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Effect of Capital Structure on the Financial Performance of Selected Food and Beverages Industries in Nigeria, (2007 – 2016)

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ABSTRACT

This research work was undertaken to examine the effect of capital structure on the financial performance of Food and Beverages companies in Nigeria. The following are the specific objectives; to ascertain the effect of total debt on the Return on Asset of Food and Beverage Companies in Nigeria, to ascertain whether short term debt to asset has a positive effect on the Return on Asset of Food and Beverage Companies in Nigeria, to assess the effect of long term debt to asset on the return on Asset of Food and Beverage Companies in Nigeria and to examine the effect of debt to equity on the Return on asset of Food and Beverage Companies in Nigeria. The researcher used secondary sources of data; relevant data were collected from Cardbury, Nestle and Unilever Plc annual and financial reports respectively. Journals, textbooks and internet were also consulted. The researcher adopted ex-post factor research design. Ordinary Least Square Regression Techniques were used to test the Hypotheses and to ascertain the causal effect among variables. Upon the analysis of data, the following findings were drawn: The findings revealed that short term debt has a negative and non significant effect on profit after tax of Food and Beverages industries in Nigeria. Long term debt shows a positive and non significant effect on profit after tax of Food and Beverages in Nigeria. Total debt shows a negative and non significant effect on profit after tax of food and Beverages industries in Nigeria, while debt to Equity shows a positive and non significant effect on the profit after tax of Food and Beverages in Nigeria..From the above findings, the researcher now recommends that Firms must look at increasing the size of their equity either through retained earnings or by looking at the stock exchange market for funds. This kind of financing is less risky and has shown to be more profit enhancing than looking for debts instruments in the capital markets. The choice of a debt facility should be a last resort. However, if the firm does not have a choice but to go for a debt instrument, it is highly recommended that such an engagement must be pursued with strict financial discipline.

Key Words: Capital Structure, Financial Performance, Ordinary Least Squre Regressions

INTRODUCTION

Nigeria, like any other nation has witnessed dramatic changes in its industrial landscape. These changes are largely due to the efforts of the government to convert the economy from agricultural to an industrialized one.

This arises from the belief that industrialization besides minimizing dependence on the developed economies increases the country's national output, generates funds for the government, and leads to the conservation of foreign exchange earnings.

The objectives of firms revolve round ensuring that they satisfy all the stakeholders involved in the business. The manager of a firm has to make both financing and investment decisions that will aid the realization of the firm's objective. In making financing decision, one of the priorities of the manager is to ensure that he selects the best financing mix or capital structure of the firm [1].

The path towards industrialization in Nigeria has not been easy because of the disparity in resources endowment of the economic units and the low level of investment in the economy. While some units have resources beyond their immediate needs, others may have need for resources beyond what they can presently generate. [2] opined that the level of investment in an economy is one of the major elements in determining its future productive capacity and ultimately the growth in the real living standards of its people. Also, other authors [2], argued that shortage of finance is a critical limiting factor in industrial growth and the realization of an entrepreneur's dream.

Though industrial production in Nigeria stalled for many years with the annual average capacity utilization of manufacturing firms not exceeding 50%, it is noteworthy that there is a renewed interest in promoting industrial development. Increasing the pace of industrialization is the core of Nigeria's current economic vision of making Nigeria one of the 20 largest economies by the year 2020. The vision emphasizes the importance of growing the private sector not only for the purpose of satisfying local demand but also to make the economy internationally competitive. The Nigerian manufacturing sector is a major part of the private sector and a first step to realizing the economic vision"

objectives, there should be a clear understanding of the current state of the manufacturing firms and the determinants of their capital structure.

The issue of capital structure has been identified as an important reason for business growth or failure. It is imperative for firms in Nigeria to be able to finance their operations and growth over time if they are to remain and play an increasing and predominant role in creating value-added, providing employment as well as income in terms of profits, dividends, and wages to households, expanding the size of the direct productive sector in the economy, generating tax revenue for the government and facilitating poverty reduction through fiscal transfers and income from employment and firm ownership. It is important in this regard to understand how firms in Nigeria finance their operations and generate an income to investors by examining their capital structure.

Capital structure in finance means the way a firm finances his assets across blend of debt, equity or hybrid securities [3]. The concept is generally described as the combination of debt and equity that make the total capital of firms.

The proportion of debt to equity is a strategic choice of corporate managers [3]. Capital structure decision is the vital one since the financial performance of an enterprise is directly affected by such decision [3]. Hence, proper care and attention need to be given while determining capital structure decision [3].

In the statement of affairs of a firm, the overall position of the enterprise regarding all kinds of assets, liabilities are shown [3]. Capital is a vital part of that statement. The term capital structure of a firm is actually a combination of equity, preference shares and long term debts [4]. A cautious attention has to be paid as far as the effect of capital structure is concerned with unplanned capital structure, companies may fail to economize the use of their funds. Consequently, it is being increasingly realized that a company should plan its capital structure to maximize the use of funds and to be able to adapt more easily to the changing condition, [4].

Capital structure can be viewed as a way in which a firm can finance its whole operations and growth through the utilization of various sources of funds. The capacity

of companies to carry out the need of their stakeholders is closely associated with capital structure [5].

The determinant of the capital structure of a firm is challenging in reality. In deciding the optimal capital structure, a firm might have to issue various securities in a limitless mixture in order to have a combination that will maximize its overall value [5]. There is a close relationship between capital structure and corporate performance [6]. The measurement of a firm's performance can be done through the utilization of variables which involve productivity, profitability, growth or customer's satisfaction. These measures have some sort of connections between them.

In short, capital structure is a combination of a company's debt whether is in long-term or short-term, common equity and preferred equity. Capital structure is essential on how a firm finances its overall operations and growth by using different sources of funds.

STATEMENT OF PROBLEM

The difficulty facing firms in Nigeria has to do more with the financing, whether to raise debt or equity capital. The issue of finance is so important that it has been identified as an immediate reason for business failing to start in the first place or to progress. Thus it is necessary for firms in Nigeria to be able to finance their activities and grow over time, if they are ever to play an increasing and predominant role in creating value added, as well as income in terms of profits.

