Capital Structure and Organizational Performance: Evidence from Nigerian Food and Beverage Companies

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

This study seeks to investigate the impact of capital structure on the performance of organizational performance with particular reference to Nigerian Food and Beverage Companies. Secondary data was used for this study. It was adopted from the audited financial statements of the listed food and beverages companies in the Nigerian Stock Exchange (NSE), for the period of the year 2014 – 2018. The method of analysis used was Pearson Moment Correlation Coefficient and Linear Regressions. The results reveal that firm leverage, tangibility of assets and liquidity have an inverse relationship with the financial performance of the Nigerian food and beverage industry, while, growth and firm's size have a positive relationship with the financial performance of Nigerian food and beverages industry. The study, recommends that Nigerian Food and Beverage should, therefore, strike a balance between their choice of capital structure and the effect on its performance as it affects the shareholder's risks.

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1. INTRODUCTION

The significant contributions of manufacturing industry to the economic growth and development in advance and emerging economies have been documented in the literature and recognized by scholars and economists globally. Manufacturing industry has been tagged as a pillar and an engine room of nation's economy, for instance, they account for a substantial proportion of total economic activities. In Nigeria, the subsector is responsible for about 10% of total GDP annually. In terms of employment generation, manufacturing activities account for about 12 per cent of the labour force in the formal sector of the nation's economy. However, the sector has been experiencing a credit crunch since the global financial crisis of 2008 which made the world stock markets fall and large financial institutions collapsed. The supply of credit has dropped dramatically, while increased risk and an increased cost of capital pressure firms to find the right balance between debt and equity. This menacing scenario has been affecting corporate firms' performance in developing countries especially Nigeria. The basis for the determination of optimal capital structure of corporate sectors in Nigeria is the widening and deepening of various financial markets. In line with this view, Ibikunle [1] argues that over thirty six manufacturing companies have moribund, while the surviving ones' earnings per share are currently zero, and per earnings ratios are also at zero level. Most of firms in Nigeria are unable to finance their activities and grow over time; this has affected them negatively to play an increasing and predominant role in creating value added, as well as income in terms of profits [2,3, 4]. This scenario has made most of manufacturing companies witnessed several cases of collapses.

Capital structure has been acknowledged by researchers, scholars, and economists as a driver of a firm's survival and growth, as it plays a primary role in its financial performance in order to achieve its long-term goals and objectives. Capital structure not only influences the return a company earns for its shareholders, but also whether the firm survives less fortunate economic shocks. The survival of an organization in a globally competitive environment depends on how it is financed. This is because if a wrong mix of finance is employed, the performance and survival of the business enterprise may be seriously affected. According to Osuji and Odita [5], capital structure is the means by which an organization is financed. Capital structure is about putting in place the structure, processes, and mechanisms that ensure that the firm is being directed and managed in a way that enhances long term shareholder value through accountability of managers and enhancing organizational performance [6]. Evidence from theoretical and empirical studies demonstrates that capital structure has an influence on organization performance. However, studies have not reached a consensus on how and to which extent the capital structure of firms' impacts on their value, performance and governance.

It is on this note that this study intends to investigate the impact of capital structure on organizational performance with special reference to Nigerian food and beverage companies.

1.1 Specific Objectives

i. To identify the most important determinants of the capital structure of food and beverage industry in Nigeria.
ii. To determine relationship between capital structure determinants and the performance of food and beverage industry in Nigeria.

1.2 Capital Structure Theory

Capital structure theory was developed by Modigliani and Miller's theory in (1985). The idea behind the theory is that under a certain market price process, in the absence of taxes, bankruptcy costs, agency costs, and asymmetries information and in an efficient market, the value of a firm is unaffected by how that firm is financed. The theorem states that, in a perfect market, how a firm is financed is irrelevant to its value. Modigliani and Miller made two findings under these conditions. Their first 'proposition' was that the value of a company is independent of its capital structure. Their second 'proposition' stated that the cost of equity for a leveraged firm is equal to the cost of equity for an unleveraged firm, plus an added premium for financial risk. That is, as leverage increases, the risk is shifted between different investor classes, while the total firm risk is constant, and hence no extra value created.

1.3 Trade-off Theory of Capital Structure

Modigliani and Miller's theory was generally viewed as a purely theoretical result since it disregards many important factors in the capital

structure process factors like fluctuations and uncertain situations that may occur in the course of financing a firm. In 1999, the trade-off theory was developed by Shyam Sunder with the idea that a company can choose how much debt finance and how much equity finance to use by balancing the costs and benefits. The trade-off theory states that capital structure is based on a trade-off between tax savings and distress costs of debt. Firms with safe, tangible assets and plenty of taxable income to shield should have high target debt ratios. The theory is capable of explaining why capital structures differ between industries, whereas it cannot explain why profitable companies within the industry have lower debt ratios (trade-off theory predicts the opposite as profitable firms have a larger scope for tax shields and therefore subsequently should have higher debt levels).

