# Financial Structure and Performance of Quoted Consumer Goods Firms in Nigeria

**[1]J.K.J. Onuora; [2]Ezeonu Caritas Uchenna; [3]Okonkwo, Maureen Nnenna and Amaechi Uchenna Hyacinth**
Department of Accounting,
Faculty of Management Sciences
Chukwuemeka Odumegwu Ojukwu
University, Igbariam Campus, Anambra State.
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***Abstract***
*Financial structure is the combination of debt and equity employed by companies in financing its business operations. This study was motivated by two conflicting issues in theoretical and empirical literatures. Theoretically, there is no consensus on the effect of financial structure on corporate performance. Modigliani and Miller preposition is that value of the firm is independent of its capital structure. The static trade-off theory states that optimal financial structure is obtained where the net tax advantage of debt financing balances leverages related to costs such as financial distress and bankruptcy, holding firm's assets and investment decisions constant. On the contrary, pecking order theory assumes that there is no optimal financial structure where companies prefer internal financing rather than debt financing. Empirical findings on the nexus between financial structure and corporate performance are mixed and conflicting. The main objective of this study examines the effect of financial structure on performance of quoted consumer goods firms in the Nigeria. Specifically, the study examined the effect of total debt to total assets ratio on return on assets of performance of quoted consumer goods firms in the Nigeria. Evaluate the effect of total debt to total equity ratio on return on equity of performance of quoted consumer goods firms in the Nigeria and assess the effect of short-term debt to total equity ratio on net profit margin of performance of quoted consumer goods firms in the Nigeria. The Descriptive Statistics, Correlation analysis, Fixed and Random Effect Test was the technique employed in estimating the models. The result of the analysis revealed that total debt to total assets, total debt to total equity and short-term debt to total assets has no significant effect on financial performance of listed consumer goods sector in Nigeria. The study concludes that financial structure has positive and significant effect on financial performance of listed consumer goods sector in Nigeria. Amongst the recommends is that that consumer goods firms should establish a debt-equity mix capable of improving return on assets. This is based on the non-significant effect of total debt to total assets on return on assets. Consumer goods firms should fund their operations with more of equity capital as debt financing negatively influence shareholder wealth. Consumer goods firms should consider the use of more short term debt relative to equity capital in preference to long term debt in their financial structure mix to increase net profit margin as this will reduce the overall cost of capital as a result of its tax advantage of leverage and that consumer goods firms should increase their investment in their assets such production/manufacturing assets to improve gross revenue, under investment in fixed assets should be discontinued and effective and efficient utilization of fixed assets vehemently upheld.*

***Key Words:*** *Financial Structure, Firm Performance*

## Introduction

The nexus between financial structure and corporate performance still remain a topic of debate in corporate finance owing to the obligation of firms to their various stakeholders. In order to finance business operations, managers combine different sources of finance, all geared towards sustainable corporate performance. The model of capital structure adopted by firms in developing and developed economies is one in which debt, equity and retained earnings show a structure of firm ownership mainly by shareholders whereas, debt instrument as ownership by debt holders (Ryoonhee, 2011). The use of all debt to finance the operations of a firm will be advantage on one side as debt interest will be tax and on the other side the firm will be under the control of creditor in order to control their stake. The use of debt capital increases agency cost between shareholders and debt holders. A firm may decide to go for equity financing or may decide on a certain ratio between equity and debt financing. The survival of a firm may be threatened following a wrong combination of financing sources.

The optimal combination of financing mix only does not guarantee improvement in firms' value as some macroeconomic fundamentals have the capability of affecting corporate performance, hence the ability of firms to access both internal and external fund may be deterred. Echekoba (2017) reported that the devaluation of the Nigerian Naira in 2015 by the Central Bank of Nigeria, inflation and persistently high interest rate charged by banks mounted huge pressure on both domestic and foreign companies. The pioneering work of Modigliani and Miller in 1958 gave insight to the supposed relationship between financial structure and corporate performance. They argue that in a perfect market condition, a firm's capital structure would not affect firm value. Though in 1963, Modigliani and Miller renege owing to the tax shield on the use of debt, changing the capital structure of a firm would result in increased firm value.

In the assumption of the static trade-off theory, a firm could trade-off the benefits and costs of debt and equity financing and find an optimal financial structure after accounting for market imperfections such as taxes, bankruptcy costs and agency costs (Kraus and Litzenberger as cited in Oleka, Echekoba, Nwakobi & Ananwude, 2019). On the other hand, the pecking order theory assumes that firms would prefer internal financing to debt. Put differently, only when all internal finances have been depleted, would firms opt for debt and as last resort. This notwithstanding, according to Ryoonhee (2011), it is generally accepted that capital structure can greatly alter firm value in the presence of constraints thus various factors such as taxes, bankruptcy costs and agency conflicts are regarded as elements of capital structure analysis. The possibility of bankruptcy has a negative impact on the value of the firm. Nonetheless, it is not the risk of bankruptcy itself that lowers value rather it is the cost associated with bankruptcy that lowers value. As the proportion of debt in the firm's capital structure is increased, the probability of bankruptcy increases also thus, the rate of return required by debt holders increases with leverage.

The financing decision is one of the most important roles played by modern financial managers as they determine value of a firm. Managers strive to maintain capital structure that maximizes the shareholders wealth while minimizing financial and business risks of the firm. The orthodox assumption in corporate finance is that firms strive to maintain optimal capital structure that balances the cost and value associated with varying equilibrium. This is based on the argument that companies respond by rebalancing their level of the optimal level (Njagi, 2013). With the exception of macroeconomic uncertainty in the country affecting all firms operating in the economy, the number of agricultural firms quoted on the Nigerian Stock Exchange are very few.