It is also believed that for any economy to be developed much attention should be given to its manufacturing sector. In the Nigerian economy, interest rates, foreign currency exchange rates, inflation are all high, which make both the cost of finance and the cost of doing business relatively very high. However manufacturing firms in Nigeria, like those in the other parts of the world, take external funding in the form of debt as part of their capital structure in order to expand their business, and as part of their working capital management, and most especially, to take advantage of tax deductibility of interest payment.

The standard of increasing capital in Nigeria became higher hard to achieve due to the associated risk of raising capital. Although capital structure and the impact on the value and performance had been studied for many years, researchers still cannot agree on the extent of the impact. In Nigeria, investors and stakeholders do not look in detail the effect of capital structure in measuring their firms' performance as they may assume that attributions of capital structure are not related to their firms' performance and value. Indeed, a well attribution of capital structure will lead to the success of firms.

Another problem is the agency problem that exists because ownership (shareholders) and control (management) of firms lies with different people for most of the firms. And for that reason, managers are not motivated to apply maximum efforts and are more interested in personal gains or policies that suit their own interests and thus results in the loss of value for the firm and harm shareholder's interests.

However, most investors still make very poor investment decision, because they find it difficult to understand the trend of capital structure in most manufacturing firms.

Modern financial theory and strategic management which provide basis of associating leverage and firm performance are based on very different paradigms, resulting in opposing conclusions. Therefore, there is need for more integrative research to resolve the controversies. The problem of this study is to address some of the technicalities involve in understanding the capital structure and its effect on the manufacturing industries in Nigeria.

OBJECTIVES OF THE STUDY

The general objective of the study is to examine the effect of capital structure on the financial performance of Food and Beverages companies in Nigeria.

SPECIFIC OBJECTIVES:

1. To ascertain the effect of total debt on the Return on Asset of Food and Beverage Companies in Nigeria.
2. To ascertain whether short term debt to asset has a positive effect on the Return on Asset of Food and Beverage Companies in Nigeria.

3. To assess the effect of long term debt to asset on the return on Asset of Food and Beverage Companies in Nigeria.
4. To examine the effect of debt to equity on the Return on asset of Food and Beverage Companies in Nigeria.

RESEARCH QUESTIONS

1. What is the effect of total debt has effect on the Return on Asset of Food and Beverage Companies in Nigeria?
2. To what extent does short term debt to asset has a positive impact on the Return on Asset of Food and Beverage Companies in Nigeria.
3. To what extent does long term debt to asset effect return on Asset of Food and Beverage Companies in Nigeria.
4. What is the effect of debt to equity on the Return on asset of Food and Beverage Companies in Nigeria?

RESEARCH HYPOTHESES

1. Total debt has no effect on the Return on Asset of Food and Beverage Companies in Nigeria.
2. Short term debt to asset has no effect on the Return on Asset of Food and Beverage Companies in Nigeria.
3. Long term debt to asset has no effect on the return on Asset of Food and Beverage Companies in Nigeria.
4. Debt to equity has no effect on the Return on asset of Food and Beverage Companies in Nigeria.

METHODOLOGY

RESEARCH DESIGN

This study being an empirical analysis of the effect of capital structure on Food and Beverages manufacturing industry's performance employed *Ex-post facto* research design in obtaining, analyzing and interpreting the relevant data. The rationale for the variety is that *ex-post facto* research design allows the researcher the opportunity of observing one or more variables over a period of time from 2007 - 2016.

SOURCES OF DATA

The data to be used for the research work is secondary data. They include annual time series data of the variables which cover three selected food and beverage companies, namely Cardbury, Nestle and Unelever Nigeria Plc respectively.

POPULATION OF THE STUDY

The population for the study consists of all the Food and Beverages Companies in Nigeria. The researcher used those quoted beverages companies on the Nigeria Stock Exchange (NSEC) because of the ease of access to data. A total of one hundred and thirty eight (138) food and beverages manufacturing firms were used. Therefore, the population for this study is 138.

DETERMINATION OF SAMPLE SIZE

Out of the hundred and thirty eight foods and beverages companies in Nigeria, the researcher selected three companies for this study namely, Cardbury, Nestle and Unelever Nigeria Plc. The researcher chose these companies because the study wants to find out why they are one of the top most beverages companies that their performance was outstanding in Nigeria. And also the researcher has found out that previous studies were on service industries and other companies that are not food and beverages; so she decided to divert her studies to these companies selected. The study is from 2007 - 2016 financial year, a period of ten years. The researcher chose only three beverages companies because it will be difficult to study the whole beverages companies in Nigeria.

TECHNIQUES FOR DATA ANALYSIS

The method of analysis to be used in this study shall be the ordinary least square (OLS) techniques. The estimation period will cover between (2007-2016) due to non-availability of all the necessary data to date.

It is however important to note that the cogent intention here is so establish a mechanism relationship between the dependent variables and the independent variables ascertaining financial performance.

MODEL SPECIFICATION

Secondary data that was collected from the annual reports of the selected companies and was used during analysis. Mostly data collected was quantitative in nature and therefore both descriptive and inferential statistics was used to analyze the data. Descriptive statistics such as mean, standard deviation, frequency distribution and percentages was used to analyze the data. Tables presentation as appropriate was used to present the data collected for easy understanding and analysis. This generated quantitative reports through tabulation and measures of central tendencies.

$$ROA = \beta 0 + \beta 1LEV1_t + \beta 2LEV2_t + \beta 3LEV3_t + \beta 4LEV4_t + \varepsilon_t$$

ROA = Profit After Tax/ Total Asset

LEV1 = Total Debt/Total Asset

LEV2 = Long Term Debt/Total Asset

LEV3 = Short Term Debt/ Total Asset

LEV4 = Shareholders fund/Total Debt

β0 = Constant

β1, β2, β3, β4 = Regression Coefficients

ε = Error Term

t = Time Series/Number of Years.