1.4 Empirical Review and Hypotheses Formulation

Firm s performance is significantly affected by various fac- tors and capital structure is one of the significant factors among them [7] with: Capital structure is one the significant factors affecting a firm's performance [7]. Previous studies have been done to explore if there is any relation between a firms' performance and capital structure. These studies produced mixed results. For example, the study Mwangi, Makau and Kosimbe [8], investigate the relationship between capital structure and performance of non-financial companies listed in the Nairobi Securities Exchange (NSE), Kenya. The study employed an explanatory non- experimental research design. A census of 42 non-financial companies listed in the Nairobi Securities Exchange, Kenya was taken. The study used secondary panel data contained in the annual reports and financial statements of listed non-financial companies. The data were extracted from the Nairobi Securities Exchange hand books for the period 2006-2012. Feasible Generalised Least Square (FGLS) regression results revealed that financial leverage had a statistically significant negative association with performance as measured by return on assets (ROA) and return on equity (ROE). In another study, Patrick, Joseph and Kemi [9] also investigated the impact of capital structure on firm's performance in Nigeria using fixed effect regression estimation model. The results reveal that there is positive relationship between return on investment and leverage of the firm. In the same vein, Akinyomi [10] examines the impact of

capital structure on firm's performance. The results indicates that debt to capital, debt to common equity, short term debt to total debt and the age of the firms' is significantly and positively related to return on asset and return on equity.

Aburub [11] also investigates the impact of capital structure on the firm performance of companies listed in Palestine Stock Exchange from 2006 to 2010. The results indicate that the capital structure has a positive effect on firm performance evaluation measures. Similarly, Olokoyo [12] examines the relationship between capital structure and corporate performance of Nigeria quoted firms. The results reveal that maturity structure of debts effect on the performance of firms significantly and the size of the firm has a significant positive effect on the performance of firms in Nigeria. San and Heng [13] also examine the relationship between capital Structure and Corporate Performance of Malaysian Construction Sector from 2005 to 2008. 49 companies were selected as samples for their study. Results show that there is a significant relationship between capital structure and corporate performance. In the same vein, Semiu and Collins [14] suggested that a positively significant relationship exists between a firm's choice of capital structure and its market value in Nigeria.

However, the study of Lawal, Edwin, Monica and Adisa [4] shows that capital structure measures (total debt and debt to equity ratio) are negatively related to firm performance.

Chechet and Olayiwola [15] examine capital structure and profitability of the Nigerian listed firms from the Agency Cost Theory perspective with a sample of seventy (70) out of population of two hundred and forty-five firms listed on the Nigerian change (NSE) for a period of ten (10) years: 2000 - 2009. The results show that debt ratio is negatively related with profitability.

Ogebe, Ogebe and Alewi [2] investigate the impact of cap- ital structure on firm performance in Nigeria from 2000 to 2010. The results provide strong evidence in support of the traditional theory of capital structure which asserts that leverage is a significant determinant of a firm's performance. A significant negative relationship is established between leverage and performance.

Abdul [16] also using 36 engineering sector firms in Pakistani market listed on the Karachi Stock

Exchange (KSE) during the period 2003-2009 applied Pooled Ordinary Least Square regression and revealed the results show that financial leverage measured by short term debt to total assets (STDTA) and total debt to total assets (TDTA) has a significantly negative relationship with the firm performance measured by Return on Assets (ROA), Gross Profit Margin (GM) and Tobin's Q. The relationship between financial leverage and firm performance measured by the return on equity (ROE) is negative but insignificant.

Akinlo [17] examines the determinants of the capital structure of 66 firms listed on the Nigerian stock exchange during the period of 1997 to 2007. The results show that there is a negative relationship between leverage and growth opportunities and legibility but negatively related to liquidity as well as size. In the same vein, Oke and Afolabi [18], using a study of five quoted firms within a period of nine years (1999-2007) from the static trade-off and agency cost theory point of view. There is also a negative relationship that exists between firms performance and debt financing due to the high cost of borrowing in the country.

Onaolapo and Kajola [19] investigate the effect of capital structure on financial performance of companies listed on Nigeria Stock Exchange. This study was performed on 30 nonfinancial companies in 15 industry sectors in a 7-year period from 2001 to 2007. The results showed that the capital structure (debt ratio) has a significant negative effect on financial measures (ROA and ROE) of these companies.

