Dangote Cement PLC Capital Structure and Financial Performance Link in Nigeria: Empirical Analysis

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ABSTRACT:- This study was set examine the link between Dangote Cement PLC capital structure and the profit performance of company using secondary data from the period 2010 to 2019. The study adopted return on equity (ROEQ) as proxy for performance (the dependent variable, while the proportion of long term debts to equity funding (DEFP) and the proportion of equity funding to total capital employed (ECEP) representing capital structure were used as the independent variables. Secondary data for the study variables were compiled from the annual financial statements Dangote cement company for 10 years period. The study employed descriptive statistics and multiple regression techniques based on the E-view 10 software as the statistical methods for data analysis. The results showed that both DEFP and ECEP are positively related to return on equity (ROEQ), but the degree of impact is not statistically significant at 5% level. The study concluded that capital structure had a weak positive link with the performance. Based on the findings of the study it was recommended that Dangote Cement PLC should strive to maintain its 2010 debt-equity composition of 32.1% and 67.9% as the company recorded a highest rate of return on equity ever with that mix, and because debt and equity as this study has shown are both positively related to performance. Also the 32:68 debt-equity combination in 2010 provided a near optimal capital mix for the company.

KEYWORDS: Capital, Debt, Equity, Funding, Performance, Returns

I.   INTRODUCTION

The capital structure of a firm refers to the combination of financing sources available to the firm. Capital mix decisions are critical financial management decisions as the company has to plan its capital structure initially at the stage of the company's promotion (Pandey, 2010). It refers to the combination of long-term debts and ordinary equity holding as well as preference holders' funds a firm may have used to finance its operations. This view was supported by Akinsulire (2008) in noting that capital structure is how a firm finances its assets, whether through equity holders' fund or debt fund or a combination of both. Aljamaan (2018) also refers to it as the mix of different sources of long term finance available to a firm as ordinary shares, preference shares, debentures, long term loans, reserves and profit retained for future business expansion (in keeping with the pecking order depending on how well a firm is doing).

A company owes some form of obligation to the providers of funds, either as owners of the company or as lenders to the business with legal right of claims on the assets of the company. Thus ownership or rights to claims are reflected on the capital structure which refers to the proportion or mix of debt and equity that has been used to finance the fixed assets of the company. Capital structure decision would be affected each time a firm decides on investing in a new project or the expansion of an existing business. The decision has to do with how much of retained earnings or reserves or external equity or debt capital to use to finance the new investment project or planned expansion. Such a decision would require the determination of the benefits and costs or returns and risk involved in making the best possible choice. In the final analysis however, there should be an appropriate mix of equity and debt, where necessary, in financing the assets of the firm according to (Pandey, 2010).

It is very easy to identify the combination of financing sources employed by a company by a simple analysis of the contents of the statement of financial position of the company. In Nigeria, the common practice among listed firms is the use of equity holders fund and long term debt as the main sources of financing the firms' assets. The use of preference shares and debenture stock is not common among companies quoted on the Nigerian Stock Exchange.

The performance of an organization can be measured in terms of absolute profit, sales growth, assets growth, return on assets, return on capital employed, return on equity, earnings per share, among others. Performance has also been inter-changeably used with profitability, organizational performance, corporate performance, financial performance, etc. In all return on assets or return on total assets is a better measure of performance that takes into account the interest of all the company's stakeholders (employees, suppliers, creditors, lenders, investors, shareholders, government, and the society at large). Whereas, if the focus is on

shareholders' wealth maximization or wealth creation then return on equity would be a better measure of performance to use. Thus profitability simply refers to the ability of management in utilizing the resources of the firm in generating income over and above the expenses incurred in generating that income for the company.

