure decision is unknown. The determination of capital structure has been a source of concern by different stakeholders on which sources of finance would yield the maximum returns with lesser risk (Akintoye, 2016; Dada &Ghazali, 2016; Gambo et al., 2016). From the above discussion thus far, we can agree that the exact effect of capital mix on performance is yet to be established therefore further investigation and survey within the Nigerian context is necessary.

Overtime some firms perform better than the other despite the similarities in the resources available to them in term of assets, human capital and other resources. We thereby inferred from the above that there is the need to determine whether high, low or zero leverage, will be the most adequate to enhance financial performance. Therefore, we investigated the impact of capital structure on the performance of quoted industrial goods sector on the Nigeria Stock Exchange (NSE). Therefore this study willcontribute to the existing body of knowledge as it highlighted how corporates managers can take decisions on the appropriate capital mix in order to maximize shareholders wealth and assist investors and other stakeholders in making informed decisions, this will also enable government to create credit friendly policy for firms. The study also provides useful insight on how industrial goods sectors manufacturing contribute to GDP by reducing unemployment.

The paper is arranged as follows: section two provides theoretical, conceptual, empirical and theoretical literatures, section three discuss the methodology and the fourth section discusses the data analysis and discussion of findings. While in section five is the summary of the findings, conclusion and recommendations.

II. Review of Literature

2.1 Conceptual Clarification

2.1.1 Capital Structure

The subject capital structure has been viewed by researchers from different perspective, Oluwagbemiga (2013) also sees Capital structure refers to the combination of debt and equity capital that a firm uses to finance its long-term operations. Nirajini and Priya (2013), alsoopined that a firm’s capital structure is the composition or structure of its liabilities. This is also in line with Brealey and Myers (2003), as cited by Oluwagbemiga (2013) “capital structure as the firm’s mix of different securities used in financing its investments”. We can therefore deduce that the capital structure of a firm is what makes up the firm’s financial strength and its viability. Tulsian (2009), capital structure, that is, financial structure, is referred to as the composition of non-current funds such as debentures and other sources which include borrowings, preference shares, equity shares (including retained earnings) in the capitalization of a company. He further stated that the aim of capital structure decision is to measure the relationship between equity and debt. Equity in broader sense means owner’s funds which can be raised by issuing of equity shares, preference shares and retained earnings, while debt can be raised by issuing debentures/bonds or by taking long term borrowing. Tulsian (2009) also postulated that for an appropriate capital structure to be decided, the capital structure must: be sufficient to influence the profit of the firm (Profitability); involve minimum financial insolvency risk because excessive debt financing can threatens the solvency of firms (Solvency); proactive to meet with changes in financial situations (Flexibility) and conservative such that the debt limit is not exceeded (Conservatism).

2.1.2 Performance Overview

Many approached has been used in the past to measure and account for performance by different entity, this has made entities to engage in different approach since there is no one to measuring performance, some may decide to use return on Asset (ROA); Return on Equity (ROE); Earning per share (EPS) to mention but a few. Dahiru (2013) “Financial performance is the measure of how well a firm can use its assets from its primary business to generate revenues”.

2.1.3 Profitability

Profitability is also known as the bottom line of every financial statement and is major factor that motivate stakeholders in taking crucial investment decisions. Owolabi and Obida (2012) “The concern of business owners and managers all over the world is to devise a strategy of managing their day to day operations in order to meet their obligations as they fall due and increase profitability and shareholder’s wealth”.