Puwanenthiren [20] carries out an investigation on capital structure and financial performance of some selected companies in Colombo Stock Exchange between 2005-2009. The results shown the relationship between the capital structure and financial performance is negative.

Base on the above empirical studies; it is therefore hypothesized that:

H_{01}: Firm's Leverage has a negative impact on the performance of food and beverage companies.

H_{02}: Growth has a negative impact on the performance of food and beverage companies.

H_{03}: Firm's size has a negative impact on the performance of food and beverage companies.

H_{04}: Tangibility of asset has a negative relationship with the performance of food and beverage companies.

H_{05}: Liquidity has a positive relationship with the performance of food and beverage companies.

2. METHODOLOGY

2.1 Population

The population of this study consist of all the companies listed on the Nigerian Stock Exchange (NSE). The companies listed are classified into twelve industrial sectors, and each sector comprises of homogenous companies.

2.2 Sample Size and Sampling Technique

The sample size of the study was selected based on Nigerian Stock Exchange classification of the listed companies into industrial stratum of homogeneous companies of same or similar characteristics, which the food and beverage industry forms a strata. This sector comprises of sixteen (16) listed companies, (Big treat Plc, 7-up Bottling Company Plc, Dangote Flour Mills, Cadbury Nigeria Plc, Dangote Sugar Refinery Plc, Ferdinand Oil Mills Plc, Flour Mills Nigeria Plc, Foremost Dairies Plc, National Salt Co. Nigeria Plc, Nestle Foods Nigeria Plc, Nigerian Bottling Company Plc, Northern Nigeria Flour Mills Plc, P S Mandrides & Co. Plc, Tate Industries Plc., Union Dicon Salt Plc. UTC Nigeria Plc.), selected for the study for over a period of five years (2014-2018).

2.3 Method of Data Collection

Secondary data was used for this study. It was adopted from the audited financial statements of the listed food and beverages companies in the Nigerian Stock Exchange (NSE), for the period of year 2014 – 2018. This study also made use of Nigerian Stock Exchange Fact Book 2018 for the company's ownership structure and CBN bulletin 2018. Most of the yearly reports that were inaccessible in the NSE fact book were obtained from the corporate offices of concerned food and beverages companies and were downloaded from their corporate websites.

2.4 Method of Data Analysis

Panel data was used since it incorporates time series and cross sectional data. The method of analysis used were Pearson Moment Correlation Coefficient and Linear Regressions. Specifically,

Pearson Moment Correlation Coefficient (PPMCC) was adopted to establish the relationship that exist between capital structure dimensions (leverage, tangibility of assets, liquidity, asset growth, and asset size), and organisational performance measured by Return on Asset. The study employed Linear Regression to assess to what extent capital structure dimensions independently influenced organization's financial performance measured by return on asset**.**

2.5 Reliability of Instrument

Reliability of instrument has to do with the consistency or reproducibility, the degree to which the instrument consistently measures what it intends. The study made use of secondary data; published audited annual financial statements of the firms. The process of preparing the audited financial statement had followed the stringent accounting standard both national and international. The financial statements are published documents, which were examined and verified to ensure its objectivity, comparability; consistency, availability, and approved by the Corporate Affairs Commission and Nigeria Stock Exchange before publishing. This ensures the consistency of the data over time as the information therein could not be altered, thus the assurance of the reliability of the data.

2.6 Explanation of Variables and Model Specification

The economic models employed in the study are regression models, to examine the relationship between capital structure and financial performance of firms in Nigerian food and beverage industry. The independent variable of the research is represented by capital structure, measured by firm leverage, growth, firm's size, tangibility of fixed assets, and liquidity.

ROA = It is measured as net profit after tax divided by total asset.

Tangible assets: It is measured by dividing the total fixed assets.

Firm's leverage: - It is measured by dividing the total liabilities to the of total assets.

Liquidity: - It is measured by the ratio of current assets to current liabilities.

Asset Growth: - It is measured by (Assets of current year – Assets of previous year / Assets of previous year).

Age = number of years of the firm from the date of its incorporation.

Size = Natural logarithm of total assets.

2.7 Model Specification

Financial performance is function of capital structure, [Financial Performance = f (capital structure)] while the financial performance is measured by ROA.

2.7.1 Model

Return on Asset = f (Firm leverage, Growth, Firm's size, Tangibility of fixed assets, and Liquidity).

2.7.1.1 Model 1

$$ROA = \beta_0 - \beta_1 LEVit + \beta_2\ GRit + \beta_3\ SIZE\ it + \beta_5\ TANGit + \beta_6 LQit + eit.$$

Where;

β_0 = intercept
β_1 - β_5 = Regression coefficient of the independent variables (ownership structure).