Several studies have been conducted in the past to assess the link between capital structure and performance. The review of past empirical studies revealed a lack of consensus in the findings of researchers on this subject. For instance the studies carried out by Afolabi, Olabisi, Kajola and Asaolu (2019), Braik and Messar (2018), and Akinyomi, Olagunju (2013) revealed that capital structure had positive effect on performance. But Sebastain and Onuegbu (2018), Getahun (2016), Sadiq and Sher (2016), Oladeji, Ikpefan and Olokoyo (2015), Salamba (2015), Yinka and Oluwadetan (2015), and Akeem, Edwin, Kiyanjui and Kayode (2014) in their studies reported negative association between capital structure and performance. Yet the studies of Etale and Uzakah (2019), Kerim Alaji and Innocent (2019), Ngwoke and Sergius (2019), Ahmed, Talreja and Kashif (2018), Ajibola, Wisdom and Qudus (2018), Oladele, Omotosho and Adeniyi (2017) and Alawwad (2013) revealed mixed findings; while other researchers reported that capital structure had no influence on performance (Etale & Sawyer, 2019; and Dada & Ghazali, 2016). Aljamaan (2018) while noting that several theories have been developed to explain capital structure decisions including the pecking order theory, trade-off theory, and agency cost theory among others, in reviewing the determinants and theories of capital structure, concluded that the association between capital structure and financial performance is mixed ranging from positive to no effect and negative depending on the economy where the firm is domiciled, the firm's size and industry. Granted that the past empirical studies reviewed have been conducted against different economic backgrounds and the variables used by scholars also differ, but the lack of consistency in the findings of past researchers points to the need to carry out further studies on this topic.

Therefore, this study on Dangote Cement PLC capital structure and performance analysis was carried out to fulfil that need. Dangote is Africa's leading cement producing giant, operating in 10 African countries. Over the years the company has impacted the economic wellbeing of many stakeholders in terms of creating jobs and wealth for employees and their dependents, and providing business chain and income for its associates. The company is strongly committed to community sustainable development programmes in all its operational locations. The company's 2019 environmental social responsibility report provides undisputable evidence to support the statement made here. Dangote has for the past 10 year period from 2010 through to 2019 used a combination of long term debt and owners' equity to fund its business.

The point of interest was to find out how an increase or reduction in long term debt would affect earnings accruing to equity holders of Dangote. Charity, Austin, Orji, Steve and Okechukwu (2019) in their study was able to conceptually demonstrate that an unlevered firm would be better-off than a levered firm if operating profits are declining, but where operating results are increasing the owners of a levered firm stands to gain higher returns than an unlevered firm. However, there was lack of evidence on how a firm's optimal capital structure could be determined. Also addressed in this study are questions such as how does the proportion of long term debt to equity funds affect return on equity; and what is the effect of equity funds to capital employed proportion on return on equity? This study would be of significant importance to equity holders of Dangote in providing answers to the above questions. Furthermore, the practical demonstration of the relationship between capital structure and the company's profit performance would provide useful insights to the owners of the company and other interested parties.

This paper is organized into five sections. Section one above treated the introduction in general. Section two was devoted to the review of related empirical literature, while section three covered the methodology adopted in the conduct of this study. Section four presented the results of data estimation and a discussion of the study findings, and finally, the summary, conclusion and recommendations of the study are provided in section five.

II.   REVIEW OF RELATED EMPIRICAL LITERATURE

Afolabi, Olabisi, Kajola and Asaolu (2019) examined the relationship between financial leverage and performance of quoted food and beverage firms in Nigeria for the period 2007 to 2016. The study adopted debt ratio, debt equity ratio and interest cover ratio as independent variables representing leverage, while return on capital employed was used as proxy for performance (the dependent variable). Secondary data for the study was obtained from annual reports of sampled 7 firms listed on the NSE. They employed inferential statistics and panel data regression techniques for data analysis. The findings indicated that debt ratio and debt equity ratio had significant positive effect on ROCE (performance), while interest cover ratio had positive but insignificant effect on performance. It was suggested that firms should continue to employ debt capital in financing business. Etale and Sawyer (2019) investigated the link between capital structure and the performance of listed consumer goods sector companies in Nigeria for the period 2009 to 2018. The study adopted debt to equity, debt to capital employed and equity to capital employed ratios representing capital structure as the independent variables, while return on assets was used as proxy for performance (the dependent variable). Secondary data was collected from the annual reports of sampled 7 companies representing the sector. Methods of data analysis employed include

descriptive statistics, and multiple regression technique based on the E-view software. The study found that capital structure had no significant effect on firm performance. It was recommended that consumer goods sector companies should exercise caution on the use of debt for financing business.