METHOD OF EVALUATION

The method adopted for evaluation of the model is correlation and multiple linear regression method). The techniques to be used in analyses are: Signs and magnitude of parameters: this is suggestion about the sign of the parameters and possible of their size.

The parameter β1 is expected to have Negative sign on Return on asset. The parameter β2 is expected to appear with a positive sign. The parameter β3 is expected to have a positive sign with the return on asset. As regards the magnitude of the parameters, the βs are either elasticity propensity on the marginal magnitudes of economic theory.

ESTIMATION PROCEDURE

Coefficient of multiple determination (R^2).

It is used to test for the goodness of fit and show the percentage of the total variables that is change in β0, β1, β2, β3, β4. It is given by the formula below:

$R^2 = 1-(1-R^2)/N-k-1$

Where the variables are expressed in deviation from there mean. The value of R^2 lies between 0 and the higher the R^2 the greater the goodness of fit and the closer the R2 to zero, the worse the goodness of fit.

T-TEST

This is used to test for the statistical significance of the individual regression co-efficient. A two-tailed test is conducted at 5 percent level of significance. When this is done the computed r ratio (tcal) is compared with the theoretical t (ttab).

Where n = number of sample size

K = total number of parameter estimates.

F-TEST

This measures the overall significance of the entire regression plane. The effects of the explanatory variables actually have a significant influence on the dependent variable. The computed F with ratio F* is compared with the theoretical F with V1 and V2, N-K degree of freedom

Where F* = R2/K-1

(1-R2)/N-K

Where

V1 = Degree of freedon of numerator

V2 = Degree of freedom of denominator

K = Number of Parameter estimates

N = Sample Size

Decision Rule:

If computed F is higher the critical value F i.e if F > 0.025, reject the null hypothesis if otherwise accept it.

DESCRIPTION OF VARIABLES

1.Return on Asset: This reflects the overall performance of the firm and the total profits gained by a firm which is relative to the total assets of a firm. This is used to measure firm's performance. **ROA** = $\frac{ProfitAfterTax}{TotalAsset} \times \frac{100}{1}$

2. **Total Debt Ratio:** Total debt ratio measures the amount of a firm's total assets that is financed with external debt. $\frac{TotalDebt}{TotalAsset} \times \frac{100}{1}$

3. Short Term Debt Ratio: Short term debts are debt obligation that matured within one accounting year. Short term debt.$\frac{Short\ term\ Debt}{TotalAsset} \times \frac{100}{1}$

4. Long Term Debt Ratio : This is interest costs incurred on long-term borrowed funds, and because long-term borrowing places multi-year, fixed financial obligations on a firm. $\frac{Long\ term\ Debt}{TotalAsset} \times \frac{100}{1}$

5. **Debt to Equity:** Debt equity ratio: This relates the amount of a firm's debt financing to the amount of equity financing. $\frac{ShareholdersFund}{TotalTotal} \times \frac{100}{1}$

DATA PRESENTATION AND ANALYSIS

Table 1: Raw Data for Cadbury Nigeria Plc

Year	PAT₦(M)	STD₦(M)	LTD₦(M)	TD₦(M)	DTE₦(M)
2007	648,000,000	3,378,000,000	3,150,000,000	6,537,000,000	3,698,000,000
2008	2,752,000,000	4,308,000,000	15,040,000,000	19,393,000,000	2,888,000,000
2009	2,725,000,000	4,196,000,000	9,049,000,000	13,245,000,000	12,665,000,000
2010	1,143,000,000	0	0	0	13,015,000,000
2011	3,670,555,000	4,196,000,000	6,488,000,000	10,684,000,000	15,290,000,000
2012	3,350,113,000	4,196,000,000	4,696,000,000	8,892,000,000	17,083,000,000
2013	6,023,219,000	4,196,000,000	2,421,000,000	6,617,000,000	19,360,000,000
2014	1,512,687,000	14,042,218,000	3,235,863,000	17,278,081,000	28,820,107,000
2015	1,153,903,000	11,651,634,000	4,480,074,000	16,131,708,000	12,285,297,000
2016	296,402,000,000	12,820,278,000	4,515,939,000	17,336,217,000	11,056,734,000

Source: Cadbury annual and financial statement, 2007 – 2016

Table 2: Raw Data for Nestle Nigeria Plc

Year	PAT₦(M)	STD₦(M)	LTD₦(M)	TD₦(M)	DTE₦(M)
2007	19,051,000,000	33,223,000,000	18,076,000,000	51,299,000	54,916,000,000
2008	11,382,000,000	43,326,000,000	17,259,000,000	60,585,000	54,776, 000,000
2009	12,602,109,000	3,398,377,000	7,904,762,000	11,303,139,000	60,347,062
2010	9,783,578,000	4,900,799,000	0	4,900,799,000	47,251,802,000
2011	9,904,000,000	36,232,000,000	20,585,000,000	63,625,000,000	62,604,000,000
2012	11,060,000,000	38,763,000,000	63,626,000,000	55,817,000,000	58,274,000,000
2013	10,445,000,000	32,917,000,000	23,386,000,000	56,303,000,000	64,139,000,000
204	14,904,000,000	32,895,000,000	28,671,000,000	61,566,000,000	71,884,000,000
2015	23,736,771,000	59,731,857,000	21,476,122,000	81,207,979,000	38,007,074,000
2016	7,924,968,000	121,033,434,000	17,674,923,000	138,707,857,00	30,878,075,000

Source: Nestle annual and financial statement, 2007 – 2016.