As at 31st December, 2019, there are five (5) agricultural firms quoted on the exchange. They are FTN Cocoa Processors, Okomu Oil, Presco, Ellah Lakes and Livestocks. The NSE has pledged to address and significantly mitigate the impact of production, financial and operational risk that may face the companies in order to improve corporate performance. Despite the benefits agricultural firms would have by patronizing an organized commodity through improved market access for their outputs, it is ideal to examine how corporate performance of these firms have been influenced by their financial structure.

Furthermore, in Nigeria most firms 'crises, inefficiencies, and eventual distress are linked to the financial structure problems experienced by consumer companies, the separation of control and sub-optimal performance of management results in conflict with owners of different firms in the. This may be as a result of poor adoption of financial structure by the firm which may have serious negative effect on performance of the c consumer goods in Nigeria (Paul, Ebele Chukwu & Yakubu, 2015).

**Statement of the Problem**

The different financing mix available to firms and their obligation to shareholders have shifted attention of scholars to exploring the alleged linkage between financial structure and corporate performance. This study was motivated by two conflicting issues in theoretical and empirical literature. First, theoretically, there is no consensus on the effect of financial structure on corporate performance. Modigliani and Miller 1958 preposition is that value of the firm is independent of its capital structure. The static trade-off theory states that optimal financial structure is obtained where the net tax advantage of debt financing balances leverages related to costs such as financial distress and bankruptcy, holding firm's assets and investment decisions constant. On the contrary, pecking order theory assumes that there is no optimal financial structure where companies prefer internal financing rather than debt financing.

Secondly, empirical findings on the nexus between financial structure and corporate performance are mixed and conflicting. Ofoegbu, Mlanga and Igwe (2018), Igwe, Ogar and Ogbuu (2017), Shibanda and Miroga (2018), Ngwoke and Udeh (2019), Oriaku (2018), Ngaji (2013) and Pahlevi, Hartoyo and Maulana (2016) report that capital structure has positive effect on adopted measure of quoted consumer goods firms. On the Contrary, the studies of Onuora and Obia (2018), Uremadu and Onuegbu (2018) and Suardi and Noor (2015) unveil that financial structure has negative effect on the performance of quoted consumer goods firms in the Nigeria. Echekoba and Ananwude (2016) found no significant effect of capital structure of return on assets, return on equity and profit before tax of firms quoted on the performance of quoted consumer goods firms in the Nigeria. It is conflicting as the study of Mugera and Nyambane (2014) reveal that farm technical efficiency is positively related to short-term debt, tax liability and capital investment, but negatively related to off-farm income generating activities; and long-term debt has no effect on production efficiency and return on assets.

In addition, the measures of performance of quoted consumer goods firms adopted by researchers in the context of Nigeria is limited to return on assets, return on investment, profit before and after tax, earnings per share and return on equity. This study takes a new dimension by introducing net profit margin and gross revenue as a proxy's corporate performance. In the light of the conflicts of opinion and inconsistencies in literature on financial structure – corporate performance nexus and the gap observed in previous studies, this study is set out to examine the effect of financial structure on performance of quoted consumer goods firms in the Nigeria. The need for current investigation on employment of recent data. Therefore, constitutes the key problem of this study.

## Review of Related Literature

### Conceptual Review

### Financial Structure

Financial structure is the combination of debt and equity employed by companies in financing its business operations. According to Ravindra and Rao (2014), financial structure refers to the mix of long-term sources of funds, such as debentures, long term debt, preference share capital and equity share capital including reserves and surpluses (i.e. retained earnings). Shalini and Mohua (2017) see financial structure as the mix of different securities known as debt equity ratio in a corporate firm, and c financial structure decisions are considered to be one of the most crucial decisions of a company as it has a direct bearing on the success or failure of the company. Financial structure implies propositional bearing on firm's financial performance of decision-making units including debt as major part, magnify financial performance while equity enhances solvency although it is comparatively costly (Liaqat, Saddique, Bagh, Khan, Naseer & Khan, 2017). Financial structure decision is critical to the survival of any firm because without proper decision on finance, an organization will not realize it objective of profit making and satisfying the various stakeholders. It is therefore imperative for financial managers of firms to determine the proportion of equity capital and debt capital (financial structure) to obtain the debt financing mix that is, an optimal capital structure (David & Olorunfemi, 2010).

**Gerhardinger as cited in Echekoba (2017) identified four major proxies for financial structure, and these are discussed as follows:**

**Total Liabilities to Total Assets:** The liabilities to assets ratio is a solvency ratio that examines how much of a firm's assets are made of liabilities. A liability to assets ratio of 20% means that 20% of the firms are liabilities. A high liability to assets ratio can be negative; this indicates the shareholder equity is low and potential solvency issues. Rapidly expanding firms often have higher liabilities to assets ratio (quick expansion of debt and assets). Firms in signs of financial distress will often also have high liabilities to assets ratios. A firm facing declining revenues and poor long-term prospects of growth will be impacted on retained equity (Gerhardinger, 2015). Firms with low liabilities to assets ratios indicate a company with little to no liabilities. With some notable exceptions, this is normally a good sign of financial health for the firm.

