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## EFFECT OF FINANCIAL LEVERAGE ON FINANCIAL PERFORMANCE OF QUOTED FOOD PRODUCTION COMPANIES IN NIGERIA

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### ABSTRACT

*The prior outcome of the relationship between financial leverage and financial performance are uncertain and contradictory; ranging from positive to negative statistical insignificant relationship and requires more empirical studies, thus creating a gap in knowledge. On this note, this study is meant to determine the effect of financial leverage on financial performance of quoted food production companies in Nigeria. Specifically, the study was set to ascertain the effect of debt- equity ratio on return on equity and profit margin of food production companies in Nigeria. Ex-post facto research design was adopted for the study. Data for the study were extracted from annual reports of the quoted food production companies in Nigerian Stock Exchange from 2009 to 2019. Regression analysis was used to test the formulated hypotheses with the aid of E-view 9. The study revealed that Debt- equity ratio (DER) has positive effect on return on equity and profit margin of Nigerian food production companies, but these effects are not statistically significant. Based on the findings, the study recommended among others that the government need therefore, increase tax relief which will enable the companies to have enough profit after tax that would increase retain earnings to improve internal investment.*

**Keywords:** Debt- equity ratio, Return on equity, Profit margin, and Earnings per share

## INTRODUCTION

Financial managers have adopted various capital structures as a means to achieve their goal, which is primarily based on quantifiable performance (Gweyi & Karanja, 2014). A company can finance its investment with debt or equity. Financial leverage or gearing is the use of fixed-charged funds, such as debt and preference capital, in conjunction with the owner's equity in the capital structure (Dare & So1a, 2010). An unlevered firm is all-equity, whereas a levered firm is a mix of equity and debt. Financial leverage is in the form of a loan or other owing (debt), the proceeds of which are (re)invested with the goal of earning a higher return than the cost of interest. If the firm's marginal rate of Return on Asset (ROA) is higher than the rate of interest payable on the loan, then its overall Return on Equity (ROE) will be higher than if it borrows (Laurent, 2005). On the other hand, if the firm's return on assets (ROA) is lower than the interest rate, then its Return on equity (ROE) will be lower than if it did not borrow. Leverage allows a greater potential returns of the investor than otherwise would have been available, but the potential loss is also greater: if the investment becomes worthless, the loan principal and all accrued interest on the loan still need to be repaid (Andy, Chuck & Alison, 2002). The degree of this financial risk is related to the firm's financial structure. The total combination of common equity, preferred stock and short and long term liabilities is referred to as financial structure.

Financial leverage measures how much a company uses equity and debt to fund its assets. As debt grows, so does financial leverage. Financial leverage is the use of debt financing and borrowed capital to increase a company's operations and profitability. When a company is partially financed by both debt and equity, it is said to be leveraged. Most businesses can survive with significant liquidity, which is primarily achieved through the use of debt. Many businesses use debt to increase their profits and capital (Dinh & Pham, 2020). This means that businesses are more likely to use debt/leverage to increase assets, which increases production and profits. Debt has an unchanging cost. This means that as a company's debt level rises, so does its financial leverage. Leverage is the use of borrowed funds for investment purposes. When firm's management increases the firm's profit by using debt element, it is an indication of quality corporate governance (Guner, 2016). Firm's investments can be finance by use of either debt or equity. When a firm uses fixed-charged funds especially preference capital and debt along with the shareholder's equity this is referred to as financial leverage or gearing.

Many researchers reported a significant negative relationship between leverage and financial performance (Pandya, 2016; Oseifuah & Gyekye, 2017; Bhargav, 2017), while other researchers documented a significant positive relationship between financial leverage and financial performance (Ojo, 2012; Ajibola, Wisdom & Qudus, 2018; Merugu, Bhanu & Ravindar, 2018; Basem, Al-Rdaydeh and GhazaJat. 2018). On the other hand, Nurideen (2017); Sanjay (2019); Ahfer (2019) reported no correlation between the financial leverage and financial performance. Review of empirical from investigations into the relationship between financial leverage and financial performance are uncertain and are contradictory; ranging from positive, to negative statistical insignificant relationship and requires more empirical studies, thereby creating a gap in knowledge. This makes it more attractive to study the effect of financial leverage on finance performance of companies in Nigeria. It is against this backdrop that this study examined the effect of financial leverage on financial performance of food production companies.