Table 3: Raw Data for Unilever Nigeria Plc

Year	PAT₦(M)	STD₦(M)	LTD₦(M)	TD₦(M)	DTE₦(M)
2007	4,136,000,000	22,480,031,000	10,924,000,000	12,819,000,000	24,483,000,000
2008	5,285,000,000	28,158,890,000	11,970,000,000	10,372,000,000	25,770,000,000
2009	3,659,000,000	31,370,833,000	12,881,000,000	12,536,000,000	24,480,000,000
2010	4,598,000,000	34,697,653,000	12,483,000,000	15,078,000,000	26,089,000,000
2011	4,623,000,000	20,556,000,000	14,662,000,000	14,921,000,000	32,591,000,000
2012	5,597,612,000	22,480,451,000	3,973,648,000	10,043,523,000	7,702,178,000
2013	4,806,907,000	28,158,890,000	5,955,528,000	9,639,695,000	9,757,563,000
204	2,412,343,000	31,370,833,000	6,886,614,000	7,478,808,000	38,257,447,000
2015	1,192,366,00	34,697,653,000	7,471,578,000	8,003,253,000	42,169,231,000
2016	7,801,000,000	20,556,000,000	18,893,000,000	16,980,000,000	39,449,000,000

Source: Unilever annual and financial statement, 2007 – 2016

Figure 1: Line Graph–Industry group data (Cadbury Nigeria Plc)

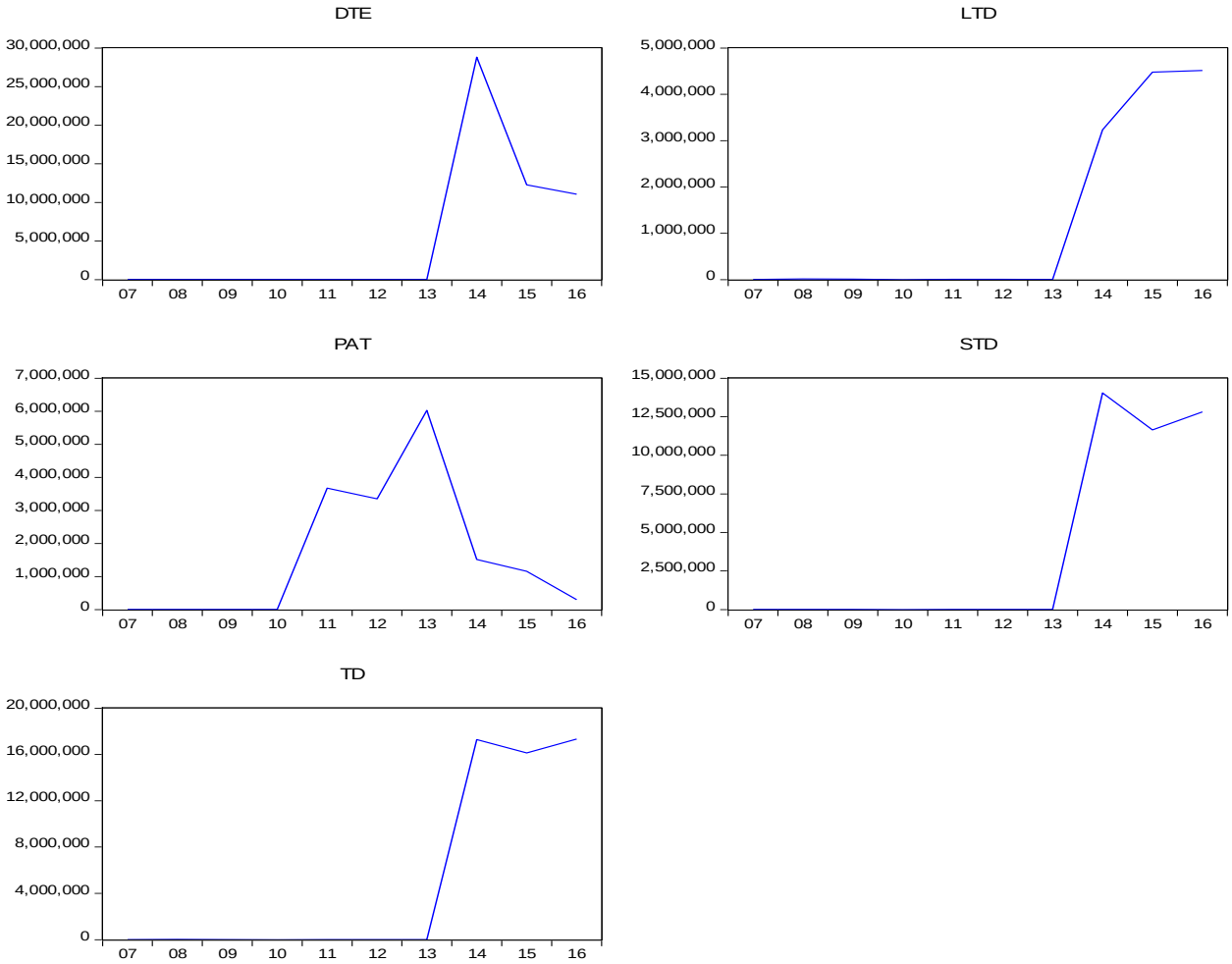

Figure 1 shows a line graph that is used to display data that changes continuously over time. It shows the changes of independent variables which include short term debt, long term debt, total dent and debt to equity of Cadbury Nigeria Plc on the dependent variable "Profit after Tax".

From the above graph, we can see that short term debt, long term debt and total debt was stable from 2007 to 2012, but suddenly changed (moved up) significantly from 2013 to 2016. Debt to equity was also stable from 2007 to 2012, but suddenly had a significant change in 2013 to 2015 and then decreased in 2016. The outcome of profit after tax shows that 2010 witnessed upward in increase of profit after tax from 2010 to 2014 with a slight decrease in 2015 – 2016.

Table 4: Descriptive Statistics – Industries Data Series (Cadbury Nigeria Plc)

	DTE	LTD	PAT	STD	TD
Mean	5224614.	1227272.	1601415.	3853860.	5081137.
Median	16186.50	7768.500	725152.5	4196.000	11964.50
Maximum	28820107	4515939.	6023219.	14042218	17336217
Minimum	2888.000	0.000000	648.0000	0.000000	0.000000
Std. Dev.	9607947.	1996497.	2082672.	6225233.	8172649.
Skewness	1.676485	0.961517	1.062852	0.899597	0.877814
Kurtosis	4.618285	2.026363	2.881371	1.847486	1.777499
Jarque-Bera	5.775521	1.935844	1.888620	1.902246	1.906973
Probability	0.055701	0.379872	0.388948	0.386307	0.385395
Sum	52246137	12272720	16014147	38538600	50811374
Sum Sq. Dev.	8.31E+14	3.59E+13	3.90E+13	3.49E+14	6.01E+14
Observations	10	10	10	10	10

The normality test in table 4 above adopted is the Jargue-Bera (JB) test of normality. The JB test of normality is a large sample test and is based on the OLs residuals. The test computes the skewness and kurtosis measures of the OLS residuals. From the above analysis all the probability of Jarque-Bera statistic is greater than 5% i.e 0.055701(DTE), 0.379872(LTD), 0.388948(PAT), 0.386307(STD) and 0.385395(TD) are greater than 0.05, therefore we conclude that all the variables are normally distributed.