**Total Debt to Total Assets:** The debt to assets ratio is a leverage ratio used to determine how much debt (a sum of long term and current portion of debt) a firm has on its balance sheet relative to total assets. This ratio examines the percent of the firm that is financed by debt. If a firm's debt to assets ratio was 60 percent, this would mean that the firm is backed 60 percent by long term and current portion debt. Most firm's carry some form of debt on its books. All things being equal, a higher debt to assets ratio is riskier for equity investors; debt holders often have seniority over firm assets during bankruptcy (Well, 2007). A ratio of 1 (unlikely) would indicate a company is 100% backed by debt, whereas a ratio of 0 means the company is carrying no debt on its books. High debt to assets ratios will also mean that the company will be forced to make more interest payments on its debt before net earnings are calculated.

**Total Assets to Total Equity:** Assets to Shareholder Equity is a measurement of financial leverage. It shows the ratio between the total assets of the firm to the amount on which equity holders have a claim. A ratio above two means that the firm funds more assets by issuing debt than

by equity, which could be a riskier investment. A low ratio could be seen as more conservative (Pushner, 1995). The assets to shareholder equity move in conjunction with the debt to equity ratio.

**Total Debt to Total Equity:** Leverage ratio indicating the relative proportion of shareholders' equity and debt used to finance a company's assets. A low debt to equity ratio indicates lower risk, because debt holders have less claims on the company's assets. A debt to equity ratio of five means that debt holders have five times more claim on assets than equity holders. A high debt to equity ratio usually means that a firm has been aggressive in financing growth with debt and often results in volatile earnings (Ojo, 2012).

**Corporate Performance**

The term corporate performance cannot be put into a tight framework of definition. It is indistinct phenomenon and it can be interpreted and measured in different ways. Different users from their own point of views can evaluate from various angles and performance. A financial analyst will judge corporate performance from profitability and growth point of view. An economic planner will be concerned with the equal distribution of gains and wealth bedsides efficient utilization of resources. A welfare economist will be concerned with the equal distribution of gains and wealth bedsides efficient utilization. From the national viewpoint the various indicators of performance can be employment generation, research and development, health education and economic development etc. Moreover, different party's viewpoint performance differently. The shareholders are interested in profitability where as their management is interested in the growth of the company. So, both of dimension viz. profitability and growth should be considered while analysing corporate performance of a company. Some researchers have used profitability and growth as measurement of performance. In broader sense, corporate performance refers to the degree to which financial objectives being or has been accomplished. It is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

**The measurements of corporate performance of agricultural firms as applied in this study a briefly discussed a follow**:

**Return on Assets**: This refers to net income divided by total assets and gives an idea of the company's earnings via utilization of available assets. Return on assets showcase how well a company manages its assets to make earnings. A company with consistent return on assets is considered by investors as sound and liquid. Higher the return on assets is a suggestion that a company's is adequately and efficiently utilizing its assets.

**Return on Equity:** This is defined as net income divided by total equity capital and shows the ability of a company's ability to channel available funds to competing profit-making ventures. Return on equity can be considered as the price, or the cost of attracting funds from owners of the company. If the company becomes more efficient in getting funds from owners and transforming them into profitable investments, the higher the return on equity/wealth of shareholders.

**Net Profit Margin:** This accounting-based performance measure can be tagged as forward looking because profit for the period is measured against sales for the current period. Profit margin

is calculated as profit after tax divided by turnover or net sales. The essence is that it provides information on the percentage of profit that sales are able to generate.

## Theoretical framework

### Pecking Order Theory

Myers and Majulf (1984) build their research on Akerlof model called "Market for Lemons" which shows that a market can deteriorate if the potential buyers cannot verify the quality of the product they are offered. Akerlof´s paper discusses the issue of information asymmetry, in the sense that the person selling knows more about the product than the person buying it. This can potentially create a problem between firm insiders and outsiders having to do with adverse selection when raising capital (Myers & Majulf, 1984; Drobetz, Gounopulos, Merikas & Schröder, 2013; Myers, 1984). Myers (1984) introduced the Pecking Order Theory to challenge the Trade-off Theory, by saying that a company first, prefers internal to external financing, secondly prefers debt over equity if it issues securities. This hypothesis is consistent with recent research done with aggregated data on corporate financing. So, the pecking order theory ranks the different types of financing according to how prone they are to information asymmetry.

Equity has significant adverse selection, debt has a minor amount of adverse selection, while retained earnings has none at all. The figure above shows that companies rather repurchase (internal financing) than issue new shares (external), and would rather use debt than external equity if internal were not sufficient. If a company announces that it will issue new securities, a rational external investor would revalue the company´s security because the drop in valuation of equity when issuing new stocks will make the security look undervalued. On the other side of the scale, if you look at it from the insiders' perspective, retained earnings is the optimal financing source, as it reveals the least amount of information. If retained earnings are not possible, you would use debt. Contrary to the trade-off theory, the pecking order theory does not believe there's a leverage-ratio equilibrium. So, considering the macroeconomic aspects, for example, high oil prices and increased earnings for oil and gas companies, the leverage-ratio should decrease if the pecking order theory is to hold. This since internal funding, from retained earnings, is preferred over alternative funding methods. So, if recent years have shown increased profits the agency problem shareholders-managers should be mitigated, and we should see less debt being issued (Frank & Goyal, 2009).

