Impact of Capital Structure on the Profitability of Food and Beverage Firms

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ABSTRACT

The main objective of the study was to examine the responsiveness of capital structure to firm performance in the food and beverage sector of Nigeria. The specific objectives were to determine the effect of debt equity ratio on gross profit margin ratio, analyze the effect of debt equity ratio on net profit margin ratio, assess the effect of debt equity ratio on return on equity and, examine the effect of debt equity ratio on return on asset. The research adopted the causal research design. Secondary data were used to determine the effect of debt equity ratio on gross profit, net profit, return on equity and return on asset. The population of the study was the entire quoted companies in the food and beverage industry. From the population, a sample of five listed companies from the food and beverage sector were used. The companies were Nestle Nigeria Plc, Cadbury Nigeria Plc, Unilever Nigeria Plc, Vita Foam and PZ Cussons. Data were collected from the annual financial report published by the various companies. The dependent and independent variables were observed over a period of ten years, that is from 2009 to 2018. Debt equity ratio was the independent variable in all four hypotheses while the dependent variables were gross profit, net profit, return on equity and return on asset. Data were analyzed using Panel Least Square method in an E-View statistical Package. The hypotheses were tested at 5% level of significance. The results shows that debt equity ratio had a positive and significant impact on gross profit ratio, debt equity ratio had a positive and significant impact on net profit ratio, debt equity ratio had a positive and significant impact on return on equity and debt equity ratio had a positive and significant impact on return on asset. Based on the findings, the study concludes that firm performance is positively and significantly responsive to capital structure. Hence, it is recommended that, firms' performance should be enhanced by improving the capital structure.

KEYWORDS: Capital Structure, Profitability, Food and Beverage Firms, Panel Data

1. INTRODUCTION

Capital structure relates to the combination of debt and equity of a company which shows the behaviour of the company in financing its overall operations and growth (Marandu & Sibindi, 2016). The primary objective of the company is to maximise the shareholders wealth by making an appropriate mix of the main sources of finance. As Shubita & Alsawalhah (2012) will put it, the relationship between capital structure and profitability is vital and cannot be over-emphasized because profitability is necessary in order for the firm to survive. Capital structure plays a vital role in financial decision making process of maximizing the firm's performance and its value. Financing is one of the crucial areas in a firm. A financial manager is concerned with the determination of the best financing mix of debts and equity for his firm (Akeem, Terer, Kiyanjui & Kayode, 2014). Capital Structure of a firm is the mix of different securities issued by the firm to finance its operations. Hence, mix of financing methods used by a firm is called the firm's capital structure. It is the proportions of debt and equity that make up the liability-owners equity side of a firm's balance sheet. It is often referred to as the use of debt in a firm's capital structure or leverage (Nirajini & Priya, 2013).

Financial constraints have been a major factor 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 (Akeem, Terer, Kiyanjui, & Kayode, 2014). Alfred (2007) suggested that a firm's capital structure implies the proportion of debt and equity in the total capital structure of the firm. Pandey (1999) differentiated between capital structure and financial structure by affirming that the various means used to raise funds represent the firm's financial structure, while the capital structure represents the proportionate relationship between long-term debt and equity capital. Therefore, a firm's capital structure simply refers to the combination of long-term debt and equity financing.

However, whether or not an optimal capital structure exists in relation to firm value, it is one of the most important and complex issues in corporate finance. The corporate sector in the country is characterized by a large number of firms operating in a largely deregulated and increasingly competitive environment. Since 1987, financial liberalization resulting from the Structural Adjustment Programme (SAP) changed the operating environment of firms. The macroeconomic environment has not been conducive for business while both monetary and fiscal policies of government have not been stable.

Nyor & Yunusa (2016) argued that when management is unable to adequately utilize the firms' current and noncurrent asset, revenue of the firm may not be adequate to cover operating expenses and hence, it may affect profitability of the firms. Then, how could a company have good financial performance when faced with this situation? This explains the importance and pride of operating performance over financial performance. Previous studies such as Olokoyo (2012) and Muritala (2012) focused on firm's capital structure and financial performance in Nigeria and neglected its impact on their operating performance. Even Appah, Okoroafo and Bariweni (2013) that titled their study as capital structure and operating performance did not actually use operating performance variables in their analysis, instead, they used financial performance variables. Studies that attempts to consider

operating performance concentrated on solvency and operating performance of firms in India such as Gurbachan and Sumesh (2014) and Sandeep (2012).