Testing of Hypotheses

Table 5: Regression Analysis (Cadbury Nigeria Plc) Ordinary Least Square

Dependent Variable: LPAT
Method: Least Squares
Date: 11/04/17 Time: 15:14
Sample: 2007 2016
Included observations: 9

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.379281	12.28597	0.519233	0.6310
LSTD	-0.867143	9.388094	-0.092366	0.9308
LLTD	2.011685	10.65741	0.188759	0.8595
LTD	-4.314348	18.58750	-0.232110	0.8278
LDTE	3.779054	1.927278	1.960825	0.1214

R-squared	0.653325	Mean dependent var	12.09369
Adjusted R-squared	0.306651	S.D. dependent var	3.621002
S.E. of regression	3.015121	Akaike info criterion	5.345338
Sum squared resid	36.36383	Schwarz criterion	5.454907
Log likelihood	-19.05402	Hannan-Quinn criter.	5.108888
F-statistic	1.884549	Durbin-Watson stat	2.056126
Prob(F-statistic)	0.277221		

$$y = 6.379281 - 0.867143\ (STD) + 2.011685\ (LTD) - 4.314348\ (TD) + 3.779054\ (DTE) + \mu_t$$

Based on 5, the interpretation of the results as regard the coefficient of various regressors' is stated as follows:

The value of the intercept which is 6.379281 shows that the Cadbury profit after tax will experience 6.379281 increases when all other variables are held constant.

The estimate coefficients which are – 0.867143{STD} shows that a unit change in STD will cause a – 0.867143% decrease in PAT (profitability of Cadbury Nigeria). The coefficient of LTD which 2.011685 shows that a unit change in LTD will cause a 2.011685% increase in PAT. – 4.314348 {TD) shows that a unit change in TD will cause a – 4.314348% decrease in PAT. 3.779054 (DTE) shoes that a unit increase in DTE will cause a 3.779054 % increase in PAT.

From the above the coefficient of multiple determinations also called R2 has a value of 0.653325 which is also 65% of change in dependent variables by independent variables.

This 65% shows that the model has a goodness of fit. This also shows that all the independent variable has a good outcome on the profit after tax of Cadbury Nigeria.

From T-test result, we can see that short term debt has a negative and non significant effect on profit after tax of Cadbury Nigeria, this is show with the t-test of STD (-0.092366) with p-value of 0.9308.

Long term debt shows a positive and non significant effect on profit after tax of Cadbury Nigeria with a t-test of 0.188759 and p-value of 0.8595.

Total debt shows a negative and non significant effect on profit after tax of Cadbury Nigeria with a t-test of -0.232110 with p-value of 0.8278.

Debt to equity shows a positive and non significant effect on the profit after tax of Cadbury Nigeria with a t-test of 1.960825 with p-value of 0.1214.

Figure 2: Line Graph – Industry group data (Nestle Nigeria Plc)