Etale and Uzakah (2019) examined the association between capital structure and firm performance in a case study of Aluminium manufacturing company (ALEX) in Nigeria. Capital structure (the explanatory variable) was represented by debt to equity, debt to capital employed and equity to capital employed ratios, while the response variable, profitability, was represented by return on capital employed. Secondary data was obtained from audited financial statements of the sampled company for the period 2009 to 2018. They employed descriptive statistics and multiple regression estimation technique as the tools for data analysis. The study found that debt to equity ratio had significant positive effect on profitability; debt to capital employed ratio had negative effect on profitability; whereas, equity to capital employed ratio had no effect on firm performance. Kerim, Alaji and Innocent (2019) investigated the effect of capital structure on the profitability of listed insurance companies in Nigeria for 5 years period covering 2013 to 2017. The study adopted ROE as proxy for profitability, while the components of capital structure used include short term debt and long term debt ratios. Secondary data was obtained from the financial statements of 15 insurance companies included in the study sample. They employed OLS multiple regression technique for analysis of data. The findings showed that short term debt ratio had significant negative effect on profitability; while long term debt ratio had significant positive effect on firms' profitability.

Also, Etale and Ekpulu (2019) investigated the effect of capital structure composition on profitability of banks in Nigeria for the period 2009 to 2018. They adopted debt-equity ratio, debt-capital employed ratio and equity-capital employed ratio as components of capital structure (the independent variables), while financial performance was proxy by return on total assets. Secondary data for the study was collected from published financial reports of 10 banks selected for the study. They employed OLS regression techniques for data estimation, and found that capital structure had positive correlation with financial performance. Ngwoke and Sergius (2019) examined the effect of capital structure on financial performance of food and beverage companies listed on the Nigerian Stock Exchange for the period 2007 to 2016. The study adopted long term debt to total debts ratio and short term debt to total assets ratio as proxies for capital structure, while ROE was used to represent performance. Secondary data for the study was collected from the annual reports of sampled 5 companies in the sector. They employed multiple regression technique based on the E-views computer software for data analysis. The results provided evidence that: long term debt to total assets ratio had significant positive effect on performance; short term debts to total assets ratio had insignificant negative effect on performance; while financial leverage had an insignificant negative relationship with the measure of performance used.

Ahmed, Talreja and Kashif (2018) examined the effect of capital structure and corporate governance on the performance of the automobile and fertilizer sectors of Pakistan for the period 2006 to 2016. They adopted current ratio, debt to equity ratio and short term and long term debt to proxy capital structure; while ROA and ROE were used to represent performance (the response variable). Secondary data was collected from the websites of the Pakistani Stock Exchange and Thomson Reuter. Panel data least squares regression estimation method was used for data analysis. The study concluded with mixed findings: for both sectors current ratio and performance were found to have positive relationship; debt to equity ratio was negatively related to performance also for both sectors; while short term and long term debt had no relationship with performance in the fertilizer industry. Ajibola, Wisdom and Qudus (2018) investigated the impact of capital structure on the performance of manufacturing firms in Nigeria for the period 2005 to 2014. The study adopted long term debt, total debt and short term debt ratios as proxies for capital structure, while financial performance was measured by ROA and ROE. Secondary data for the study was obtained from published financial reports of sampled 10 manufacturing companies listed on the NSE. They employed OLS panel data regression technique based on the E-view software for data analysis. The study found that long term debt and total debt ratios had significant positive relation with ROE, while short term debt ratio had an insignificant positive effect on ROE. Also, the study revealed that long term debt, total debt and short term debt ratios had insignificant negative link with ROA. Their conclusion that capital structure had positive impact on financial performance begs the following question: return on assets (ROA) and return on equity (ROE) which one is a better measure of performance?