### Trade-off Theory

The initial idea comes from Miller and Modigliani´s (1958) research; they assumed that there is in fact an optimal leverage-to-equity ratio. That there is a trade-off between the benefits from debt and the costs of debt. More current trade-off theory assumes that there are positive effects to leverage-financing within a capital structure, it differs from M&M in the way that it takes into consideration financial distress, here in the form of taxation on corporate income and the risk of bankruptcy real risks (Kraus & Liztenberger, 1973). Kraus & Liztenberger (1973) state that since interest on debt is tax deductible there is an advantage, up until a certain point, of increasing the leverage-ratio. If a company is able to meet its debt obligations, an increase in leverage will reduce the corporate income tax liability and therefore increase the after-tax earnings. However if the company is not able to pay the fixed amounts on its debt obligations on time, there may occur insolvency issues and the company might go into bankruptcy. While the marginal cost (here in the form of bankruptcy) increases as leverage increases, the marginal benefit of increased debt decreases as the leverage-ratio increases. We see a concave shaped curve. This means that there is

an optimal point, where a marginal increase in leverage gives less benefit (in the form of firm value) that what it costs. The equilibrium is acknowledged as the optimal leverage ratio.
In today´s trade-off theory the pros and cons of using debt as capital is mostly explained by using two arguments. One, the tax-bankruptcy perspective (as explained above) and two, the agency perspective (Drobetz, Gounopoulos, Merikas & Schröder, 2013; Frank & Goyal, 2009). The agency problem is related to the potential manager-shareholder conflict (Myers, 1977). Since no one can predict the future. Jensen (1986) argues that managers with substantial free cash flow, announcing "permanent" increases in dividends have a weak foundation behind these claims. By taking on debt instead of issuing stocks, the manager is bonding their promise on usage of free cash flow to dividends in the future. This because of the seniority debt-holders has over other shareholders. Contrary to equity holders the debt holders have the right to take the company into bankruptcy, if they don't deliver on promised principal or interest payments. Even though a higher level of leverage might decrease they agency cost of equity, it might also increase the bondholder-shareholder conflict (Anwer, Billings, Morton & Stanford-Harris, 2002.).

**Empirical Studies**

Ngwoke and Udeh (2019) studied the effects of capital structure on financial performance of listed food and beverage companies in Nigeria. It specifically looked at the effects of short-term debt, long term debt and leverage on profitability of food and beverage companies in Nigeria from 2007 to 2016. Secondary data were collected from published financial statements of the five listed food and beverage companies in Nigeria. The study adopted ex-post facto research design in its methodology. Multiple regression analysis was employed with the aid of E-view statistical package. The study found that short term debt had a significant and positive effect on return on equity as a measure of corporate performance, among others.
Garba, Abubakar and Sulaiman (2019) appraised the impact of financial leverage on the financial performance of three quoted firms in the agricultural sector in Nigeria, between 2005 and 2017. The study adopted ex-post factor and longitudinal research designs. Descriptive statistics and Pooled Ordinary Least Squares were adopted as methods of estimation. The major findings revealed that short-term debt ratio has significant negative impact on the financial performance, while long-term debt ratio has no significant impact on the financial performance. The study also discovered that total-debt equity ratio has a significant positive impact on the financial performance proxy by return on equity.
Sahari, Rahim and Tinggi (2019) attempted to obtain empirical findings on the relationship between the capital structure and the firm performance among the food-producing firms in Malaysia for the year 2007 to 2016. The panel data analysis in the study found that all variables in this study have a significant relationship towards firm performance.
Otekunrin, Nwanji and Obasaju (2018) investigated the relationship between the capital structure of firms and their profitability using data on 18 selected agriculture and agro-allied firms which are listed on the Nigerian Stock Exchange. The study is based on the post adoption of International Financial Reporting Standard and spans 2007 through 2012. Using the Ordinary Least Square analytical technique and garnering secondary data from firms' annual reports, the empirical results show that profitability is positively and significantly related to shareholder equity but negatively and significantly related to long-term debt.
Ofoegbu, Mlanga and Igwe (2018) examined the effect of capital structure on the performance of agricultural and agro-allied companies in Nigeria. The scope of the study covered one agricultural and nine agro-allied companies quoted in the Nigerian Stock Exchange Market whose financial

statement was examined within 11 years period beginning from 2005 to 2015. The study adopted ex post facto research design. The population of the study comprised of 10 companies quoted in the Nigerian stock Exchange Market. The study adopted census sampling implying the use of all study elements in the population. Secondary data was used for the study while ordinary least square regressions were used as the technique for data analysis with the aid of SPSS version 20.0. From the findings, the researcher observed that capital structure had positive and significant effects on the returns on investments of agricultural and agro-allied companies operating in Nigeria which led to the conclusion that capital structure is the major determinant of the performance of agricultural and agro-allied companies in Nigeria.

Shibanda and Miroga (2018) assessed effect of capital structure on growth of agricultural firms in Kenya listed on NSE, using annual data for the period 2012-2017. The study used a sample of all the 7 agricultural companies listed on the NSE. The study was anchored on theoretical framework. It relied on secondary data. Regression and correlation analysis model were used to investigate relationship of capital structure on growth. The estimation results provided evidence that capital structure has an effect on growth of agricultural firms listed on the NSE. Specifically, the results revealed a positive relationship between profitability and current liabilities to capital employed and a positive relationship between liquidity and size, earnings per share and sales growth.

Uremadu and Onyekachi (2018) analysed the impact of capital structure on corporate performance in Nigeria with special focus on consumer goods firm sector of the economy. Multiple regression of ordinary least square (OLS) analytical technique was used to analyse the data. The results from the study showed a negative and insignificant impact of capital structure on corporate performance of the consumer goods firm sector of Nigeria. That long-term debt ratio to total asset had a negative and insignificant impact on returns on assets, while total debt ratio to equity also had a negative and insignificant impact on returns on assets.