Where:

β_1 – co-efficient of Firm leverage
β_2 – co-efficient of Growth
β_3 – co-efficient of Firm's size
β_4 – co-efficient of Tangibility of fixed assets
β_5 – co-efficient of Liquidity
μ_i = Stochastic error term

2.8 Presentation of Data Analysis

As presented in Table 1, the average value of the financial performance ratios measured by ROA of food and beverage companies is 5.9 percent (0. 05956), this implies food and beverage companies on average earned a net income of 5.9 percent of total asset with a maximum and minimum value of 0. 078 and 0. 009. The standard deviation is 16.9 percent from the average value. On the other hand, the average value of the food and beverage companies leverage is 12.58 percent (mean=0.12580) which measured by total debt over total asset this reflects that companies operate with significant level of leverage and the maximum and minimum value of 0.50 and 0.40 percent respectively.

Table 1. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. deviation
ROA	16	.009	.078	.05956	.16970
Firm Leverage	16	.040	.500	.12580	.10896
Tangible of Asset	16	.002	.031	.01178	.07238
Liquidity	16	10.200	6.742	2.831	1.7815
Growth	16	.520	.780	.67880	.07898
Size	16	18	26	16.4719	1.6720

The growth opportunities of the food and beverage companies on average 67.88 percent (mean= 0.67880) as measured by annual change of total asset. The maximum value of annual change of total asset among the food and beverage companies is 0.788 maximum and the minimum value is 0.520 with standard deviation value of 0.7898. The Table 1 above shows that the average size of the food and beverage companies 165 percent (mean = 16.4719) which implies control variable measured by natural log of total asset which indicates very important for a company to be large in order to have superior performance. A maximum and a minimum value of size is 26 and 18 respectively. The standard deviation indicates that for the sample of Ethiopian insurance companies 1.672 suggests that there is moderate dispersion in the mean value of food and beverage companies. The amount of mean and standard deviation of tangibility of asset of food and beverage companies the value of 0.11780 and 0.7238 respectively.

The mean value of liquidity is 2.831 which indicate the amount of cash generated from current assets is 2.831 with maximum and minimum value 10.200 and 6.7423773 respectively. It deviates by 1.7815 from the mean value of the food and beverage companies.

ROA was negatively correlated with leverage, tangibility of asset and liquidity for the coefficient estimates of correlation -0.349, -0.638 and -0.423 respectively While grow opportunities and size having positive correlation with the firm's performance (ROA) of Food and beverage companies for the coefficient, 0.388 and 0.537 respectively. As we can see from the Table 2, when leverage, tangibility of asset and liquidity are increases, the performance of Food and beverage companies decreases while increase in growth opportunities and size were the performance of the Food and beverage companies also increase.

Table 2. Relationship between capital structure determinants and return on asset

	Variable	1	2	3	4	5	6
1.	Return on Assets	1.000					
2.	Firm Leverage	-0.349	1.000				
3.	Tangible of Asset	-0.638*	-0,128	1.000			
4.	Liquidity	-0.423	-0.197	-0.634**	1.000		
5.	Growth	0.388	0.201	-0.129	0.025	1.000	
6.	Size	0.537	0.511	0.730	0.548	0.414	1.000

Source: Researcher's Data Analysis, 2019

Table 3. Testing firm leverage relationship with performance of Nigerian food and beverage industry measured by return on assets

Model 1	R	R^2	Adjusted R^2		Std error of the estimate	
	.078[a]	.006	-.065		1.06984	
Explanatory variable	**B**	**Std error**	**t – value**	**p - value**	**Remarks**	
Constant	2.159	.665	3.244*	.006		
Firm Leverage	-.011	-.038	-.293	.774	Ns	

*Ns= not significant,   S= Significant; **= significant at 5% level*
Source: Researcher's Data Analysis, 2017

Table 3 shows R^2 = 0.006, which indicates that 0.06% change in organization financial performance (return on assets) is explained by the firm leverage. p- value (0.774) is greater than significant level (0.05) and this indicates that firm leverage has inverse relationship with financial performance of Food and beverage companies. The regression coefficient (-0.011) indicates that a unit increase in firm leverage will bring about (-0.011) decrease in organizational performance which is measured by return on assets. Therefore, hull hypothesis which states that Firm's Leverage has a negative impact on the performance of food and beverage companies is accepted, while the alternative hypothesis is rejected.