2.2 Empirical Review

Etale and Ekpu (2019) revealed that performance is not influenced by capital structure, their data range from 2009 to 2018 of Aluminum Extrusion Company PLC, therefore advice entities to use internal sources of finance until it is exhausted before entities can employ external sources. Similarly,
Uremadu & Onyekachi (2019) based their analysis on the consumer goods sector with data to know the impact of capital structure on corporate performance, the study revealed that capital structure is not a major determinant for firm’s performance however it influences it. Also, Oladele and Omotosho (2017) there are different views to capital structure as a result of the different sources of funding employed by firms, their study examined the effect on capital structure on financial performance, using data from 2004 to 2013, revealed that capital structure have no significant effect on return on equity although have significant relationship, they also revealed that most Nigeria firms finance their activities with more short term finance. Muchiri, Muturi, and Ngumi, (2016) their study revealed return on asset has insignificant negative relationship with capital structure however a positive insignificant relationship with return on asset, although their research was based on data from East Africa Securities Exchanges covering from 2006 to 2014, they also discovered that the use of one sources of finance has no effect on performance however the combination of internal and internal sources influences the performance of the firms. In the work of Fredrick and Osazemen (2018) investigated capital structure as it relate to corporate distress, their study revealed that improper matching of capital structure can lead to corporate failure therefore encourage the use of internal sources of finance as against internal. This is not to say they are against external funding, although when provided with two sources of funding, the internal source should be chosen as the first option. Although their data covered manufacturing firms in Nigeria ranging from 2010 to 2016, therefore advice those at the helms of affair to be careful in planning which sources of finance to adopt. Bashiru (2016) examined the impact of capital structure in the oil and gas industry in Nigeria with data ranging from 2005 to 2014 and found out that capital structure influenced greatly the performance of entities and firms should take caution in using debts in financing its activities because this has a great influence on performance. In the work of Birru (2016) capital is needed by every entity and the source to get it, is a major concern, panel data was used covering from 2011 to 2015. He found out that capital structure is very important, although have a negative relationship with performance, hence firms should always monitor their debts used while trying to achieve its objective. On their part, Oladeji, Toluope, Ikpefan and Olokoye (2015) revealed that there capital influenced the performance of the firms however entities should use internal source (equity) to finance its activities, although their study was based on six major firms in the petroleum industry with data ranging from 2003 to 2012. Similarly, Akinyomi and Olagunju (2014) capital structure is the means the firms used to fund its activities, it could be through internal financing (equity) or external financing (debts) or the use of the two methods. They focused on manufacturing sector of the Nigerian economy using secondary data from 24 firms selected randomly; found a negative relationship performance which in our study is measured by profitability. This was supported by Chandrasekharan (2012), for any business to continue to maximize its owner’s values, maintain its growth, and to continue as a going concern, capital structure is very important decisions it must consider, his study revealed that “size, age, growth, profitability and tangibility are strong determinants of leverage in the Nigerian firms”.

Evidence of research gap

The reviewed of related literatures thus far, the area of interest for this researched have not be covered to the best of our knowledge, some scholars have also have a contrary view on the issue, hence this has made us delve into this study to examined the impact of capital structure on the performance of selected firms quoted in the industrial goods sector on the NSE using data ranging from 2015 to 2019.

III. Methodology

We adopted ex-post factor to analysed secondary data of selected industrial goods sector firms quoted on the Nigeria Stock Exchange, this approached was to ensure data used are reliable as the researchers have no power to manipulate the data. Descriptive statistics and regression analysis was adopted by the researchers following the specified model above using E-view 10 software. The hypotheses were tested using the analysed result from the study; the decision rule was to reject the hypotheses if the calculated the p-value is less than 5% (0.05).

3.1 Population of the Study

As at the time of carrying out this research, the total industrial companies listed on Nigeria Stock Exchange are 13, and they include Austin Laz & Company Plc, Berger Paints Plc, Beta Glass Plc, BUA Cement Plc, CAP Plc, CUTIX Plc, Dangote Cement Plc, Greif Nigeria Plc, Lafarge Africa Plc; Meyer Plc, Notore Chemical Industry Plc, Portland Paints & Products Nigeria Plc, And Premier Paints Plc.

3.2 Sample and Sampling Techniques

Through a convenient sample Five (5) of the companies in the study population were selected to constitute in the study sample (representing well over 30% of the study population). Thus the sample companies include Austin Laz & Company Plc, Berger Paints Plc, CAP Plc, Dangote Cement Plc, and Portland Paints & Products Nigeria Plc. The sampled companies were selected because they appear to gain the patronage of

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consumers better than most others and this can further be supported by the volume of their shares usually traded on the stock market, other reason was the availability of data required for the study.