However, none of these studies examined capital structure and operating performance of firms in the food and beverage sector of the Nigerian economy. This study is targeted at filling this gap. The paper is divided in five (5) sections. Section one introduced the study. Section two reviewed related literature while section three presented the methodology. Section four analyzed the data and discussed the findings while section five concluded and gave recommendation.

2. REVIEW OF RELATED LITERATURE

Capital Structure

Alfred (2007) has it that a firm's capital structure implies the proportion of debt and equity in the total capital structure of the firm. Pandey (2005) differentiated between capital structure and financial structure of a firm by affirming that the various means used to raise funds represent the firm's financial structure, while the capital structure represents the proportionate relationship between long-term debt and equity. The capital structure of a firm as discussed by Inanga and Ajayi (1999) does not include short-term credit, but means the composite of a firm's long-term funds obtained from various sources. Therefore, a firm's capital structure is described as the capital mix of both equity and debt capital in financing its assets. However, whether or not an optimal capital structure exists is one of the most important and complex issues in corporate finance.

A critical decision for any business organization is a decision for an appropriate capital structure, the decision is not only because of the need to maximize returns to various organizational constituencies, but on an organization's ability to deal with its competitive environment. The prevailing argument, originally developed by Modigliani and Miller (1958), is that an optimal capital structure exists which balances the risk of bankruptcy with the tax savings of debt. Once established, this capital structure should provide greater returns to stock holders than they would receive from an all-equity firm.

In theory, modern financial techniques would allow top managers to calculate accurately optimal trade-off between equity and debt for each firm. However, in practice; many studies found that most firms do not have an optimal capital structure. This is due to the fact that the managers do not have an incentive to maximize firm's performance because their compensation is not generally linked to it. Moreover, since managers do not share firm's profits with shareholders, they are very likely to increase company's expenditures by purchasing everything they like and surrounding themselves of luxury and amenities. Hence, the main concern of shareholders is ensuring that managers do not waste firm's resources and run the firm in order to maximize its value, which entails finding a way to solve the principal-agent problem.

Capital structure is the combination of the debt and equity structure of a company. It can also be referred to as the way a corporation finances its assets through some combination of equity, debt or hybrid securities; that is the combination of both equity and debt. A firm's capital structure is then the composition of its liabilities. The various components of a firm's capital structure

according to Inanga and Ajayi (1999) may be classified into equity capital, preference capital and long-term loan (debt) capital. Equity capital refers to the contributed capital; money originally invested in the business in exchange for shares of stock; and retained profits; profits from past years that have been kept by the company to strengthen the balance sheet, growth, acquisition and expansion of the business. Preference capital refers to a hybrid that combines the features of debentures and equity shares except the benefits while debt capital refers to the long term bonds used by the firm in financing its investment decisions while coming up with its principal and also paying back interest.

Equity Capital

According to Fernando (2021) Equity, typically referred to as shareholders' equity (or owners' equity for privately held companies), represents the amount of money that would be returned to a company's shareholders if all of the assets were liquidated and all of the company's debt was paid off in the case of liquidation. In the case of acquisition, it is the value of company sales minus any liabilities owed by the company not transferred with the sale.

Boyte-White (2021) posited that because equity capital typically comes from funds invested by shareholders, the cost of equity capital is slightly more complex. Equity funds don't require a business to take out debt which means it doesn't need to be repaid. But there is some degree of return on investment shareholders can reasonably expect based on market performance in general and the volatility of the stock in question.

Debt Capital

Merino (2020) defined debt capital as funds or assets generated by borrowing from a lender. Boyte-White (2021) saw debt capital as borrowed funds that must be repaid at a later date. This is any form of growth capital a company raises by taking out loans. These loans may be long-term or short-term such as overdraft protection. Debt capital does not dilute the company owner's interest in the firm. But it can be cumbersome to pay back interest until its loans are paid off—especially when interest rates are rising. Companies are legally required to pay out interest on debt capital in full before they issue any dividends to shareholders. This makes debt capital higher on a company's list of priorities over annual returns. While debt allows a company to leverage a small amount of money into a much greater sum, lenders typically require interest payments in return. This interest rate is the cost of debt capital. Debt capital can also be difficult to obtain or may require collateral, especially for businesses that are in trouble.