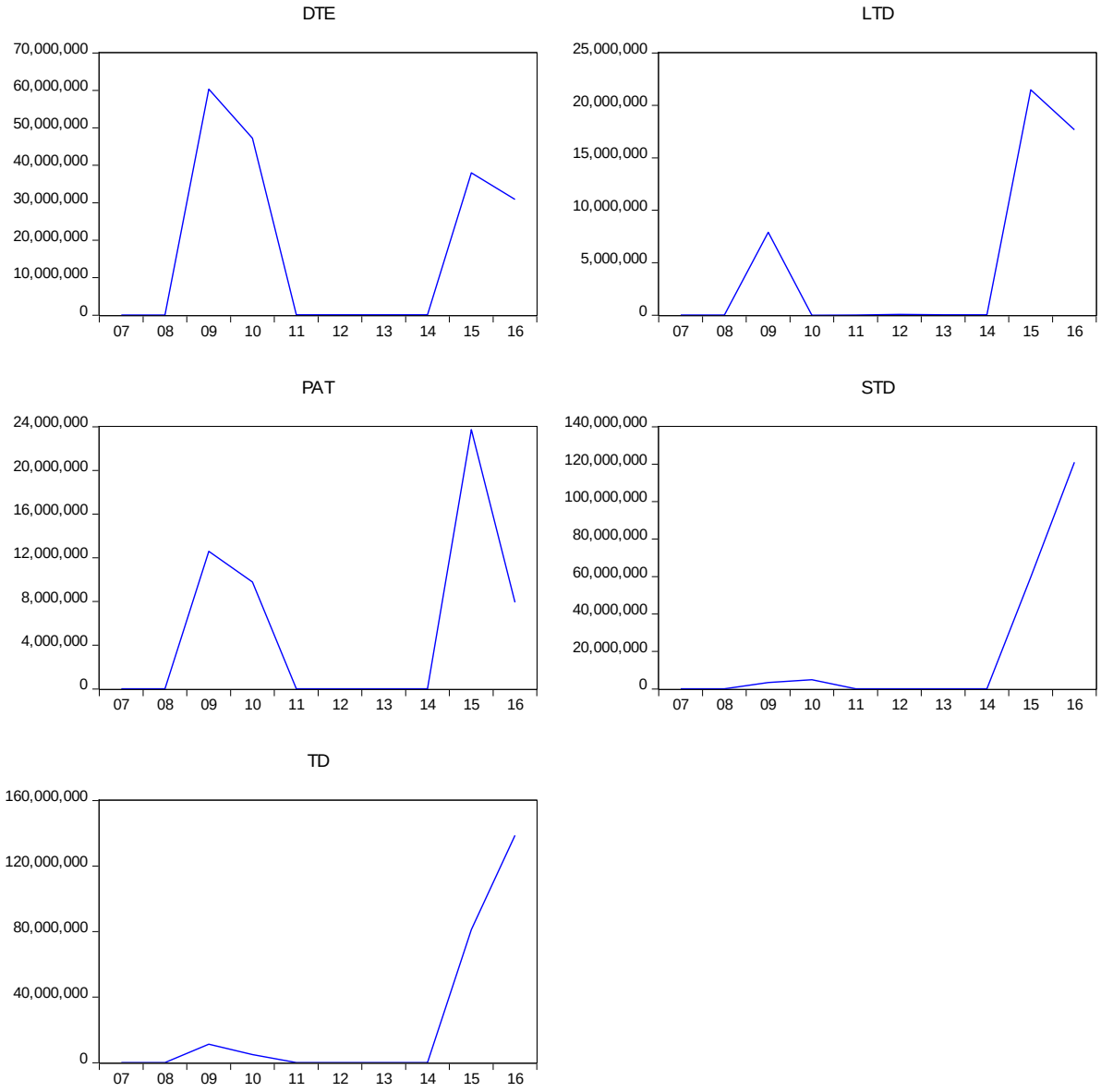

Figure 2 shows a line graph that is used to display data that changes continuously over time. It shows the changes of independent variables which include short term debt, long term debt, total dent and debt to equity of Nestle Nigeria Plc on the dependent variable "Profit after Tax".

From the above graph, we can see that short term debt increased in 2014 to 2016. Long term debt increased in 2008 – 2009 but declined 2010 to 2013 and suddenly increased

again in 2014 to 2016. Total debt was a bit stable in 2007 to 2013 and increased from 2014 to 2016. Debt to equity increased in 2008 to 2011 and declined in 2012 – 2013 and also increased again in 2014 to 2016.

Profit after tax increased in 2008 to 2011 and there was a serious decline in 2012 and 2013 and also a significant increase occurred in 2014 to 2016.

Table 6: Descriptive Statistics – Industries Data Series (Nestle Nigeria Plc)

	LDTE	LLTD	LPAT	LSTD	LTD
Mean	13.18979	12.25868	11.75413	12.72322	13.22391
Median	11.06881	10.26364	9.609385	10.56522	11.02787
Maximum	17.91562	16.88245	16.98254	18.61158	18.74788
Minimum	10.91101	9.756089	9.200694	10.40108	10.84543
Std. Dev.	3.266825	3.203299	3.505297	3.478799	3.446723
Skewness	0.713936	0.685565	0.716714	0.909186	0.813231
Kurtosis	1.525314	1.550068	1.555406	2.018835	1.782915
Jarque-Bera	1.580069	1.493361	1.553088	1.600934	1.547504
Probability	0.453829	0.473937	0.459993	0.449119	0.461279
Sum	118.7081	110.3281	105.7872	114.5090	119.0152
Sum Sq. Dev.	85.37718	82.08897	98.29684	96.81635	95.03918
Observations	9	9	9	9	9

The normality test in table above adopted is the Jargue-Bera(JB) test of normality. The JB test of normality is a large sample test and is based on the OLs residuals. The test computes the skewness and kurtosis measures of the OLS residuals. From the above analysis all the probability of Jarque-Bera statistic is greater than 5% i.e 0.453829(DTE), 0.473937(LTD), 0.459993(PAT), 0.449119(STD) and 0.461279(TD) are greater than 0.05, therefore we conclude that all the variables are normally distributed.

Testing of Hypotheses

Table 7: Regression Analysis (Nestle Nigeria Plc) Ordinary Least Square

Dependent Variable: LPAT
Method: Least Squares
Date: 11/04/17 Time: 15:25
Sample: 2007 2016
Included observations: 9

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.893229	0.741315	-2.553879	0.0630
LSTD	2.145361	2.145572	0.999902	0.3739
LLTD	-0.115260	0.431017	-0.267413	0.8024
LTD	-2.653044	2.802547	-0.946654	0.3974
LDTE	1.732247	0.914641	1.893911	0.1312

R-squared	0.992344	Mean dependent var	11.75413
Adjusted R-squared	0.984687	S.D. dependent var	3.505297
S.E. of regression	0.433764	Akaike info criterion	1.467551
Sum squared resid	0.752606	Schwarz criterion	1.577120
Log likelihood	-1.603978	Hannan-Quinn criter.	1.231101
F-statistic	129.6086	Durbin-Watson stat	2.098101
Prob(F-statistic)	0.000175		

$$y = -1.893229 + 2.145361(STD) - 0.115260(LTD) - 2.653044(TD) + 1.732247(DTE) + \mu_t$$

Based on 7, the interpretation of the results as regard the coefficient of various repressors are stated as follows:

The value of the intercept which is -1.893229 shows that the Nestle Nigeria Plc's profit after tax will experience -1.89329 decreases when all other variables are held constant.

The estimate coefficients which are 2.145361{STD} shows that a unit changes in STD will cause a 2.145361% increase in PAT (profitability of Nestle Nigeria). The coefficient of LTD which -0.115260shows that a unit change in LTD will cause a -0.115260% decrease in PAT. Total debt with – **2.653044** shows that a unit change in TD will cause a – **2.653044**% decrease in PAT.**1.732247** (DTE) shoes that a unit increase in DTE will cause a **1.732247**% increase in PAT.

From the above the coefficient of multiple determination also called R^2 has a value of 0.992344 which is 99% change in dependent variables by independent variables. This

99% shows that the model has a goodness of fit. This also shows that all the independent variable has a good outcome on the profit after tax of Nestle Nigeria.

From T-test result, we can see that short term debt has a positive and non significant effect on profit after tax of Nestle Nigeria, this is shown with the t-test of STD (0.999902) with p-value of 0.0630.

Long term debt shows a negative and non significant effect on profit after tax of Nestle Nigeria with a t-test of -0.267413 and p-value of 0.8024.