1.3 Model of Specification
The study adopted a model which applied by other researchers such as Ajibola, Wisdom and Qudus (2018). The model is as follows:
\[ \text{ROE} = f (\text{NCD}, \text{CD}, \text{TDE}) \]
The above was modified and transformed into regression equations as follows:
\[ \text{ROE} = \alpha + \beta_1 \text{NCD} + \beta_2 \text{CD} + \beta_3 \text{TDE} + \mu \]
Where:
- ROE = refers to Return on Equity, which is a dependent variable employed in measuring firms performance.
- NCD = Non-current debt ratio, independent variable that serve as component of capital structure
- CD = Current debt, independent variable ratio that serves as a component of capital structure
- TDE = Total debt to equity ratio, independent variable ratio that serves as a component of capital structure.
- \( \alpha \) = constant in the equation above
- \( \mu \) = residual
- \( \beta_1 - \beta_3 \) = the slope of the equation or coefficient of the independent variables

IV. Results and Discussion of Findings
Data were extracted from the published annual report of the sampled companies which are presented in Table 1 below. These figures represent aggregate figures of the five (5) samples companies for the period covering 2014 to 2019, the absolute aggregate figures of book values was used.

<table>
<thead>
<tr>
<th>Year</th>
<th>ROE</th>
<th>NCD</th>
<th>CD</th>
<th>TDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>27</td>
<td>16.2</td>
<td>27</td>
<td>66.5</td>
</tr>
<tr>
<td>2015</td>
<td>28.2</td>
<td>26.4</td>
<td>67.1</td>
<td>72.3</td>
</tr>
<tr>
<td>2016</td>
<td>23.4</td>
<td>30.5</td>
<td>68.3</td>
<td>91.5</td>
</tr>
<tr>
<td>2017</td>
<td>26.1</td>
<td>59.1</td>
<td>83.3</td>
<td>112.8</td>
</tr>
<tr>
<td>2018</td>
<td>39.5</td>
<td>60.9</td>
<td>86.5</td>
<td>71.7</td>
</tr>
<tr>
<td>2019</td>
<td>38.8</td>
<td>53.1</td>
<td>62.8</td>
<td>72.8</td>
</tr>
</tbody>
</table>

Source: Researchers’ Computations from Sampled Companies’ Annual Reports, 2020

Table 2: Correlation Analysis

<table>
<thead>
<tr>
<th></th>
<th>ROE</th>
<th>NCD</th>
<th>CD</th>
<th>TDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE</td>
<td>1.0000</td>
<td>0.6028</td>
<td>0.2726</td>
<td>-0.4856</td>
</tr>
<tr>
<td>NCD</td>
<td>0.6028</td>
<td>1.0000</td>
<td>0.7966</td>
<td>0.3974</td>
</tr>
<tr>
<td>CD</td>
<td>0.2726</td>
<td>0.7966</td>
<td>1.0000</td>
<td>0.5147</td>
</tr>
<tr>
<td>TDE</td>
<td>-0.4856</td>
<td>0.3974</td>
<td>0.5147</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

Source: Researchers’ Computations, 2020

Table 2 show the relationship between the dependent variable (ROE) and the independent variables (NCD, CD, TDE) respectively, it reveals the positive correlation between variable except for TDE ratio that have negative (-0.4856) relationship with the variable.