Empirical Framework

One of the most perplexing issues faced by finance managers is to know about the effect of capital structure on the profitability of firm. Many studies have been carried out to examine the effect of capital structure on the profitability of firms, but most of them belong to other parts of the world, and only few studies have been conducted in Nigeria. Singh & Bagga (2019) evaluated the effect of capital structure on the profitability of fifty (50) companies listed on National Stock Exchange of India from 2008 – 2017. The data was analyzed by using descriptive statistics, correlation and multiple panel data regression models. Four different regression models were used to study the relationship between capital structure and profitability. In these models, the study looked at the individual effect of total debt and total equity ratios on profitability, that

is, ROA and ROE. All four models were tested with pooled OLS, fixed effects, and random effects. It was concluded that there is significant positive impact of capital structure on firm's profitability.

Marandu & Sibindi (2016) investigated the relationship between capital structure and profitability within the context of an emerging market of South Africa. It conducted a multiple linear regressions on time series data of big South African banks for the period 2002 to 2013. The study established a strong relationship between the ROA (profitability measure) and the bank specific determinants of capital structure, namely capital adequacy, size, deposits and credit risk. The relationship exhibits sensitivity to macro-economic shocks (such as recessions), in the case of credit risk and capital but is persistent for the other determinants of capital structure.

Appah & Tebepah (2020) examined the optimization of capital structure and return on assets of listed non-financial firms in Nigeria for the period 2009 - 2018. Data for the study were obtained from the annual reports of sampled firms and multiple regression of ordinary least square technique of pooled regression, fixed effects and random effects was used for the analysis. The results reveal that return on assets (ROA) is negatively related to both debt to capital employed (DCE) and equity to capital employed (ECE), while its relationship with debt to equity (DE) depends on which of the three models is a plausible description of the relationships being studied. The study concludes that the fixed effects model is the most plausible description of the relationship between capital structure variables and return on assets of the selected quoted firms in Nigeria. Therefore, the study recommended amongst others that chief executive officers and chief finance officers should design an appropriate capital structure architecture that would improve the wealth maximization of shareholders.

Akeem, Terer, Kiyanjui & Kayode (2014) examined the effect of capital structure on firm's performance with a case study of manufacturing companies in Nigeria from 2003 to 2012. Descriptive and regression research technique was employed to consider the impact of some key variables such as Returns on asset (ROA), Returns on equity(ROE),Total debt to total asset(TD), Total debt to equity ratio(DE) on firm performance. Secondary data was employed using data derived from ten (10) manufacturing companies. Findings revealed that capital structure measures (total debt and debt to equity ratio) are negatively related to firm performance. The study recommended that firms should use more of equity than debt in financing their business activities, in as much as the value of a business can be enhanced using debt capital.

Muritala (2012) examined the optimum level of capital structure through which a firm can increase its financial performance using annual data of ten firms spanning a five-year period. The study hypothesized negative relationship between capital structure and operational firm performance. However, the results from Panel Least Square (PLS) confirmed that asset turnover, size, firm's age and firm's asset tangibility are positively related to firm's performance. Findings provide evidence of a negative and significant relationship between asset tangibility and ROA as a measure of performance in the model. The implication of this is that the sampled firms were not able to utilize the fixed asset composition of their total assets judiciously to impact positively on their firms' performance. Hence, the study recommended that asset tangibility should be a driven factor to capital structure because firms with more tangible assets are less likely to be

financially constrained.

Singh & Bagga (2019) evaluated the effect of capital structure on the profitability of Nifty 50 companies listed on National Stock Exchange of India from 2008 – 2017. The data were analyzed by using descriptive statistics, correlation and multiple panel data regression models. Four different regression models were used to study the relationship between capital structure and profitability. The study concluded that there is significant positive impact of capital structure on firm's profitability.

Ningi & Usman (2017) examined the effect of capital structure on financial performance of deposit money banks in Nigeria. It was observed that capital structure has direct impact on financial performance of Deposit Money Banks (DMBs). It is one of the important financing decisions of banks that is closely related to its survival. Taken into consideration the advantages of using debts, such as monitoring the conducts of managers as well as tax shielding ability, it is imperative for banks managers to explore less costly debt financing opportunities to finance their operations. DMBs should ensure optimum mix of debt and equity in their capital structures to maximize financial performance.

