



UNIPORT JOURNAL OF BUSINESS, ACCOUNTING & FINANCE MANAGEMENT
DEPARTMENT OF ACCOUNTING
UNIVERSITY OF PORT HARCOURT, CHOBA
PORT HARCOURT, RIVERS STATE
NIGERIA
VOL. 17 NO. 2 MARCH 2026

**EFFECT OF DEBT CAPITAL ON PROFITABILITY OF LISTED FOOD AND BEVERAGE
MANUFACTURING FIRMS IN NIGERIAN EXCHANGE GROUP FROM 2011-2022**

DR. ELEKIMA, AMBIYE OKONTE

Department of Accounting, Faculty of Administration and Management
Ignatius Ajuru University of Education
Port Harcourt, Rivers State

&

DR. WOMENAZU, HARRY, SUNDAY

Department of Accounting, Faculty of Administration and Management
Ignatius Ajuru University of Education
Port Harcourt, Rivers State

Abstract

The debt capital has been the major source of manufacturing companies' fund for the purpose of productive investment to produce goods to enhance the economic production of consumer goods and beverages but due to financial crime perpetrated by managers to satisfy their selfish utilities, the profitability of most of productive firms.). Therefore, this study was embarked upon to investigate the effect of debt capital on profitability of listed food and beverage manufacturing firms in Nigerian Exchange Group from 2011-2022 as the main aim of this study. The specific objectives are to determine the effect of long term debt (LTD) on net profit margin (NPM) and return on equity (ROE). Ascertain the effect of short term debt (STD) on net profit margin (NPM) and return on equity (ROE). The research design is ex-post facto cross sectional, and time series. The sample size for the empirical analysis is five (5) listed food and beverage manufacturing firms in Nigerian Exchange Group, 2011- 2022, and the statistical instrument used for the empirical analysis was standard ordinary least square multiple regressions. Data were collected through historical data from the annual reports of the selected listed food and beverage manufacturing firms in Nigerian Exchange Group 2011- 2022, and it was diagnostically tested by the unit root model to determine if the variables were at stationary, since the data were abnormally distributed. The results indicated that LTD has an insignificant effect on NPM and ROE. STD has insignificant effect on NPM and ROE. Therefore, the researchers' concluded that it could be that the long-term debt borrowed fund was mismanaged, and short term debt is inefficiently utilized. Hence, this study recommended that management of the manufacturing firms ought to create borrowing policy that will ensure the efficient and effective management of the external fund to achieve their financial target.

Keywords: Debt Capital, Profitability, Food and Beverage Manufacturing Firms, Nigerian Exchange Group.

Introduction

The indispensable activity of commencing a business is to accommodate capital and as it concerns the proprietorship venture or sole proprietorship, the capital is accommodated by the owner or friends/relatives, and if it is insufficient, the next option is to go to the external environment to borrow but as it concerns corporate organizations, such as the manufacturing firms which involves debt capital which encompasses debts in form of short and long terms that are cumulated into liabilities, plus equity which is provided through the invitation made to the public by the use of the prospectus for shares subscriptions, and in addition to the ploughing back of the retain earnings, but if all things are not equal or the management of the manufacturing companies, such as the food and beverage manufacturing firms in Nigeria which are the centre of this study, can opt to borrow from the financial institutions which attracts interests in long and short terms to carry out their economic production of goods and services so far the debt could be managed efficiently and effectively in order to obtain profitability at the accounting period are allowed to do so (Velnampy & Niresh, 2017).

This is done so that economic production can happen, with the goal of making money that will be worth something in the future and in the present. So, capital structure is the mix of stock and debt that is used to fund a manufacturing company's overall operations and growth. For this study, however, only debt capital is being looked at. If a manufacturing company's policy is to use debt capital to fund its production, the study aims to find out how that policy affects the firms' profits. It's an important choice for managers to make because it affects the return, risk, and market value of each shareholder's share. The best capital structure is the right mix of debt and stock financing to help a business get the most out of its market value while also lowering its cost of capital, which can be different for different industries or sectors (Velnampy & Niresh, 2017).

Debt capital is an important form of external financing because it shows that a business needs money to buy a new asset or improve their production or operational activities. It is also one of the best ways for an organization to reach its goals, as it helps the company not only reach its goals but also increase the value of its shares. Finance is an important part of any business, whether it's new or already up and running, financial or not. Without it, the business would not be able to do its daily tasks. According to the accounting and finance book, debt capital is the amount of loans or debts that are used to buy assets, improve business operations, or buy a new company. In a broad sense, the amount of equity is greater than the cost of borrowing money (leverage). With the help of debt capital like long-term debt and short-term debt, we can easily find out how much debt a company has or what its financial situation is. Any business that wants to boost production, improve shareholder value, or buy a new asset will often use debt cash. The purpose of this study is to look into the connection between loan capital and the revenue ratio of Nigerian companies that make food and drinks that are on the stock market. This is because these businesses make a huge difference in the country's GDP (Brigham & Houston, 2015).