Onuora and Obia (2018) investigated the effect of financial leverage on firm financial performance of listed Agricultural firm in Nigeria. Seven (7) firms in Nigeria for the period of five (5) years (2011-2015). This work employed four (4) financial leverage ratios for the independent variables which include debt ratio (DR), debt equity ratio (DER), interest coverage ratio (ICR), and asset tangibility ratio (TANG) in determining their effect on firm performance proxy by Earnings per Share (EPS) as dependent variable. The ex-post facto research design was used while descriptive statistics, Pearson correlation and regressions were employed for the analysis. The results and findings revealed that debt ratio and Interest coverage ratio have negative influence on earning per share and are statistically significant in driving the financial performance of agricultural firms in Nigeria, while debt equity ratio and asset tangibility are statistically insignificant in driving the financial performance of agricultural firms in Nigeria.

Masavi, Kiweu and Kinyili (2017) sought to determine the influence of capital structure on financial performance of agricultural companies listed in NSE. The study adopted longitudinal research design with targeted population being the six agricultural companies listed in NSE. Secondary data was obtained from published financial statements for the period 2010-2014. Desk research instrument was used to obtain the data. Census was carried on the six companies listed in the NSE. The empirical data was analysed using the Statistical Package for Social Sciences (SPSS), to establish the relationship between the variables for study. Pearson's Correlation Coefficient and Multivariate Regression Analysis was used. The findings of this study showed that an increment in debt ratio will lead to an increment in financial performance, and debt equity combinations increase will lead to a significant reduction in after tax profits of the companies and capital structure affects financial performance.

Igwe, Ogar and Ogbuu (2017) ascertained the effect of capital structure on the profitability of agro-allied companies quoted in Nigeria. The study covered ten agro-allied companies quoted in the Nigerian Stock Exchange Market from 2005 - 2015. The study adopted ex post facto design. Census sampling was used for the study as a result of the handy nature of the population. Data were obtained from secondary sources while ordinary least square regressions. The findings revealed that capital structure serves as the main determinant of the profitability of agro-allied companies quoted in the Nigeria stock exchange market.

In Kenya, Kinyua and Muriu (2017) using annual data for the period 2010-2015, evaluated the determinant of capital structure estimated using both fixed and random effects estimation techniques. The estimation results provided evidence that profitability, liquidity, age and size of the firm are significant determinants of capital structure. Specifically, the results revealed a negative relationship between profitability and long-term debt and a positive relationship between age of the firm and long-term debt. They also established a positive influence of age on short term debt, while a negative link is evident between liquidity, the size of the firm and short-term debt.

Echekoba and Ananwude (2016) examined the impact of financial structure on performance of agricultural and healthcare firms listed in Nigerian Stock Exchange for a period of twenty-one (21) years 1993 to 2013. This study selected fifteen (15) out of the sixteen (16) firms listed on agricultural and healthcare sectors. Data were collected from the Nigerian Stock Exchange and were analysed using the pooled OLS, fixed, random effect models and the granger causality test. Financial structure was surrogated by total debt to total equity ratio, short term debt to total equity and total debt to total assets ratio while firm performance was measured by return on assets, return on equity, earnings per share and profit before tax. The analysis for the agricultural firms revealed that financial structure significantly impacts on earnings per share but does not impact on return on equity, return on asset and profit before tax.

Stekla and Grycova (2016) analysed how far the capital structure affects the profitability of agricultural holdings in the Czech Republic for a period of six years from 2008 to 2013. Data were obtained from the Albertina and was analysed by using the descriptive statistics, the correlation analysis and the regression analysis. The results showed that there is a negative relationship between the short-term debt to the total assets and portability, between the long-term debt to the total assets and portability, and between the total debt to the total assets and portability.

Adesina, Nwibe and Adesina (2015) examined the impact of post consolidation financial structure on the financial performance of Nigeria quoted banks. The study used profit before tax as a dependent variable and two capital structure variables (equity and debt) as independent variables. The sample for the study consisted of ten (10) Nigerian banks quoted on the Nigerian Stock exchange (NSE) and period of eight (8) years from 2005 to 2012. The required data and information for the study were gathered from published annual reports. Ordinary least square regression analysis of secondary data shows that financial structure has a significant positive effect financial performance of Nigeria quoted banks.

Rajakumaran and Yogendrarajah (2015) empirically evaluated the impact of financial structure on profitability in trading companies in Sri Lanka. For this purpose, the study investigated eight listed trading companies in Colombo Stock Exchange of Sri Lanka the past 5years period from 2008 to 2012. In this study, independent variable that is, financial structure of the company's is measured by leverage ratios of Debt to equity ratio and Debt to Assets ratio. The data were analyzed by using descriptive statistics, correlation analysis and regression analysis to find out the association between the variables. The results suggest that 44% of the total assets in the trading companies of Sri Lanka are representing by debt and on the basis of correlation analysis Debt to

equity ratio and Debt to total Assets ratio negatively and moderately correlated with net profit ratio.

Norvaisiene (2012) ascertained the correlation analysis between the indicators of indebtedness level (long-term financial debt ratio, short-term financial debt ratio, financial debt ratio, non-financial debt ratio) and the net profit margin. In order to estimate the strength of the influence of indebtedness on net profit margin of the companies, the multivariate regression analysis was performed. Correlation analysis result revealed that neither financial nor non-financial debt significantly affected profitability of Latvian listed companies during the research period. In Lithuanian companies, financial debt had a negative impact on net profit margin during the period of 2008-2011.