Total debt shows a negative and non significant effect on profit after tax of Nestle Nigeria with a t-test of -0.946654 with p-value of 0.3974.

Debt to equity shows a positive and non significant effect on the profit after tax of Nestle Nigeria with a t-test of 1.893911 with p-value of 0.1312.

Figure 3: Line Graph – Industry group data (Unilever Nigeria)

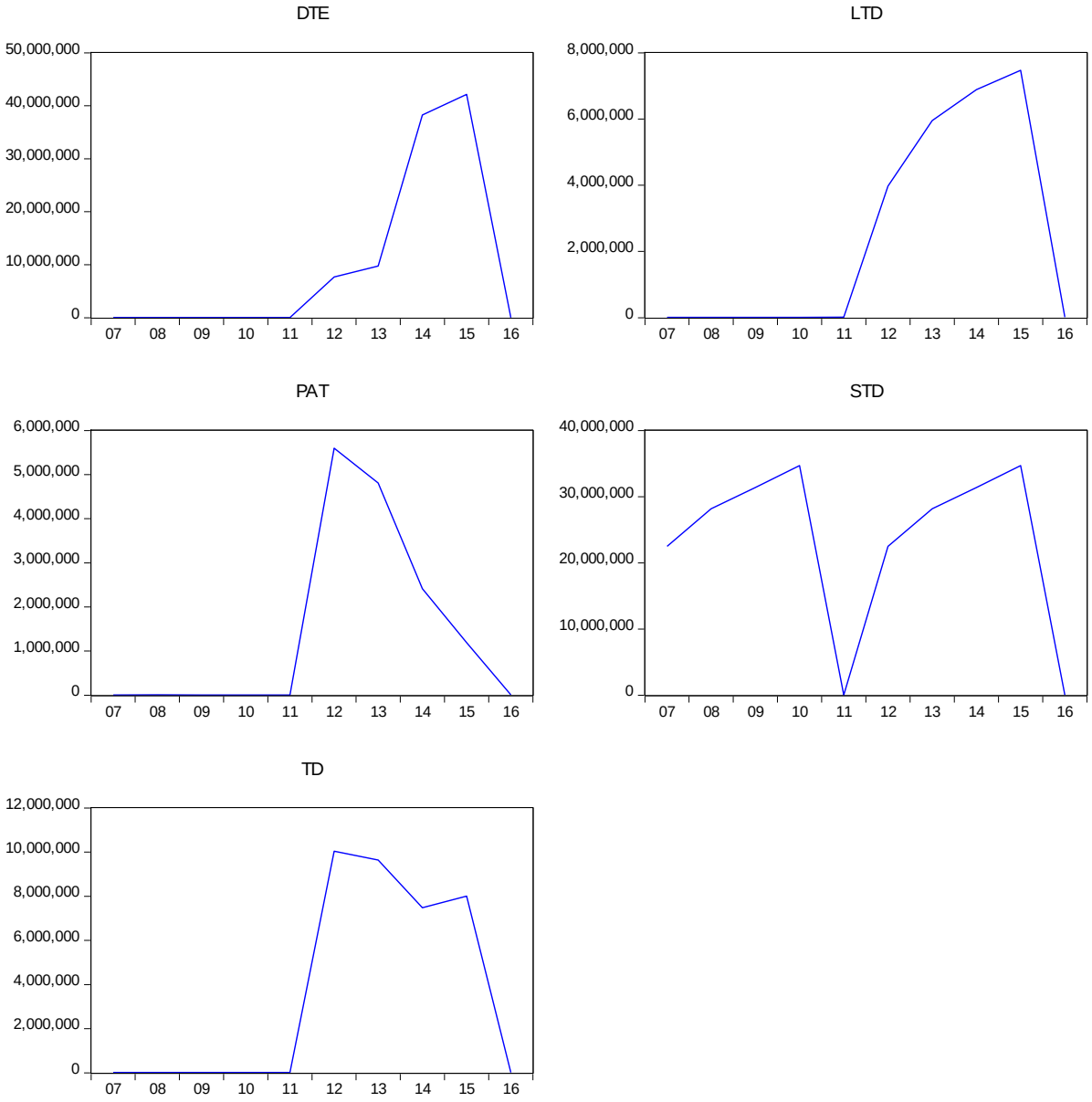

Figure 3 shows a line graph that is used to display data that changes continuously over time. It shows the changes of independent variables which include short term debt, long term debt, total dent and debt to equity of Nestle Nigeria Plc on the dependent variable "Profit after Tax".

From the above graph, we can see that short term debt was high in 2007 to 2009 and declined in 2010 and rose again in 2011 to 2016. Long term debt was stable from 2008 to 2010 and suddenly increased in 2011 to 2016. Total debt was a bit stable in 2007 to

2010 and increased from 2011 to 2016. Debt to equity was stable till 2011 and increased slowly in 2010 and again increased significantly in 2013 to 2016.

Profit after tax low outcome from 2007 to 2011 and increased in 2012 to 2016.

Table 8: Descriptive Statistics – Industries Data Series (Unilever Nigeria)

	DTE	LTD	PAT	STD	TD
Mean	9805928.	2436918.	1403933.	23345635	3524799.
Median	36020.00	16777.50	6543.000	28158890	16029.00
Maximum	42169231	7471578.	5597612.	34697653	10043523
Minimum	24480.00	10924.00	3659.000	20556.00	10372.00
Std. Dev.	16448076	3251044.	2159492.	13006390	4589115.
Skewness	1.350520	0.605119	1.136854	-1.128457	0.481840
Kurtosis	3.048205	1.547555	2.653465	2.737651	1.325620
Jarque-Bera	3.040811	1.489280	2.204096	2.151038	1.555095
Probability	0.218623	0.474905	0.332190	0.341121	0.459532
Sum	98059281	24369181	14039330	2.33E+08	35247985
Sum Sq. Dev.	2.43E+15	9.51E+13	4.20E+13	1.52E+15	1.90E+14
Observations	10	10	10	10	10

The normality test in 8 above adopted is the Jargue-Bera (JB) test of normality. The JB test of normality is a large sample test and is based on the OLs residuals. The test computes the skewness and kurtosis measures of the OLS residuals. From the above analysis all the probability of Jarque-Bera statistic is greater than 5% i.e 0.218623(DTE), 0.474905(LTD), 0.332190(PAT), 0.341121(STD) and 0.459532(TD) are greater than 0.05, therefore we conclude that all the variable are normally distributed.