3. METHODOLOGY

The research adopted the causal research design. Secondary data were used to determine the impact of the relationship between capital structure proxied by equity capital and debt capital, and profitability proxied by profit after interest and tax. The population of the study was the entire quoted firms in the food and beverage industry in Nigeria. From the population, based on the accessibility data, a sample of five quoted firms was used. The firms were Nestle Nigeria Plc, Cadbury Nigeria Plc, Unilever Nigeria Plc, Vita Foam and PZ Cussons. Data were collected from the annual financial report published by the various firms. The dependent and independent variables were observed over a period of ten years, 2010 to 2019. Data were analyzed using Panel Least Square method in an E-View statistical Package. The hypothesis was tested at 5% level of significance, while the model for the study was started in line with the general form of Least Square method as follows:

$$NPAIT = \alpha_o + \alpha_1 SHF + \alpha_2 DEBT + \mu - \quad - \quad - \quad - \quad - \quad - \quad 1$$

Where: PAIT = Profit after Interest and Tax, a proxy for Profitability
SHF = Shareholders Fund, a proxy for Equity Capital
DEBT = Debt Capital
α_o = Constant
α_1 and α_2 = Intercepts.
μ = error term

4. DATA ANALYSIS AND DISCUSSION OF FINDINGS

This section analyzed and discussed the generated statistical data in respect of the dependent and independent variables. It started with the statement of hypothesis in both null and alternate form as follows:

H_0: Capital structure has no positive and significant impact on the profitability of food and beverage firms in Nigeria.

Hₐ: Capital structure has positive and significant impact on the profitability of food and beverage firms in Nigeria.

Table 4.1: Regression Result of the Impact of Capital Structure on the Profitability of Food and Beverage Firms in Nigeria

Dependent Variable: NPAIT
Method: Panel Least Squares
Date: 09/10/21   Time: 10:18
Sample: 2010 -2019
Periods included: 10
Cross-sections included: 5
Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-231079.9	1043858.	-0.221371	0.8258
SHF	0.372111	0.094397	3.941971	0.0003
DEBT	-0.296152	0.120614	-2.455381	0.0178

R-squared	0.799481	Mean dependent var	6935879.
Adjusted R-squared	0.782438	S.D. dependent var	6186913.
S.E. of regression	3997926.	Akaike info criterion	33.29857
Sum squared resid	7.51E+14	Schwarz criterion	33.41330
Log likelihood	-829.4644	Hannan-Quinn criter.	33.34226
F-statistic	35.17386	Durbin-Watson stat	2.578011
Prob(F-statistic)	0.000000		

Source: Researcher's E-View Result

Model Equation NPAIT = -1231079.9 + 0.372111SHF – 0.296152DEBT + μ

Discussion of Findings

Evidence from Table 4.1 shows that shareholders fund had positive and significant impact on the net profit after interest and tax of food and beverage firms in Nigeria (coefficient of SHF = 0.372111, t-value = 3.941971). The probability value of $0.0003 < 0.05$ further indicates that, this is significant.

On the other hand, debt had negative and significant impact on the net profit after interest and tax of food and beverage firms in Nigeria (coefficient of DEBT = - 0.296152, t-value = -2.455381. The probability value of $0.0178 < 0.05$ further indicates that, this is significant. On the whole the coefficient of determination which measures the goodness of fit as revealed by R-square (R^2) indicates that 79.95% of the variations observed in the dependent variable (DER) were explained by variations in the independent variables (NPR, ROE and ROA). The test of goodness of fit of the model as indicated by R^2 was properly adjusted by the Adjusted R-Square of 78.24%. The Durbin - Watson statistics of 2.578011 shows that there is no autocorrelation. Hence, the variables are negatively autocorrelated.

Consequently, capital structure had significant impact on profitability of food and beverage firms in Nigeria. However, equity capital had positive and significant impact on profitability. By implication, an increase in equity capital will lead to a proportionate increase in the profit of the food and beverage firms. On the other hand, debt capital had negative but significant impact on profitability of food and beverage firms in Nigeria. By implication, an increase in debt capital will lead to a proportionate decrease in the profit of the food and beverage firms in Nigeria.

5. CONCLUSIONS AND RECOMMENDATIONS

This study was undertaken to empirically examine the impact of capital structure on the profitability food and beverage firms in Nigeria. Based on findings, the study concludes that capital structure had significant impact on profitability of food and beverage firms in Nigeria. However, while equity capital had positive and significant impact on profitability, debt capital had negative but significant impact on profitability of food and beverage firms in Nigeria.

From the above, the study recommends that, there is need for the food and beverage firms to increase equity capital and reduce debt capital in their capital structure in other to sustain profitability.

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