Braik and Messar (2018) evaluated the influence of capital structure on the performance of firms listed on the Amman Stock Exchange in Jordan for the period 2002 to 2015. The study adopted debt ratio to represent capital structure, while the measures of performance used include ROA, ROE among others. Secondary data for the study were collected from the annual reports of sampled banks. They employed multiple regression technique based on OLS for the analysis of data. The results indicated that capital structure had significant positive influence on the performance of banks in Jordan; and that banks depend on the use of debt finance as supported by the trade-off theory. Sebastain and Onuegbu (2018) investigated the effect of capital structure on the performance of consumer goods sector firms listed on the NSE for the period 2002 to 2016. The study adopted long term debt to total assets ratio and total debts to equity ratio as components of capital structure,

while corporate performance was measured by ROA. Secondary data was collected from financial statements of sampled 4 companies. The study employed OLS multiple regression method for the analysis of data. The results showed that capital structure had an insignificant negative impact on financial performance.

Nawaz and Ahmad (2017) in investigating the effect of corporate governance and capital structure on the performance of listed petroleum companies in Pakistan, adopted ROA and ROE as proxies for financial performance, while capital structure was represented by long term debt ratio and short term debt ratio. Secondary data for the study was obtained from annual reports of a sample of 5 petroleum sector companies. The study employed multiple regression technique based on windows SPSS statistical software for data analysis. The results among others revealed that capital structure had significant negative relationship with performance. Oladele, Omotosho and Adeniyi (2017) examined the effect of capital structure on the performance of manufacturing firms listed on the Nigerian Stock Exchange, using data for the period 2004 to 2013. The study adopted ROA, ROE, sales growth and EPS as the measures of financial performance, while capital structure was represented by debt equity ratio (leverage). Secondary data was collected from annual reports of sampled 58 firms available in the NSE fact book. The study employed multiple regression estimation technique based on OLS for data analysis. The findings showed that financial leverage had no significant effect on ROE, but it had significant influence on ROA, EPS and sales growth.

Dada and Ghazali (2016) examined the impact of capital structure on the performance of non-financial companies listed on the Nigerian Stock Exchange, for the period 2010 to 2014. The study model they used adopted Tobin's Q and ROA as the measures of performance; while leverage representing capital structure among other factors, were used as the explanatory variables. Secondary data was obtained from published financial statements of 100 quoted non-financial companies included in the study. They employed the traditional pooled effects regression estimation technique based on OLS as well as fixed effects and random effects tests for data analysis. Their findings revealed among others that financial leverage (representing capital structure) had no significant relationship with performance. The study of El-Maude, Ahmad and Ahmad (2016) in Nigeria investigated how capital structure affected the performance of quoted cement manufacturing companies for the period 2010 to 2014. The study adopted long term debt and short term debt to represent capital structure, while ROA and ROE were used as the proxies for financial performance. Secondary data for the study were collected from the annual reports of 4 sampled cement companies. They employed descriptive statistics, correlation and multiple regression techniques based on STATA software for data analysis. The study which reported that capital structure had significant effect on performance, however concluded that companies in the cement industry could not achieve optimal operating results due to their inability to use debt as a source of finance.

The study by Getahun (2016) in Ethiopia investigated the impact of capital structure on the performance of insurance companies for the period 2004 to 2013. The study adopted ROA as proxy for financial performance, while financial leverage among other company specific control factors were used as explanatory variables. Secondary data was obtained from annual reports of sampled 9 out 17 insurance companies in Ethiopia. The study employed multiple regression techniques for data analysis. The results revealed that financial leverage (proxy for capital structure) had significant negative relationship with performance. Similarly, Nwude, Itiri, Agbadua and Sergius (2016) investigated the impact of debt finance on financial performance among listed companies in Nigeria for the period 2001 to 2012. The study adopted short term debt to total assets ratio, long term debt to total assets ratio and total debts to total assets ratio as components of debt structure, while ROA was used as the performance indicator. Secondary data for the study was collected from the financial reports of sampled 43 listed firms representing different sectors of the economy. The study employed pooled effect, fixed effect and random effect OLS regression techniques for data analysis. The findings revealed that debt structure had significant negative impact on financial performance of quoted firms within the period under review.