Testing of Hypotheses

Table 9: Regression Analysis (Unilever Nigeria) Ordinary Least Square

Dependent Variable: PAT
Method: Least Squares
Date: 11/04/17 Time: 15:33
Sample: 2007 2016
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	30050.27	275357.5	0.109132	0.9173
STD	-0.001145	0.011427	-0.100185	0.9241
LTD	-0.200738	0.291505	-0.688626	0.5217
TD	0.674923	0.125205	5.390538	0.0030
DTE	-0.049886	0.031007	-1.608876	0.1686

R-squared	0.981059	Mean dependent var	1403933.
Adjusted R-squared	0.965906	S.D. dependent var	2159492.
S.E. of regression	398739.6	Akaike info criterion	28.93686
Sum squared resid	7.95E+11	Schwarz criterion	29.08815
Log likelihood	-139.6843	Hannan-Quinn criter.	28.77089
F-statistic	64.74437	Durbin-Watson stat	2.973670
Prob(F-statistic)	0.000170		

$$y = 30050.27 - 0.001145(STD) - 0.200738(LTD) + 0.674923(TD) - 0.049886(DTE) + \mu_t$$

Based on Table 9, the interpretation of the results as regard the coefficient of various regressors' is stated as follows:

The value of the intercept which is 30050.27 shows that the Unilever Nigeria Plc's profit after tax will experience 30050.27 increase when all other variables are held constant.

The estimate coefficients which is -0.001145 {STD} shows that a unit change in STD will cause a -0.001145% decrease in PAT (profitability of Unilever Nigeria). The coefficient of LTD which -0.200738 shows that a unit change in LTD will cause a -0.200738% decrease in PAT. Total debt with 0.674923 shows that a unit change in TD will cause a 0.674923% increase in PAT.

-0.049886 (DTE) shows that a unit increase in DTE will cause a -0.049886% decrease in PAT.

From the above table the coefficient of multiple determination also called R^2 has a value of 0.981059 which is 98% change in dependent variables by independent variables. This 98% shows that the model has a goodness of fit. This also shows that all the independent variable has a good outcome on the profit after tax of Unilever Nigeria Plc.

From T-test result, we can see that short term debt has a negative and non significant effect on profit after tax of Unilever Nigeria, this is shown with the t-test of STD (-0.100185) with p-value of 0.9241.

Long term debt shows a negative and non significant effect on profit after tax of Unilever Nigeria with a t-test of -0.688626 and p-value of 0.5217.

Total debt shows a positive and significant effect on profit after tax of Unilever Nigeria with a t-test of 5.390538 with p-value of 0.0030.

Debt to equity shows a negative and non significant effect on the profit after tax of Unilever Nigeria with a t-test of -1.668876 with p-value of 0.1686.

DISCUSSION

This research has explored the effect of capital structure on profitability of Food and Beverages manufacturing firms in Nigeria, using annual financial data from 3 selected food and beverages manufacturing industries in Nigeria from 2007–2016.

The following findings were made from the above analysis:

Short term debt has a negative and non significant effect on profit after tax of Food and Beverages in Nigeria. The estimation coefficient which is -0.867143 (STD) shows that a unit change in STD will cause -0.867143% decrease in PAT i.e. in the profitability of Food and Beverages industries in Nigeria.

Long term debt shows a positive and non significant effect on profit after tax of food and Beverages in Nigeria with a t –test of a 0.188759 and p- value of 0.8595. The coefficient of LTD which is 2.011685 shows that units change in LTD will cause a 2.011685% increase in PAT.

Total shows a negative and non significant effect on profit after tax of Food and Beverages in Nigeria with a t- test of -0.232110 with p- value of 0.8278. the coefficient of total debt, -4.314348 (TD) shows that a unit change in TD will cause a -4.314348% decrease in PAT

Debt to equity shows a positive and non significant effect on the profit after tax on Food and Beverages in Nigeria with a t-test of 1.960825 with p- value of 0.1214. The

coefficient 3.779054 (DTE) shows that a unit increase in DTE will cause a 3.779054% increase in PAT.

CONCLUSION

The study concludes that Nigerian food and beverages firms have performed remarkably well within the period of the study 2007-2016. Secondly both empirical and statistical evidence has proven that there is positive effect of Leverages on the performance indicator that is, return on asset. The study also concludes that the use of both short and long term debt in financing the three selected food and beverages companies has positive and significant effect on their performance. Finally the research concludes that equity which is the contribution of shareholders funds has also enhanced their performance.

RECOMMENDATIONS

From the findings above, the researcher now recommends that:

i. Firms must look at increasing the size of their equity either through retained earnings or by looking at the stock exchange market for funds. This kind of financing is less risky and has shown to be more profit enhancing than looking for debts instruments in the capital markets. The choice of a debt facility should be a last resort.

ii. However, if the firm does not have a choice but to go for a debt instrument, it is highly recommended that such an engagement must be pursued with strict financial discipline. The study recommends the use of long term debts as oppose to short term debt facilities in this instance, because though the long term debt impact negatively on profitability, the effect is not significant, In the extreme case where taking a short term debtor facility becomes inevitable, and must be acquired, managers are advised to ensure that the overall intake of these short-term debts (current liabilities) as a percentage of the capital structure, is less than portions of non-current liabilities and equity in total assets. Because the negative effect of the short term liability on profitability though significant it could be offset by the positive effect of the equity on the profitability.

iii. Finally it is also recommended that corporate financial managers should ensure effective and prudent management of their working capital so as to ensure that there is enough cash for the day to day running of the firm. Cash availability would reduce the need to go for debt (especially the short term facilities).

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