Soumadi and Hayajneh (2015) examined the effect of financial structure on the performance of the public Jordanian firms listed in Amman stock market. The study used multiple regression model represented by ordinary least squares (OLS) as a technique to examine what is the effect of financial structure on the performance by applying on 76 firms (53 industrial firms and 23 service corporation) for the period (2001-2006).The results of the study concluded that financial structure associated negatively and statistically with firm's return on equity on the study sample generally.

Taani (2013) assessed the impact of financial structure on performance of Jordanian banks. The annual financial statements of 12 commercial banks listed on Amman Stock Exchange were used for the study which covers a period of five (5) years from 2007-2011. Multiple regressions were applied on return on equity as well as total debt to total funds and total debt to total equity as capital structure variables. The results show that financial structure measured by total debt is found to be insignificant in determining return on equity in the banking industry of Jordan.

Tauseef, Lohano and Khan (2015) ascertained the effect of debt financing on firm's financial performance, measured as return on equity, using panel data of 95 textile companies in Pakistan from 2002-03 to 2007-08. Empirical results show a nonlinear relationship between return on equity and debt-to-asset ratio. As the debt-to-asset ratio increases, initially the return on equity increases until an optimal debt level is reached, after that it starts decreasing. The optimal debt-to-asset ratio for Pakistan's textile firms is estimated as 56 percent. They also find that firm's sales growth has positive and significant impact on return on equity whereas the firm size has no significant impact on it.

Fumani and Moghadam (2015) looked into the effects of financial structure on rate of return on equity of listed companies in Tehran Stock Exchange during the years 2010-2014. Due to limitations in total, 55 companies, for example, was selected. The data were obtained through library research and software Rahavard new collection. Financial leverage (debt ratio) was employed as the capital structure variable. In order to test the hypothesis, multiple regression analysis and evaluation of the significance of values and model of 95% of F-statistics and t-test were used, the results suggest that the rate of return on equity has a negative impact significantly on financial leverage.

**Gap in Knowledge**

The measures of performance of quoted consumer goods firms by researchers in the context of Nigeria is limited to return on assets, return on investment, profit before and after tax, earnings per share and return on equity. This study takes a new dimension by introducing net profit margin as a proxy for corporate performance. In the light of the inconsistencies in literatures on capital structure – corporate performance nexus and the gap observe in previous studies, this study is set

out to examine the effect of financial structure on performance of quoted consumer goods firms in the Nigeria

## Methodology

### Research Design

The researcher adopted *ex-post facto* design in the study. The study employed secondary data which were sourced from the financial statements of the selected listed consumer goods sector in Nigeria. The population of the study consists of all the 20 consumer goods firms quoted on the Nigeria Stock Exchange as at April, 2024

**Table 1: List of consumer goods firms quoted on the Nigerian Stock Exchange as at April, 2024.**

| SN | Name of Company | Acronym |
|---|---|---|
| 1 | Cadbury Nigeria Plc. | CADBURY |
| 2 | Dangote Sugar Refinery Plc | DANGSUGAR |
| 3 | DN Tyre & Rubber Plc | DUNLOP |
| 4 | Flour Mills Nig. Plc. | FLOUR |
| 5 | Guinness Nig Plc | GUINNESS |
| 6 | Honeywell Flour Mill Plc | HONYFLOUR |
| 7 | Mcnichols Plc | MCNICHOLS |
| 8 | Multi-Trex Integrated Foods Plc | MULTITREX |
| 9 | Northern Nig. Flour Mills Plc. | NNFM |
| 10 | Nascon Allied Industries Plc | NASCON |
| 11 | Nestle Nigeria Plc | NESTLE |
| 12 | Nigerian Breweries Plc. | NB |
| 13 | P Z Cussons Nigeria Plc. | PZ |
| 14 | Unilever Nigeria Plc. | UNILEVER |
| 15 | Union Dicon Salt Plc. | UNIONDICON |
| 16 | Vitafoam Nigeria Plc. | VITAFOAM |

**Sources: Nigerian Stock Exchange (2024)**
**http://www.nse.com.ng/issuers/listed-securities/listed-companies**

Five listed consumer goods sectors in Nigeria stock exchange were selected based on the following fundamental reasons: availability of their Financial Statements to work with; consistency in trading on their stock exchange markets over the years to the time of this study. The selected listed consumer goods sector in Nigeria stock exchange include

**The Selected Listed Consumer Goods Firms**

| SN | Name of Company | Acronym |
|---|---|---|
| 1 | Cadbury Nigeria Plc. | CADBURY |
| 2 | Dangote Sugar Refinery Plc | DANGSUGAR |
| 3 | DN Tyre & Rubber Plc | DUNLOP |
| 4 | Flour Mills Nig. Plc. | FLOUR |
| 5 | Guinness Nig Plc | GUINNESS |

**Model Specification and Description of Variables**

To test the hypotheses developed, a linear and multivariate modified regression model of Echekoba and Ananwude (2016) was adapted and modified. The original model is state as:

**The model is stated thus:**

ROA = f (TDTA, STDTE,STDTA)

**Where,**

$ROA$ = Return on Assets

$TDTA$ = Total Debt to Total Assets

$TDTE$ = Total Debt to Total Equity

u = Stochastic or disturbance term.