The main objective of this study is to examine the effect of financial leverage on financial performance of Nigerian food production companies. The specific objectives of this study are to:

1. Ascertain the effect of debt- equity ratio on return on equity of food production companies in Nigeria.
2. Determine the effect of debt- equity ratio on profit margin of food production companies in Nigeria.

## CONCEPTUAL REVIEW

### Financial Leverage

Financial leverage is a measurement of how much a company uses equity and debt to fund its investments. Borrowing money from any financial outlet or institution to make an investment is referred to as financial leverage. The manner in which an organization is financed is critical to both firm managers and fund providers. This is because if the wrong mix of finance is used, the performance and survival of the business enterprise may suffer significantly (Enekwe, Agu, & Eziedo, 2014). The ratio of debt to debt plus equity is used to calculate financial leverage. It employs debt to boost the expected return on equity. The greater the ratio of funds contributed by creditors to funds contributed by stockholders, however. The fund could increase a company's financial leverage. When compared to changes in operating income, financial leverage magnifies changes in net income. Financial leverage can be defined as the extent to which a company or investor uses borrowed funds to finance a business project. Furthermore, business corporations with high leverage are more likely to fail. Bankruptcy is common, especially when the business owner is unable to repay the debts, and it can make it difficult to find new lenders in the future. Well-managed financial leverages continue to be one of the most effective methods for various business organizations to increase shareholders' return on investment (Jelinek, 2007). Although studies opine that if not well structured from onset and properly managed it could have a significant consequence on business finances.

Financial leverage simply means the presence of debt in the capital structure of a firm. Similarly, in other words, we can also call it the existence of fixed-charge bearing capital which may include preference shares along with debentures and term loans (Hayes, 2021). Leverage is an investment strategy of using borrowed money specifically, the use of various financial instruments or borrowed capital to increase the potential return of an investment. Leverage can also refer to the amount of debt a firm uses to finance assets (Adam, 2021).

### Financial Performance

Financial performance is a subjective measure of how well a firm can use its assets for its primary business to generate revenues (Emekekwe, 2008). According to Krishnan and Moyer, (1997) the main benefit of debt financing is the tax-deductibility of interest charges, which results in lower cost of capital. However, there are certain costs associated with debt financing. So, between the two extremes of the whole equity financing and whole debt financing, a particular debt-equity mix is to be decided. Any attempt by a firm to design a financial mix need to be made in the light of two propositions: *first*, that the capital structure be designed in such a way to lead to the objective of maximizing shareholder's wealth and second, to achieve the best approximation of the optimal capital structure. Financial Performance is the measuring of results of a firm's policies and operations in monetary terms. These results are reflected in the firm's return on F investment, return on assets, value added, and so on (Enekwe, Agu & Eziedo, 2014). Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. This

term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation (Rehman, 2013).

### **Debt-Equity Ratio**

The debt-to-equity ratio is a measure of the relationship between the capital contributed by creditors and the capital contributed by shareholders. It also shows the extent to which shareholders' equity can fulfill a company's obligations to creditors in the event of liquidation (Averkamp, 2019). Debt to equity ratio is a long term solvency ratio that indicates the soundness of long-term financial policies of a company. It shows that the relation between the portion of assets financed by creditors and the portion of assets financed by stockholders. As the debt to equity ratio expresses the relationship between external equity (liabilities) and internal equity (stockholder's equity), it is also known as 'external-internal equity ratio'. This financial tool gives an idea of how much borrowed capital (debt) can be fulfilled in the event of liquidation using shareholder contributions. It is used for the assessment of financial leverage and soundness of a firm and is typically calculated using previous fiscal year's data. A low debt-equity ratio is favorable from investment viewpoint as it is less risky' in times of increasing interest rates, it therefore attracts additional capital for further investment and expansion of the business (Peterson 2009).

The debt-to-equity (D/E) ratio is calculated by dividing a company's total liabilities by its shareholder equity. These numbers are available on the statement of financial position of a company's financial statements. The ratio is used to evaluate a company's financial leverage.

$$\text{Debt-to-equity (D/E) ratio} = \frac{\text{Total Liabilities}}{\text{Shareholders' equity}}$$

The numerator consists of the total of current and long term liabilities and the denominator consists of the total stockholders' equity including preferred stock. Both the elements of the formula are obtained from company's statement of financial position. A ratio of 1 (or 1: 1) means that creditors and stockholders equally contribute to the assets of the business. A less than 1 ratio indicates that the portion of assets provided by Stockholders is greater than the portion of assets provided by creditors and a greater than 1 ratio indicates that the portion of assets provided by creditors is greater than the portion of assets provided by stockholders. A ratio of 1: 1 is normally considered satisfactory for most of the companies (Welch, 2019).