Table 3: Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>ROE</th>
<th>NCD</th>
<th>CD</th>
<th>TDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>30.5000</td>
<td>41.0333</td>
<td>65.8333</td>
<td>81.26667</td>
</tr>
<tr>
<td>Median</td>
<td>27.6000</td>
<td>41.8000</td>
<td>67.7000</td>
<td>72.55000</td>
</tr>
<tr>
<td>Maximum</td>
<td>39.5000</td>
<td>60.9000</td>
<td>86.5000</td>
<td>112.8000</td>
</tr>
<tr>
<td>Minimum</td>
<td>23.4000</td>
<td>16.2000</td>
<td>27.0000</td>
<td>66.5000</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>6.887670</td>
<td>19.01827</td>
<td>21.24671</td>
<td>17.66767</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.538183</td>
<td>-0.131276</td>
<td>-1.014596</td>
<td>1.072760</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>1.535713</td>
<td>1.324523</td>
<td>3.002935</td>
<td>2.628759</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>0.825674</td>
<td>0.719039</td>
<td>1.029408</td>
<td>1.185269</td>
</tr>
<tr>
<td>Probability</td>
<td>0.661770</td>
<td>0.698012</td>
<td>0.597678</td>
<td>0.552869</td>
</tr>
</tbody>
</table>
Table 3 summarized the descriptive statistics of the Mean 30.50000, 41.03333, 65.83333, 81.26667
Median 27.60000, 41.80000, 67.70000, 86.50000, Maximum 39.50000, 60.90000, 86.50000, Minimum 23.40000, 16.20000, 27.00000, Standard deviation 6.887670, 19.01827, 21.24671, 17.66767 of the variables (ROE, NCD, CD and TDE) for the study respectively. The indication is that CD the most dispersed variable in the study while ROE is the least dispersed among the variables. Jarque-Bera statistics and the associated probability values also showed that the ROE, NCD, CD and TDE are normally distributed with probabilities of 0.661770, 0.698012, 0.597678 and 0.552869 (which are greater than 5%) respectively.

Table 4: Regression Output

Dependent Variable: ROE
Method: Least Squares
Date: 05/25/20  Time: 04:09
Sample: 1 6
Included observations: 6

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCD</td>
<td>0.371740</td>
<td>0.037593</td>
<td>9.888486</td>
<td>0.0101</td>
</tr>
<tr>
<td>CD</td>
<td>-0.037550</td>
<td>0.036017</td>
<td>-1.042580</td>
<td>0.4066</td>
</tr>
<tr>
<td>TDE</td>
<td>-0.325084</td>
<td>0.028534</td>
<td>-11.39285</td>
<td>0.0076</td>
</tr>
<tr>
<td>C</td>
<td>44.13684</td>
<td>2.067791</td>
<td>21.34493</td>
<td>0.0022</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.992129</td>
<td>Mean dependent var</td>
<td>30.50000</td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.980322</td>
<td>S.D. dependent var</td>
<td>6.887670</td>
<td></td>
</tr>
<tr>
<td>S.E. of regression</td>
<td>0.966186</td>
<td>Akaike info criterion</td>
<td>3.003800</td>
<td></td>
</tr>
<tr>
<td>Sum squared resid</td>
<td>1.867031</td>
<td>Schwarz criterion</td>
<td>2.864973</td>
<td></td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-5.011400</td>
<td>Hannan-Quinn crit.</td>
<td>2.448064</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>84.03111</td>
<td>Durbin-Watson stat</td>
<td>2.076868</td>
<td></td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td>0.011783</td>
<td>Source: E-view 10 output</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

V. Conclusion and Recommendations

We examined the impact of capital structure and performance of selected industrial goods sector firms quoted on the Nigeria Stock Exchange from 2014 to 2019, data were extracted from the published financial statement of the companies, the regression showed a statistical significant relationship between capital structure and performance, this implies that capital structure help in influencing the performance of the firms, this study concur with other researchers such as Oladeji, Tolulope, Ikpefan & Olokoye (2015) However, our study contradict
with the findings of Etale & Ekpulu (2019). Therefore, we recommended that managers of industrial goods sector companies in deciding the sources of finance should consider Non-current debt first (NCD) because it has a significant positive association with performance; Managers of the industrial goods sector companies in deciding the sources of finance should consider Current debt as its last option because it does not impact on performance; and Managers of industrial goods sector companies should properly match its debts and equity because any improper matching will influence performance.

Further research
Further research can be carried out by interested researchers by increasing the sample size and also by using other performance proxy variable.

Reference
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