t = Time dimension of the variables

$a_0$ = Constant or intercept

$a_{1-2}$ = Coefficients to be estimated or the coefficients of slope parameters

The model was adopted and modified by the inclusion of total debt to total assets ratio

ROA = f (TDTA, STDTE, STDTA,)

**The Econometric Equation Form of the Model is:**

$ROA = \beta_0 + \beta_1 TDTA + \beta_2 STDTE + \beta_3 STDTA + \mu$- - - - - - - - - - - - -1

**Where,**

$ROA$ = Return on Assets

$TDTA$ = Total Debt to Total Assets

$TDTE$ = Total Debt to Total Equity

$STDTA$ = Short Term Debt to Total Assets

u = Stochastic or disturbance term.

t = Time dimension of the variables

$a_0$ = Constant or intercept

$a_{1-2}$ = Coefficients to be estimated or the coefficients of slope parameters

**Decision Criteria**

The hypotheses were tested at 0.05 level of significance. The decision rule is to reject null hypothesis when the computed probability value is less than 0.05 level. Otherwise, accept null hypothesis when the computed probability value greater than 0.05 level.

**Descriptive Statistics**

**Table 1. Descriptive Statistics**

| | *ROA* | *TATA* | *TDTE* | *STDTA* |
|---|---|---|---|---|
| ***Mean*** | *0.156175* | *7.091495* | *8.406804* | *7.818365* |
| ***Maximum*** | *0.236000* | *15.50000* | *11.00000* | *15.00000* |
| ***Minimum*** | *0.090000* | *3.000000* | *6.000000* | *18.41000* |
| ***Std. Dev.*** | *0.126025* | *11.16552* | *12.45583* | *15.50235* |
| ***Jarque-Bera*** | *13.46578* | *30.11481* | *18.58473* | *73.30832* |
| ***Probability*** | *0.000782* | *0.000000* | *0.000092* | *0.000000* |
| ***Sum*** | *29.69900* | *687.8750* | *844.5600* | *3474.380* |
| ***Sum Sq. Dev.*** | *1.524704* | *11968.22* | *14894.17* | *23070.99* |

| | | | | |
|---|---|---|---|---|
| ***Observations*** | *30* | *30* | *30* | *30* |

**Source: Researcher (2024)**

The study observed from the descriptive statistics result that the selected firms have average financial performance of listed consumer goods sector of 15.6 percent, maximum and minimum value of 23.6 percent and 9 percent respectively. This reveals that firms in the listed consumer goods sector experience about 15.6 percent growth in return on asset.

**Total Debt to Total Assets** has a mean value of 7.09 maximum values 15.50 and minimum values are 3.000 respectively. These values indicate that on the average, Total Debt to Total Assets of the listed consumer goods sector is about 7.1 percent of the operating cost of their firms.
The result also shows average of Total Debt to Total Equity in listed consumer goods sector is maintain about 8 members.
The result shows that Short Term Debt to Total Assets has the average, about 7.81 percent of listed consumer goods sector.
The Jarque – Bera (JB) which test for normality shows that return on asset, total debt to total assets, total debt to total equity and short-term debt to total assets are normally distributed. The result means that all the explanatory variables are normally distributed, hence no presence of outlier.

**Correlation analysis**
In examining the relationship among the variables, the study employed the Pearson correlation analysis; the results are presented in table 2.

**Table 2. Correlation analysis**

| | ***ROA*** | ***TDTA*** | ***TDTE*** | ***STDTA*** |
|---|---|---|---|---|
| *ROA* | *1.000000* | | | |
| ***TDTA*** | *-0.211078* | *1.000000* | | |
| ***TDTE*** | *-0.282136* | *-0.145651* | *1.000000* | |
| ***STDTA*** | *0.097123* | *0.100016* | *-0.310316* | *1.000000* |

**Source: Researchers summary (2025) of e-view 8**

The findings from the correlation analysis table, shows that financial performance of listed consumer goods sector has a positive relationship with total debt to total assets, total debt to total equity and short-term debt to total assets. In checking for multi-co linearity the study noticed that no two explanatory variables were perfectly correlated. This indicates the absence of multi-co linearity problem in the model used for the analysis and also justifies the use of the ordinary least square.

**Fixed and Random Effect Test**
The summary result of multiple regression analysis is presented below. However, the study takes into cognizance the homogeneity nature of the data, hence the need for testing its effect on the data. The study therefore used Hausman effect test to select between fixed and random effect that is best to be adopted in the study. Below is the summary of the Hausman test result, details of the result are presented in appendix.

**Table 3.** ***Correlated Random Effects - Hausman Test***

***Correlated Random Effects - Hausman Test***
***Equation: Untitled***
***Test cross-section random effects***

| *Test Summary* | *Chi-Sq. Statistic* | *Chi-Sq. d.f.* | *Prob.* |
|---|---|---|---|
| *Cross-section random* | *5.347202* | *4* | *0.1714* |

***Cross-section random effects test comparisons:***

| *Variable* | *Fixed* | *Random* | *Var(Diff.)* | *Prob.* |
|---|---|---|---|---|
| TDTA | *0.051648* | *0.045774* | *0.000011* | *0.1765* |
| TDTE | *0.150914* | *0.141147* | *0.000969* | *0.7537* |
| STDTA | *0.021635* | *0.040358* | *0.000117* | *0.2831* |

**Source: researcher summary of regression analysis result using E-view 8**

The Hausman test result shows a chi-square value of 5.3472 and probability value 0.1714, the chi-square value is greater than 10. Based on the result, the study accepts the random effect and reject the fixed effect, hence we use the random effect to correct the problem of homogeneity in the pool data used for the study. Table 4.4 below is the summary of the regression result adjusted for fixed effect.