### **Return on Equity**

Return On equity is a ratio that provides investors with insight into how efficiently a company (or more specifically, its management team) is handling the capital that shareholders have contributed to it. In other words, it measures the profitability of a corporation in relation to stockholders' equity. Return on equity reveals how much after-tax profit a company earned in comparison to the total amount of shareholder equity found on the balance sheet. The higher the ROE, the more efficient a company's management is at generating income and growth from its equity financing (Kennon, 2018). ROE is often used to compare a company to its competitors and the overall market. The formula is especially beneficial when comparing firms of the same industry, since it tends to give accurate indications of which companies are operating with greater financial efficiency, and for the evaluation of nearly any company with & Adam, 2019).

$$\text{ROE} = \frac{\text{Net income}}{\text{Shareholders' Equity}}$$

ROE is more than a measure of profit; it's a measure of efficiency. A rising ROE suggests that a company is increasing its ability to generate profit without needing as much capital. It also indicates how well a company's management is deploying the shareholders' capital. However, it is important to note that if the value of the shareholders' equity goes down, ROE goes up. Thus, write-downs and share buybacks can artificially boost ROE. Likewise, a high level of debt can artificially boost ROE; after all, the more debt a Company has, the less shareholders' equity it has (as a percentage of total assets), and the higher its ROE is (Jean, 2019).

### **Profit Margin**

Profit margin is one of the commonly used profitability ratios to gauge the degree to which a company or a business activity makes money. It represents what percentage of sales has turned into profits. Simply put, the percentage figure indicates how many cents of profit the business has generated for each dollar of sale. For instance, if a business reports that it achieved a 35% profit margin during the last quarter, it means that it had a net income of \$0.35 for each dollar of sales generated. There are several types of profit margin. In everyday use, however, it usually refers to net profit margin, a company's bottom line after all other expenses, including taxes and one-off oddities, have been taken out of revenue.

Businesses and individuals across the globe *perform for-profit* economic activities with an aim to generate profits. However, absolute numbers—like \$X million worth of gross sales, \$Y thousand business expenses, or \$Z earnings—fail to provide a clear and realistic picture of a business' profitability and performance. Several different 'quantitative measures are used to compute the gains (or losses) a business generates, which make it easier to assess the performance of a business over different time periods or compare it against competitors. These measures are called profit margin.

There are four levels of profit or profit margins: gross profit, operating profit, pre-tax profit, and net profit. These are reflected on a company's income statement in the following sequence: A company takes in sales revenue, and then pays direct costs of the product of service. What's left is gross margin. Then it pays indirect costs like company headquarters, advertising, and R&D. What's left is operating margin. Then it pays interest on debt and adds or subtracts any unusual charges or inflows unrelated to the company's main business with pre-tax margin left over. Then it pays taxes, leaving the net margin, also known as net income, which is the very bottom line.

### **Empirical Review**

Few empirical studies have been performed to analyze the relationship between leverage and corporate performance. Abdullah and Naser (2015) identified determinants of capital structure in a sample of commercial banks listed on the Gulf Cooperation Council (GCC) stock markets. To achieve the objective, data about were collected from 47 GCC commercial banks for the period between 2001 and 2010. The study found that profitability and liquidity affect banks' capital structure decision. The major contribution of the study is that, the majority of the commercial banks' assets in GCC is financed by debts which represents more than 80 percent of the capital of the banks. The result emphasized the importance of long-term debts in commercial banks' financing in GCC. Amenawo and Ajaude (2017) evaluated capital structure and the performance of quoted companies in Nigeria. The focus was to identify the relationship that exists between capital structure and performance indices such as the net profit margin, return on assets and return on equity. The theoretical component of the study attempted to evaluate the major contending theories of capital structure with the