Sadiq and Sher (2016) examined the impact of capital structure on the profitability of Karachi Stock Exchange listed automobile companies for the period 2006 to 2012. The study adopted debt to equity ratio to represent capital structure, while the measures of profitability used as dependent variables include ROA, ROCE and ROE. Secondary data was gathered from published annual financial statements of sampled 16 companies based on data availability. They conducted regression analysis and correlation tests based on windows SPSS statistical package in the evaluation of data. The results indicated that debt-equity ratio proxy for capital structure had negative association with the adopted measure of profitability. Oladeji, Ikpefan and Olokoyo (2015) analysed the impact of capital structure on firm performance in Nigeria for the period 2003 to 2012. They adopted ROA representing performance as the dependent variable, while financial leverage used as proxy for capital structure among other control factors were used as the independent variables. Secondary data was obtained from annual financial statements of sampled 6 petroleum companies listed on the NSE. They employed pooled effect and fixed effect regression techniques for data analysis. The results revealed that capital structure represented by financial leverage had negative relationship with financial performance.

Salamba (2015) conducted a study to evaluate the impact of capital structure on the performance of small and medium size enterprises in Tanzania. The study adopted debt finance and equity finance to represent

capital structure, while performance was measured by actual profits. The study relied on both primary data gathered through the use of questionnaires, and secondary data sourced from the accounts of selected 100 SMEs for the period 2012 to 2014. Statistical techniques employed for data analysis included descriptive statistics, simple regression methods and Karl Pearson correlation test. The results showed that capital structure had negative effect on SMEs profitability in Tanzania. Yinka and Oluwadetan (2015) investigated the effect of capital structure on the performance of manufacturing companies listed on the NSE for the period 2008 to 2013. The study adopted return on assets as proxy for profitability (the dependent variable), while total debt to total assets ratio was used as the independent variable representing capital structure. Secondary data for the study was collected from the financial statements of sampled 10 manufacturing companies found available in the NSE fact book. The study employed descriptive statistics and multiple regression method based on E-view software for data analysis. The results provided evidence that capital structure was negatively associated with profitability.

Akeem, Edwin, Kiyanjui and Kayode (2014) examined the effect of capital structure on the performance of manufacturing companies in Nigeria for the period 2002 to 2012, using secondary data obtained from the annual reports of 10 companies (spanning the telecommunications, manufacturing, and oil and gas sectors) included in the study. The study adopted total debts to total assets ratio and total debts to equity ratio as proxies for capital structure, while ROA and ROE were the measures of performance used in the regression equation. They employed descriptive statistics, correlation and OLS regression techniques based on STATA 12 software as tools for data analysis. The study revealed that capital structure was negatively related to firm performance. Akinyomi and Olagunju (2013) in investigating the determinants of capital structure in Nigeria carried out a correlation analysis using leverage, firm size, growth and profitability among other factors in their regression model. Leverage which was computed as total liabilities divided by total assets represented capital structure, while profitability or performance was measured by return on assets (ROA). Secondary data for the study was collected from audited annual accounts of sampled 24 NSE listed companies for the period 2003 to 2012. Their findings indicated that leverage, the measure for capital structure had an insignificant positive relationship with profitability. Alawwad (2013) conducted a study to investigate the effect of capital structure on the performance of Saudi Arabian listed companies for the period between 2008 and 2012. The study adopted total debt, long term debt and short term debt as proxies for capital structure, while return on equity, return on assets, earnings per share and net profit margin were used to represent financial performance of firms. Secondary data was obtained from the annual reports of sampled 67 companies representing 13 different industrial sectors. The study employed descriptive statistics, fixed effects regression test, random effects regression test and Hausman test as tools for data analysis. The results showed that: LTD and TD significantly affected ROE; TD had significant relationship with ROA; STD had positive relation with EPS and NPM; whereas LTD and TD had inverse relationship with PES and NPM.