**Hypothesis Testing**

To evaluate the effect of Financial Structure on financial performance of listed consumer goods sector in Nigeria and to test our formulated hypotheses, the study used the multiple regression analysis.

**Table 4. Regression analysis**

| *Variable* | *Coefficient* | *Std. Error* | *t-Statistic* | *Prob.* |
|---|---|---|---|---|
| ***C*** | ***0.388305*** | ***0.082929*** | ***4.682380*** | ***0.0000*** |
| ***TDTA*** | ***0.302746*** | ***0.011398*** | ***1.964649*** | ***0.0525*** |
| ***TDTE*** | ***0.123555*** | ***0.001445*** | ***2.460367*** | ***0.0157*** |

| | | | | |
|---|---|---|---|---|
| ***STDTA*** | ***0.000484*** | ***0.001232*** | ***0.393094*** | ***0.6952*** |

| | | | |
|---|---|---|---|
| ***R-squared*** | ***0.512601*** | ***Mean dependent var*** | ***0.242614*** |
| ***Adjusted R-squared*** | ***0.463584*** | ***S.D. dependent var*** | ***0.117222*** |
| ***S.E. of regression*** | ***0.113896*** | ***Sum squared resid*** | ***1.193453*** |
| ***F-statistic*** | ***2.629639*** | ***Durbin-Watson stat*** | ***1.868834*** |
| ***Prob(F-statistic)*** | ***0.039328*** | | |

**Source: Researchers summary of OLS regression Analysis from E-view 8**

In table 4 above, the study observed from the model result that the R-sq of 0.5126 and R-sq (adj) 0.4636, respectively. This value indicates that financial structure variable explains about 46.36 percent changes in financial performance of listed consumer goods sector in Nigeria used in the study. The F-statistics value of 2.6296, and its probability value of 0.0393, shows that the regression model is well specified and the specification is statistically significant at 5% levels. The Durbin Watson value reveals that there is no presence of autocorrelation in our model.

**Hypotheses1: Total Debt to Total Assets** has no significant effect on financial performance of listed consumer goods sector in Nigeria
The analysis result showed a coefficient value of 0.3027 and a P-value of 0.0525. The coefficient value which reveals the direction and extent of effect that total debt to total assets has on financial performance of listed consumer goods sector in Nigeria. The result shows a positive value of 0.3027, this reveals that total debt to total assets positively affect the level of financial performance of listed consumer goods sector in Nigeria. This shows that higher total debt to total assets can lead to higher financial performance of listed consumer goods sector in Nigeria
The probability value of 0.0525 shows that the effect of audit fee on financial performance of listed consumer goods sector in Nigeria is statistically significant. Based on the analysis result, the study accepts the alternate hypothesis it therefore concludes that, total debt to total assets has significant effect on financial performance of listed consumer goods sector in Nigeria

**Hypothesis 2: Total Debt to Total Equity** has no significant effect on financial performance of listed consumer goods sector in Nigeria
The analysis result showed a coefficient value of 0.1236 and a P-value of 0.0157. The coefficient value reveals that total debt to total equity positively affect the level of financial performance of listed consumer goods sector in Nigeria. This reveals that higher total debt to total equity the better the financial performance of listed consumer goods sector in Nigeria. The probability value shows that the effect of total debt to total equity on financial performance of listed consumer goods sector in Nigeria is statistically significant. Based on the analysis result, the study accepts the alternate hypothesis it therefore concludes that, total debt to total equity has significant effect on financial performance of listed consumer goods sector in Nigeria

**Hypothesis 3: short term debt to total assets has no significant effect on financial performance of listed consumer goods sector in Nigeria**
The analysis result showed a coefficient value of 0.00048 and a P-value of 0.6952. The coefficient shows a positive value (though weak), this value reveals that short term debt to total assets can

positively influence the level of financial performance of listed consumer goods sector in Nigeria. The value indicates that short term debt to total assets can positively affect the level of financial performance of listed consumer goods sector in Nigeria. The probability value shows that the effect of short-term debt to total assets though positive on financial performance of listed consumer goods sector, is not statistically significant. Based on the analysis result, the study rejects the alternate hypothesis and accepts the null hypothesis it therefore concludes that, short term debt to total assets has no significant effect on financial performance of listed consumer goods sector in Nigeria

**Conclusions**

This study examined the effect of financial structure on financial performance of listed consumer goods sector in Nigeria. The result of the study indicates that total debt to total assets, total debt to total equity and short-term debt to total assets has no significant effect on financial performance of listed consumer goods sector in Nigeria

The study therefore conclude that financial structure has positive and significant effect on financial performance of listed consumer goods sector in Nigeria

**Recommendations**

Amongst the recommends is that that consumer goods firms should establish a debt-equity mix capable of improving return on assets. This is based on the non-significant effect of total debt to total assets on return on assets. Consumer goods firms should fund their operations with more of equity capital as debt financing negatively influence shareholder wealth. Consumer goods firms should consider the use of more short term debt relative to equity capital in preference to long term debt in their financial structure mix to increase net profit margin as this will reduce the overall cost of capital as a result of its tax advantage of leverage and that consumer goods firms should increase their investment in their assets such production/manufacturing assets to improve gross revenue, under investment in fixed assets should be discontinued and effective and efficient utilization of fixed assets vehemently upheld.

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