purpose of finding the best empirical explanation for corporate financing choice of a cross section of 94 Nigerian quoted companies. The result showed that Capital mix has a significant relationship with the earnings per share of quoted firms in Nigeria. Debt equity ratio has a significant positive impact on the return on assets of quoted companies in Nigeria and debt asset ratio has a significant inverse relationship with the return on assets of quoted companies in Nigeria. Also debt - equity ratio has a significant inverse impact on the return on equity of quoted companies in Nigeria and debt asset ratio has a significant positive impact on return on equity of quoted companies in Nigeria. Quoted companies in Nigeria should invest their profits when there are good investment opportunities and pay cash dividend as soon as enough income is generated. Iyoha and Umoru (2017) examined the link between capital structure and firm financial performance in Nigeria on basis of panel research design with secondary data spanning 2010-2014 financial year for seventy (75) sampled companies quoted in the Nigerian Stock Exchange was analyzed. The data estimation technique was the panel least square. The result revealed that leverage as proxy by ratio of noncurrent liability to equity (NCLEQ) seems not to exhibit causality with financial performance (RETOA) vice-versa. However, there seems to be the presence of bidirectional causality between current liability expressed as a ratio to equity (CULEQ) and RETOA. Also, there is simultaneous causal link between Equity expressed as a ratio to overall assets (EQTTA) and RETOA. The study therefore concluded that capital structure (CULEQ and EQTTA) determines financial performance (RETOA) while simultaneously; financial performance determines capital structure in Nigeria. The study recommended that firms should have a good capital structure mix, specifically ratio of NCLEQ to CULEQ and a good spread of both institutional and insider shareholdings. Ajibola, Wisdom and Qudus (2018) examined the impact of capital structure on financial performance of quoted manufacturing firms in Nigeria over the period 2005-2014. Panel methodology was applied to analyze the impact of capital structure on financial performance of quoted manufacturing firms in Nigeria. The findings of the panel ordinary least square showed that a positive statistically significant relationship exist between long term debt ratio (LTD) (0.0001), total debt ratio (TD) (0.0065) and return on equity (ROE) while a positive statistically insignificant relationship between ROE (return on equity) and STD (Short term debt ratio). There was also a negative insignificant relationship between all the proxies of capital structure (LTD, STD and TD) and ROA which makes ROE a better measure of performance. The study concluded that capital structure has a positive impact on financial performance and companies should employ of long term debts. Merugu, Bhanu and Ravindar (2018) analyzed the capital structure impact on created shareholder value by considering CSV as a shareholder value measure in 77 Indian pharmaceutical firms listed in BSE over a period of 9 years from 2007 to 2015. Using the balanced panel data and regression models, the study found that determinants such as debt—equity ratio, long-term debt ratio and short-term debt ratios have positive correlation with CSV and negatively related to total debt ratio in the absence of tax. Ahfer (2019) investigated the effect of financial leverage of a company on wealth of shareholders of organizations in Sri Lanka. Also, what kind of leverage levels would result in maximizing the shareholders' wealth of companies? The financial data from 60 listed companies in the Colombo Stock Exchange covering eight different sectors for a period of ten years from 2012 to 2017 were gathered and analyzed. The results did not show any clear relationship between financial leverage and shareholders' wealth among the selected sample companies. Besides, as the size of the sampling is small any findings: could not be conclusively established as dependable. The findings exposed evidence, which are contrary to strength of most western theories. Hence, Sri Lankan firms should bear this in mind when deciding the optimal capital mix. Sanjay (2019) examined the empirical effects of corporate capital structure (financial leverage) on cost of capital and the market value of selected firms of Indian Cement Industry