You can think of loan capital as the sum of your short- and long-term debts. These are borrowed to help a production company's finances (equity and retained profit for the year), and they make up the capital structure. In other words, if companies are set up to maximize the wealth of their shareholders, then the amount of cash flows that go to debt holders is essential. If not, the cash flows that go to shareholders won't matter much when it comes to the

company's financial obligations, and it might not be able to raise enough money to run profitable business operations that will help it maximize the wealth of its shareholders.

Debt includes debentures, which are used by creditors or capital providers for long-term funding or financing. The people who hold debentures, such as financial institutions, are more concerned with how well companies can pay their long-term debts when they're due (Ahmed et al., 2018). Everyone in business, no matter how big or small, needs money to run. Large businesses need money the most because they want to grow their businesses. Each business's goal is to make a profit, increase the wealth of its owners, and reach its strategic objective. In order for this to happen, it needs to find money to pay for its activities and operations. This is because problems that cause businesses to fail can be effectively managed with the help of certain financial steps that can lead to growth and support the achievement of other business goals.

According to the scenario, none of the previous studies have looked at the relationship between long-term and short-term debts and the profitability of corporate organizations in Nigeria. This study aims to fill that gap by looking at the different types of debt capital, such as long-term and short-term debt, as well as net profit margin and return on equity, to find the relationship between debt capital and profitability ratio of food and beverage manufacturing firms in Nigeria.

Statement of Problem

Financial leverage refers to the practice of adding debt to a firm's funding in order to acquire more assets, which is a common way for businesses to finance expansion. In the grand scheme of things, it's beneficial for a business to have some debt since using just equity might be costly. The firm's management must exercise caution when dealing with the issues that borrowed financing always entails. The corporation may find that debt is weighing them down. Paying off debt and interest becomes a piece of cake when business is well. On the other hand, it becomes a liability and might reduce the firm's equity in the event of a loss-making year. In the event of a dispute, the debt holders will have priority in claiming the company's assets, as they possess the first lien. When contrasted with competing businesses that used lower levels of debt, this leads to far larger losses. Due to the preference of debt holders over equity holders, taking on excessive debt raises equity risk. Without enough equity capital, a company's finances can quickly spiral out of control due to irresponsible loan utilization.

For businesses that rely only on equity funding, there is no need to worry about a fixed amount or high interest rate because they do not borrow money for their operations. Every company cares a great deal about how debt financing affects profitability. Nonetheless, a lot of companies' poor performance and failure in the past was because of unscrupulous financial management (Abeywardhana & Magoro, 2017). Businesses with massive debt loads that exceed their net earnings include Mumias Sugar Company, Kenya Airways, and Uchumi Supermarkets. Because of this, their performance and the faith of their investors took a nosedive, and they have since gone out of business. Some businesses have gone out of business, such Cadbury East Africa and the Pan Paper Mills Company in Webuye. Eveready East Africa isn't the only company grappling with these issues; in fact, some are considering going out of business altogether (Wambua, 2019).

This research seeks to fill a gap in the literature by examining the link between loan capital and profitability for Nigerian food and beverage manufacturing enterprises, with a focus

on situations when the companies rely only on debt capital and pay higher interest rates. Secondly, there was a gap in the literature that was culled for this study because all of the previous research had focused on the correlation between debt capital and profitability ratios for different types of manufacturing companies both domestically and internationally. Therefore, this study's focus is to ascertain the relationship between debt capital and profitability ratio of listed food and beverage manufacturing firms in Nigeria.

Conceptual Framework on the effect of Debt Capital on Profitability of Listed Food and Beverage Manufacturing Firms in Nigeria.