III. METHODOLOGY

Research Design

This study adopted the ex-post factor research design. This is because the study made use of existing secondary data to estimate the link between capital structure and the performance of Dangote Cement PLC, a company listed on the Nigerian Stock Exchange. This approach was to ensure that data used is reliable as the researchers had no power to manipulate the data. The company was conveniently selected for study based on easy access its financial reports for the past 10 years.

Source of Data

Secondary data was therefore collected through content analysis of the financial statements of the companies for the past 10 years ranging from 2010 to 2019. This source of data is reliable for the purpose of this study because the accounts of the company have certified by independent auditors. The 10 years period covered by the study was adequate to establish a causality relationship between the adopted variables: dependent variable – return on equity (ROEQ); and independent variables – proportion of long-term debts to equity funds (DEFP) and proportion of equity funds to capital employed (ECEP). For the purpose of analysis influenced by the desire to adopt a common base in the study, data for the variables have been derived as follows: Return on equity (ROEQ) is profit after tax or earnings due to equity holders divided by total equity funds multiplied by 100; Proportion of long term debt to equity funds (DEFP) is long term debt divided by total equity funds multiplied by 100; and proportion of equity funds to capital employed (ECEP) is equity funds divided by capital employed times 100. In adopting return on equity as the measure of performance, this study has leaned on the shareholders wealth maximization theory, while the use of debt and equity was based on the pecking order theory.

Techniques for Data Analysis

This study used descriptive statistics and multiple regression analysis based on E-view 10 computer software as the statistical toots for analysis of data. To facilitate data analysis the OLS regression model specified below was modified and adopted. The results of the analysis were used to test the hypotheses of the study. The decision rule was to accept the hypotheses if the calculated p-value is less than 5% (0.05) significance level.

Model Specification

The model for data estimation was based on the following which has been severally used by other scholars such Etale and Uzakah (2019) and Ajibola, Wisdom and Qudus (2018) to mention a few:

$ROEQ = f(DEFP, ECEP)$

The above model can be translated into an econometric equation as follows:

$ROEQ = \alpha + \beta_1 DEFP + \beta_2 ECEP + \mu$ Equation 1

Where,

$ROEQ$ = Return on equity proxy for financial performance, the dependent variable

$DEFP$ = Proportion of long term debt to equity funds

$ECEP$ = Proportion of equity funds to total capital employed

$DEFP$ and $ECEP$ are the independent variables representing capital structure

α = is the intercept or constant

$\beta_1 - \beta_3$ = are the coefficients of the independent variables to be determined, providing the basics for answering the research questions

μ = the error term of the equation

RESULTS OF DATA ANALYSIS AND DISCUSSION OF FINDINGS

In this section covers the presentation of data, results of data analysis and discussion of findings.

Data Presentation

The data collected from annual financial statements of Dangote Cement PLC are presented in Tables 1 and 2. The figures represent the proportion of profit after tax to equity funds, long term debt to equity funds, equity funds to capital employed, long term debt to capital employed, and total capital employed, for the period covering 2010 to 2019.

Table 1 showed that in the year 2010 when Dangote used the highest proportion debt funding (32.1%) the company's also recorded highest return on equity, that is, 49.5%. On the other hand, in year 2019 Dangote recorded the lowest return on equity of 20.4% was when the company's debt funding proportion had been reduced to 9.3%. In that year the company relied on equity funding proportion of up to 90.7%. This position supports the assertion that where operating profits are increasing, a levered company stands to gain higher returns (Charity et al, 2019). The evidence provided in Table 1 also showed that the company's optimal capital structure was realized in 2010 when the funding composition was 32.1% long term debt and 67.9% equity capital. From the data in Table 1 return on equity recorded was at the mid-point of approximately 35% when debt/equity funding proportions were approximately 18% and 82% respectively, giving a 100% total capital employed position (TOCE), from 2010 to 2019.