for the period from 2011 to 2018. The research evidence of the study indicated that no impact of financial leverage on cost of capital was found in the cement industry in India, i.e. no significant linear relationship between the financial leverage and cost of Capital exists, and there is no correlation between the financial leverage and total valuation within the cement industry. In other words, financial leverage does not affect the total valuation of a firm in the cement industry in India. Agung and Andi (2019) analyzed the influence of Return on Asset (ROA), Debt to Equity Ratio (DER) Earnings per Share and Company size on share return of real estate and property industry in Indonesia from 2009-2016. The number of population for the research was 50 companies and the number of sample that examined after passed the purposive sampling phase was 35 companies. Multiple linear regressions was used. The result of the research showed that Debt to Equity Ratio (DER) and Earnings per Share I (EPS) variables have a positive and significant influence on share return. On other hand, Return on Asset (ROA) and Company size has a negative and insignificant influence on share return on property and real estate industry. Senan, Ahmad, Anagreh, Tabash and Al-Homaidi, (2021) investigated the determinants of financial performance, firm liquidity and leverage ratio of Indian listed firms of Indian listed firms on the Bombay Stock Exchange. The study focused on balanced panel data for 1,333 Indian companies collected over a 12-year period from 2007 to 2018. The study used both static models (pooled, fixed and random effects) and the Generalized Moment Method (GMM). It is revealed that the current ratio and the quick ratio have a significant impact on the financial leverage of Indian listed firms. Jim, Xiaochen and Chien (2021) investigated the relationship between long-term debt financing and financing deficit of Chinese-listed firms from 2003 to 2015. The study also assessed how ownership concentration, market timing, and state ownership affect the adoption of long-term debt financing when there is a financing deficit. The regression analysis documented a positive relationship between financing deficit and changes in the long-term debt ratio Ahmadu (2021) assessed the effect of financial leverage on the financial performance, using data from the annual reports of 7 quoted oil and gas firms in Nigeria, as well as from the Nigerian Stock Exchange (NSE) daily official lists over the period 2005- 2018. Descriptive statistics were used in data presentation, while random effects panel estimator was applied in determining the effect of financial leverage variables as short-term debt ratio (STDR), long-term debt ratio (LTDR) and total-debt equity ratio (TDER) on the financial performance, measured by the return on equity (ROE). The regression results from the random effects model (REM) indicated that STDR and LTDR have no significant effect on the financial performance, and TDER has a negative but significant effect on the financial performance denoted by ROE. Khan, Qadeer, Mata, Chavaglia Neto, Sabir, Martins and Filipe (2021) applied sophisticated financial modeling to identify the core predictors of debt specialization, influencing the strategic choices of optimal debt structure in Pakistan. Data were collected from 419 non-financial companies listed at the Karachi Stock Exchange from 2009 to 2015. The study validated debt specialization by showing that short-term debts maintain their position over the years and remain the most popular type of loan among Pakistani firms. The study employed a Tobit regression model. The study identified the gross profit margin, long-term debt to asset ratio, firm size, age, asset tangibility, and long-term industry debt to asset ratio as reliable and core predictors of debt specialization for sustainable business growth. Rahman, Abdelrhman, Nurul, Anwarul Islam, Rabbani and Bunagan (2021) aimed to explore the effect of leverages on the performance of different industrial firm operating in Bahrain. The financial (DFL), operating (DOL) and combined leverages (DCL) were used as independent variables. The financial performance considered as dependent variable is measured by three financial ratios which are: the net income on assets (ROA), return on equity (ROE), and net profit margin (NPM). The sample respondents of this study include three industrial companies, Aluminum Bahrain (ALBA), Bahrain Flour Mills Company (BFM), and Delmon Poltry Company

(POLTRY) for the period 2016-2019. The findings indicated the independent variables have no significant impact on the dependent variables. Okeke, Ezejiakor, and Okoye (2021) investigated the impact of leverage on the cash ratio of Nigerian conglomerates. Data were extracted from the annual reports and accounts of the sampled firms and analyzed using Pearson correlation and Ordinary Least Square (OLS) regression analysis with the help of E-Views 9.0 statistical software. At the 5% level of significance, the study discovered that leverage has a significant negative effect on the cash ratio of Nigerian conglomerates. According to the study's findings, conglomerates should prefer to fund themselves with resources generated internally before turning to the market.

### **Summary of Reviewed and Gap in Literature**

The major challenges that finance manager's face are not only receiving or gathering funds, but also meaningfully deploying them in order to maximize returns. Because the sources of finance for most businesses are the same, it is unclear why some businesses succeed while others fail. This clearly indicates that there is something more to business success than a great idea and a good geographic presence. This makes it more appealing to investigate the impact of financial leverage on the financial performance of Nigerian companies. This study investigated the impact of financial leverage on the financial performance of food production companies against this backdrop.

## **METHODOLOGY**

### **Research Design**

The research design employed in this study is the *Ex-post facto* research design. Ex-post facto research design also, determine the factors that are associated with certain occurrence, conditions, events or behaviours by analyzing past events or already existing data (Orji, 1996). This is appropriate because the study aims at measuring the relationship between one variable and another, in which the variables involved are not manipulated by the researcher.

### **Population of the Study**

The population of this study covered seven food production companies that are under foods product in Nigeria. The study covered eleven years annual reports and accounts of these companies from 2009 to 2019. The names of these companies under food production in Nigerian manufacturing companies are:

1. Big treat Nigerian Plc
2. Dangote Flour Nigerian Plc
3. Dangote Sugar Nigerian Plc
4. Honeywell Flour mill Nigerian Plc
5. Nestle Nigerian Plc,
6. Cadbury Nigerian Plc
7. UAC Nigerian Plc.