Table 4 exhibits R^2 = 0.354 which indicates that 35.4% change (variation) in financial performance (return on assets) is explained by tangible assets. p-value (0.015) is less than significant level (0.05) and this indicates that tangible of assets has a negative influence on organizational performance. The regression

coefficient (-0.026) indicates that a unit increase in tangible of assets will result to (-0.026) decreases in organizational performance which is measured by return on assets. Therefore, null hypothesis which states that tangibility has a negative relationship with the performance of food and beverage companies is accepted, while alternative hypothesis is rejected.

Table 5 reveals that 26.7% variation in organizational performance (return on assets) is explained by foreign ownership based on R-square (0.267). p-value (0.041) is less than significant level (0.05) and this indicates that liquidity has a significant inverse on organizational performance. The regression coefficient (-0.024) indicates that a unit increase in liquidity will result to (0.024) decreases in organizational performance which is measured by return on assets. Therefore, null hypothesis which states that liquidity has a negative relationship with the performance of food and beverage companies is accepted, while the alternative hypothesis is rejected.

Table 4. Testing influence of tangible of assets on financial performance of Nigerian food and beverage industry measured by return on assets

Model 2	R	R^2	Adjusted R^2		Std error of the estimate	
	.595[a]	.354	.308		.86220	
Explanatory variable	**B**	**Std error**	**t– value**	**p- value**	**Remarks**	
Constant	3.321	.415	8.001	.000		
Tangible of assets	-.026	.009	- 2.773*	.015	S	

*S= Significant; *= significant at 5% level; Source: Researcher's Data Analysis, 2018*

Table 5. Testing influence of liquidity on financial performance of Nigerian food and beverage companies measured by return on assets

Model 3	R	R^2	Adjusted R^2		Std error of the estimate	
	.516[a]	.267	.214		.91894	
Explanatory variable	**B**	**Std error**	**t– value**	**p- value**	**Remarks**	
Constant	1.716	.359	4.785	.000		
Liquidity	-.024	-.011	-2.256*	.041	S	

*S= Significant; *= significant at 5% level; Source: Researcher's Data Analysis, 2018*

Table 6. Testing of impact of growth on organizational performance of Nigerian food and beverage companies measured by return on assets

Model 4	R	R^2	Adjusted R^2		Std error of the estimate	
	.322[a]	.104	.040		1.01582	
Explanatory variable	**B**	**Std error**	**t– value**	**p- value**	**Remarks**	
Constant	2.139	.298	7.180	.000		
Growth	.059	.046	1.274	.003	S	

*Ns= Not significant, S= Significant; *= significant at 5% level*
Source: Researcher's Data Analysis, 2019

Table 7. Testing influence of firm's size on performance of Nigerian food and beverage companies measured by return on assets

Model 5	R	R^2	Adjusted R^2		Std error of the estimate	
	.59	.33	.68		1.07124	
Explanatory variable	B	Std error	t– value	p- value	Remarks	
Constant	2.292	.339	6.764	.000		
Firm's size	.030	.120	2.21	.008	S	

*Ns = Not significant, S= Significant; *= significant at 5% level*

Table 6 displays R^2 = 0.104 which indicates 10.4% change in organizational performance (return on assets) is explained by growth. p-value (0.003) is less than significant level (0.05) and this shows that growth has a positive and significant impact on organizational performance. The regression coefficient (0.059) indicates that a unit increase in liquidity will result to (0.059) increases in organizational performance which is measured by return on assets. Therefore, hull hypothesis which states that growth has a negative impact on the performance of food and beverage companies is rejected, while the alternative hypothesis is rejected.

3. CONCLUSION

Capital structure has been a much debated topic in the finance field since the Modigliani & Miller proposition in 1958. Capital structure theories, such as the pecking order and the trade-off theory emerged into the finance field and many have tried to analyze the implications of these theories for firms in the market. Capital structure decision have been the most significant decisions to be taken any business organization for maximization of shareholders wealth and sustained growth. Based on the findings of the study, it can be concluded that firm leverage, tangible of assets and liquidity have inverse relationship with financial performance of Nigerian food and beverages industry, while, growth and firm's size have positive relationship with financial performance of Nigerian food and beverages industry.

Deduction to be made from this finding is that effective capital structure is an antidote for distressed syndrome facing Nigerian food and beverages industry.

4. RECOMMENDATIONS

Arising from the findings of this study the following recommendations are made:

1. The Nigerian Food and Beverage should reduce their risk by increasing and diversified its operation.
2. The Nigerian Food and Beverage should therefore strike a balance between their choice of capital structure and the effect on its performance as it affect the shareholders risks, returns and the cost of capital.
3. The Nigerian Food and Beverage should pursue policies that would encourage growing firms accumulate huge tangible assets.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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