Table 1: Computed Annual Figures of ROEQ and Proportionate Capital Composition

Year	ROEQ	DCEP	ECEP	TOCE
2010	49.5	32.1	67.9	100.0
2011	42.4	28.4	71.6	100.0
2012	35.4	17.6	82.4	100.0
2013	36.8	14.8	85.2	100.0
2014	29.0	15.7	84.3	100.0
2015	28.5	23.9	76.1	100.0
2016	34.7	17.7	82.3	100.0
2017	25.7	21.8	78.2	100.0
2018	37.2	10.0	90.0	100.0
2019	20.4	9.3	90.7	100.0

Source: Compiled from Dangote Annual Financial Statements

The data used in the OLS regression estimation are presented in Table 2, showing the dependent variable, return of equity (ROEQ) representing financial performance, and independent variables, the proportion of debt to equity (DEFP), and equity to capital employed (ECEP) respectively.

IV. RESULTS OF DATA ANALYSIS

Descriptive Statistics

The summary of the descriptive statistics of the regression variables is shown in Table 3. Table 3 shows that ROEQ, DEFP, and ECEP have mean of 33.96, 24.65 and 80.87 respectively. On the other hand, the maximum values of ROEQ, DEFP, and ECEP are 49.50, 47.20 and 90.70 respectively. While there minimum values are 20.40, 10.20 and 67.90. Table 3 further shows that the standard deviation of ROEQ, DEFP, and ECEP are 8.44, 11.99 and 7.45 respectively. The indication is that DEFP is the most dispersed among the variables of the study, while ECEP is the least dispersed. The Jarque-Bera statistics and the associated probability figures also indicate that ROEQ, DEFP, and ECEP are normally distributed with probabilities of 0.92, 0.67 and 0.77 (all of which are each greater than 0.05), respectively.

Table 2: Annual Proportions of the Regression Variables

	Dependent Variable	Independent Variables	
Year	ROEQ	DEFP	ECEP
2010	49.5	47.2	67.9
2011	42.4	39.7	71.6
2012	35.4	21.4	82.4
2013	36.8	17.3	85.2
2014	29.0	18.7	84.3
2015	28.5	31.4	76.1
2016	34.7	21.6	82.3
2017	25.7	27.9	78.2
2018	37.2	11.1	90.0
2019	20.4	10.2	90.7

Source: Compiled from Dangote Annual Financial Statements

Table 3: Descriptive Statistics

	ROEQ	DEFP	ECEP
Mean	33.96	24.65	80.87
Maximum	49.50	47.20	90.70
Minimum	20.40	10.20	67.90
Std. Dev.	8.44	11.99	7.45
Jarque-Bera	0.17	0.80	0.53
Probability	0.92	0.67	0.77
Observations	10	10	10

Source: E-views 10 output

Discussion of Findings

Table 4 shows the results of OLS multiple regression estimation based on the E-view 10 output. The regression Equation 1 can be restated as follows:

$$ROEQ = -355.41 + 2.88DEFP + 3.94ECEP + 6.92 \qquad \text{Equation 2}$$

From the results in Table 4, the independent variables combined explained 48% (approx. 50%) of changes in the dependent variable with probability of F-statistic value of 0.10 (at 10% level of significance). This is not significant going by the 5% (0.05) level of significance decision rule. The coefficient of determination (R-squared) value of 0.48 indicates that 48% (or approx. 50%) of changes in the dependent variable are accounted for by the combined effect of variations in the independent variables. Also, the adjusted R- squared value of 0.33 means that the model accounts for only 33% of goodness of fit. This provides only 33% confidence level for acceptance of the goodness of the study model. However, the Durbin- Watson statistics value of 2.36 is approximately equal to the 2.0 benchmark, which indicates the non-existence of serial auto correlation among the independent variables.