### **Determination of Sample size**

In chosen the sample size, the researcher use stratified Random Sampling to select six foods production companies in Nigeria for the sample size of the study. This company (Big Treat) was not selected for lack of availability of annual reports and audited accounts.

### **Sources of Data**

This study basically used secondary data. The data set were sourced from publications of the Nigerian Stock Exchange (NSE) and the annual reports and accounts of the quoted foods production companies in Nigeria from 2009 to 2019.



**Model Specification**

The specified simple regression estimated model takes the following form:

$$ROE_{it} = \beta_0 + \beta_1 DER_{it} + \mu_{it} \dots\dots\dots i$$

$$PFM_{it} = \beta_0 + \beta_1 DER_{it} + \mu_{it} \dots\dots\dots ii$$

Where:

The independent variable: Debt to equity and

The dependent variables:

ROE = Return on equity of firm i in period t

PFM = Profit margin of firm i in period t

BSZ = Firm size of firm i in period t

$\beta_0$  = slope of the model

$\beta_1, \beta_2, \beta_3,$  = coefficient of parameter.

$\mu_{it}$  = error term of firm i in period t

**Method of Data Analysis**

The variable consists of independent and dependent variables. The independent variable is debt to equity ratio which proxy capital structure. The dependent variables consist of (profit margin, and return on assets). Data on these variables were collected from annual financial report of the sampled companies. Simple Regression Analysis and Pearson Correlation Coefficient were used to analyze the formulated hypotheses with aids of E-view 9.0 at 95% confidence at five degree of freedom (df).

**Decision rule**

Reject  $H_0$  if the P-value of the test is less than  $\alpha$ -value (level of significance) at 5%, otherwise accept  $H_1$ .

**ANALYSIS OF DATA**

**Table 1: Descriptive Statistics**

	DER	ROE	PM
Mean	0.574545	0.043727	0.357909
Median	0.454000	0.061000	0.128000
Maximum	1.320000	0.190000	1.555000
Minimum	0.062000	-0.369000	-0.344000
Std. Dev.	0.432901	0.148408	0.627727
Skewness	0.514213	-2.086101	0.665037
Kurtosis	2.000035	6.730226	2.173715
Jarque-Bera	0.943062	14.35585	1.123761
Probability	0.624046	0.000763	0.570136
Sum	6.320000	0.481000	3.937000
Sum Sq. Dev.	1.874037	0.220250	3.940415
Observations	11	11	11

Table 1 displays the mean (average) for each variable, as well as their maximum and minimum values, standard deviation, and Jarque-Bera (JB) statistics (normality test). The findings in Table 1 provided some insight into the nature of the selected Nigerian publicly traded food companies used in this study.

It was discovered that the sampled quoted companies in Nigeria had positive leverage (DER) = 0.575 on average over the eleven year period (2009-2019). Furthermore, the large difference between the maximum and minimum value of the = return on equity (ROE) and profit margin (PM) demonstrates that the sampled quoted companies in this study are not dominated by companies with high leverage ratios. Furthermore, the average, the Jarque-Bera (JB) test, which tests for normality or the presence of outlier or extreme values among the

variables, shows that all of our variables are normally distributed, even though the result is not significant at the 5% level, and the result could be generalized. This also implies that the pooled regression models.

### Test of Hypotheses

#### Hypothesis One

Ho: Debt-equity ratio has no significant effect on return on equity of quoted food production companies in Nigeria.

Hi: Debt-equity ratio has significant effect on return on equity of quoted food production companies in Nigeria.

**Table 2: Regression analysis between DER and ROE**

Dependent Variable: DER

Method: Least Squares

Date: 04/16/21 Time: 13:19

Sample: 2009 2019

Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.611670	0.137770	4.439781	0.0016
ROE	-0.848995	0.930226	-0.912677	0.3852
R-squared	0.084713	Mean dependent var		0.574545
Adjusted R-squared	-0.016986	S.D. dependent var		0.432901
S.E. of regression	0.436563	Akaike info criterion		1.343196
Sum squared resid	1.715282	Schwarz criterion		1.415540
Log likelihood	-5.387576	Hannan-Quinn criter.		1.297592
F-statistic	0.832979	Durbin-Watson stat		0.863592
Prob(F-statistic)	0.385209			

In Table 2, R-squared and adjusted Squared values were (0.085) and (-0.017) respectively. The indicates that all the independent variables jointly explain about 8.5% of the systematic variations in debt-equity ratio (DER) of our samples companies over the eleven years periods (2009-2019). The F-statistics (0.833) and its P-value (0.385) show that the DER regression model is well specified.

Using Durbin-Waston (DW) statistics which we obtained from our regression result in table 2, it is observed that DW statistics is 0.864 and an Akaike Info Criterion and Schwarz Criterion which are 1.343 and 1.416 respectively also further confirms that our model is well specified.

Based on the t-value of -0.912677 and p-value of 0.385, was found to have a negative effect on our sampled quoted company's leverage, but this effect was also not statistically significant as its p-value is higher than 0.05 values. This result, therefore suggests that we should accept our null hypothesis one (Ho<sub>1</sub>) which states that debt-equity ratio has no significant effect on the return on equity of Nigerian food production companies.

#### Hypothesis Two

Ho: Debt-equity ratio has no significant effect on profit margin of quoted food production companies in Nigeria.

Hi: Debt-equity ratio has significant effect on profit margin of quoted food production companies in Nigeria.

**Table 3: Regression analysis between DER and Pm**

Dependent Variable: DER  
 Method: Least Squares  
 Date: 04/16/21 Time: 13:21  
 Sample: 2009 2019  
 Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.441248	0.134922	3.270404	0.0097
PM	0.372432	0.193473	1.924980	0.0864
R-squared	0.291648	Mean dependent var		0.574545
Adjusted R-squared	0.212942	S.D. dependent var		0.432901
S.E. of regression	0.384054	Akaike info criterion		1.086899
Sum squared resid	1.327478	Schwarz criterion		1.159243
Log likelihood	-3.977944	Hannan-Quinn criter.		1.041296
F-statistic	3.705547	Durbin-Watson stat		2.256674
Prob(F-statistic)	0.086365			

In Table 3, R-squared and adjusted Squared values were (0.292) and (0.213) respectively. The indicates that all the independent variables jointly explain about 29% of the systematic variations in debt-equity ratio (DER) of our samples companies over the eleven years periods (2009-2019). The F-statistics (3.706) and its P-value (0.086) show that the DER regression model is well specified.

Using Durbin-Waston (DW) statistics which we obtained from our regression result in table 3, it is observed that DW statistics is 2.257 and an Akika Info Criterion and Schwarz Criterion which are 1.087 and 1.159 respectively also further confirms that our model is well specified.

Based on the t-value of 1.924980 and p-value of 0.086, was found to have a positive effect on our sampled quoted company's leverage, but this effect was also not statistically significant as its p-value is higher than 0.05 value. This result, therefore suggests that we should accept our null hypothesis one ( $H_{02}$ ) which states that debt-equity ratio has no significant effect on the profit margin of Nigerian food production companies.

## CONCLUSION AND RECOMMENDATIONS

### Conclusion

This study focused on the relationship pattern of leverage and performance, thus shows the importance of leverage in stockholders returns that intend to affect the wealth maximization goal of a firm. The results of the analysis show statistically insignificant correlation between financial performances (as measured by return on equity and profit margin). This reveals that increase (or decrease) in leverage; return on equity enhances the wealth of shareholders. The results also show a insignificantly positive relationship between financial leverage (debt-equity ratio).

This result implies that companies will need to engage more on debt that has lower cost to finance their business in order to boost their profitability. It is pertinent to note that, management of financial institutions should be careful in making decision on their capital structure. And if debt funds are selected to finance organization operations, it should align with the costs and benefits associated with the use of debt. Furthermore, that the management of Nigerian food production firm is advised to retain part of their profit earned, in order to

reduce the pressure of sourcing funds which will boost growth of the banks when experiencing surplus earning.

### Recommendations

The following recommendations were made based on the findings:

1. The government should create an enabling business environment so that businesses can thrive and thus increase shareholder returns, such as increasing tax relief, which will allow Nigerian companies to have enough profit after tax to retain earnings and improve internal investment.
2. Firms are advised to conduct detailed feasibility studies on any proposed investment in order to determine the assets' and investment's viability. The institution's management should make the optimal capital structure decision in order to use funds wisely and maximize shareholder wealth.

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