Regression Results

Table 4: Multiple Regression Results

Dependent Variable: ROEQ
Method: Least Squares
Date: 07/14/20   Time: 14:41
Sample: 2010 2019
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-355.41	347.85	-1.02	0.34
DEFP	2.88	2.25	1.28	0.24
ECEP	3.94	3.62	1.09	0.31
R-squared	0.48	Durbin-Watson stat		2.36
Adjusted R-squared	0.33			
S.E. of regression	6.92			
Prob.(F-statistic)	0.10			

Source: E-views 10 Output

Overall, the regression results used to explain the relationship between capital structure (represented by DEFP and ECEP) and financial performance proxy by return on equity (ROEQ) of Dangote Cement PLC indicated insignificant positive relationship between the independent variables and dependent variable going by the probability of F-statistic value of 0.10 which significant at 0.05. Overall the regression results showed that capital structure has a positive relationship with financial performance, but the relationship is not statistically significant at 5%.

Test of hypotheses
The regression results in Table 4 (as restated in Equation 2) were used in testing the study hypotheses in the following sections.
1.   There is no significant relationship between the proportion of long term debt to equity funds (DEFP) and return on equity (ROEQ)
From Table 4, the coefficient of DEFP is 2.88 with a P-value of 0.24. This means that DEFP has a positive but insignificant relationship with ROEQ, as the calculated P-value 0.24 is greater than 5% (based on 0.05 level of significance decision rule). Therefore, the null hypothesis is accepted. Though not significant going by the decision rule, the result implies that a unit increase in DEFP will lead to 2.88 unit increase in ROEQ.
2.   There is no significant relationship between the proportion of equity funds to capital employed (ECEP) and return on equity (ROEQ)
Again from Table 4, the coefficient of ECEP is 3.94 with a P-value of 0.31. This means that ECEP has a positive but not significant relationship with ROEQ (using the 5% decision rule). Therefore, the null hypothesis is accepted. Since the effect of ECEP on ROEQ is positive, it implies that a unit increase in ECEP will lead to 3.94 units increase in ROEQ.

SUMMARY, CONCLUSION AND RECOMMENDATIONS
This section deals with the summary of findings, conclusion and recommendations of the study.

Summary
This study examined the relationship between capital structure and financial performance of Dangote Cement PLC using ROEQ as proxy for performance and DEFP and ECEP to represent capital structure. The findings of the study are summarized below:
1.   The proportion of long term debt to equity funding (DEFP) is positively related to return on equity (ROEQ), but it is not statistically significant with a P-value of 0.24 which greater than 0.05.
2.   The proportion of equity funding to total capital employed (ECEP) is also positively related to return on equity (ROEQ). Again this is also not statistically significant with P-value 0.31 which again is greater than 0.05.
3.   Overall therefore the findings of this study revealed that capital structure had a weak positive association with financial performance.

V. CONCLUSION

This study was set examine the link between Dangote Cement PLC capital structure and the profit performance of company using secondary data from the period 2010 to 2019. The study adopted return on equity (ROEQ) as proxy for performance (the dependent variable, while the proportion of long term debts to equity funding (DEFP) and the proportion of equity funding to total capital employed (ECEP) representing capital structure were used as the independent variables. Secondary data for the study variables were compiled from the annual financial statements Dangote for 10 years period. The study employed descriptive statistics and multiple regression techniques based on the E-view 10 software as the statistical methods for data analysis. The results showed that both DEFP and ECEP are positively related to return on equity (ROEQ), but the degree of impact is not statistically significant at 5% level. The study concluded that capital structure had a weak positive link with the performance.

Recommendation

Based on the findings the study it was recommended that Dangote Cement PLC should strive to maintain its 2010 debt-equity composition of 32.1% and 67.9% as the company recorded a highest rate of return on equity ever with that mix, and because debt and equity as this study has shown are both positively related to performance. Also the 32:68 debt-equity combination in 2010 provided a near optimal capital mix for the company.

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