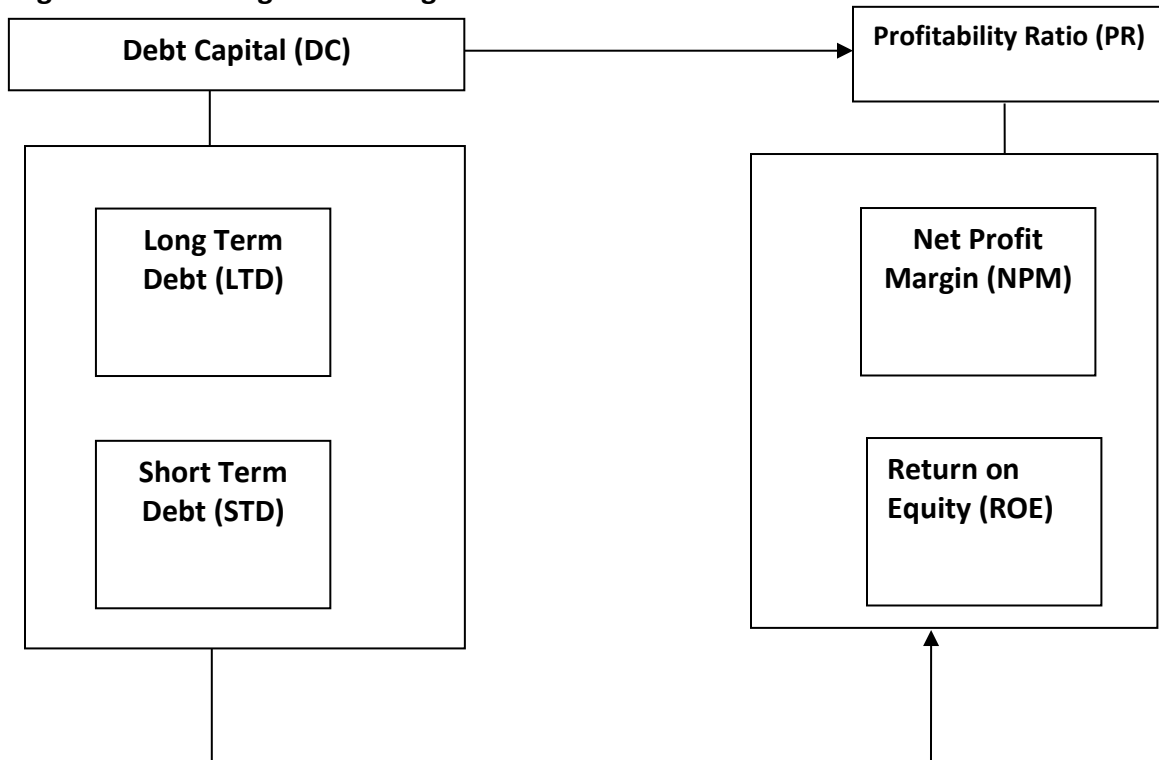


Figure 1: Conceptual Framework on the effect of Debt Capital on Profitability of Listed Food and Beverage Manufacturing Firms in Nigeria.

Source: Adopted From Saliu, (2017).

Aim and Objectives of the Study

The main aim of this study is to investigate the effect of debt capital on profitability of listed food and beverage manufacturing firms in Nigeria. Other specific objectives are to:

1. Ascertain the effect of long term debt (LTD) on net profit margin (NPM) of listed food and beverage manufacturing firms in Nigeria.
2. Ascertain the effect of long term debt (LTD) on return on equity (ROE) of listed food and beverage manufacturing firms in Nigeria.
3. Determine the effect of short term debt (STD) on net profit margin (NPM) of listed food and beverage manufacturing firms in Nigeria.
4. Determine the effect of short term debt (STD) on gross profit margin (GPM) of listed food and beverage manufacturing firms in Nigeria.

Research Questions

1. What is the effect of long term debt (LTD) on net profit margin (NPM) of listed food and beverage manufacturing firms in Nigeria?
2. What is the effect of long term debt (LTD) on return on equity (ROE) of listed food and beverage manufacturing firms in Nigeria?
3. What is the effect of short term debt (STD) on net profit margin (NPM) of listed food and beverage manufacturing firms in Nigeria?
4. What is the effect of short term debt (STD) on return on equity (ROE) of listed food and beverage manufacturing firms in Nigeria?

Research Hypotheses

HO₁: There is no significant effect of long term debt (LTD) on net profit margin (NPM) of listed food and beverage manufacturing firms in Nigeria.

HO₂: There is no significant effect of long term debt (LTD) on return on equity (ROE) of listed food and beverage manufacturing firms in Nigeria.

HO₃: There is no significant effect of short term debt (STD) on net profit margin (NPM) of listed food and beverage manufacturing firms in Nigeria.

HO₄: There is no significant effect of short term debt (STD) on return on equity (ROE) of listed food and beverage manufacturing firms in Nigeria.

Review of Related Literature**Conceptual Review****Debt Capital**

Capital is wealth that can be utilized to create even more riches, and businesses cannot function without it. Companies' capital may be defined as their assets, properties, factories, inventory, cash, and other liquid assets. Both loan and equity funding are available to businesses looking to buy them. Borrowed funds might originate from banks, people, or the bond market; this is known as debt. A company's equity may be defined as the money it has on hand or has the ability to raise from potential investors or owners. To differentiate between capital obtained via stock and capital acquired through loan, the phrase "borrowed capital" is employed. A variety of borrowing strategies can be used to represent borrowed capital. Loans, credit cards, overdraft protection, and bond issuance are some examples of this type of financial instrument. Borrowers are always required to pay an interest rate in order to cover the cost of borrowing. In most cases, collateral is used to secure a loan. A company's current liabilities, often called short-term debt, are its financial commitments having a maturity date of one year or less (Chad, 2021).

Other definitions include debts that are due within the next twelve months or the current fiscal year of a company. According to Amahalu et al. (2017), they are included in the liabilities section of a company's financial statement. Any sum of a company's outstanding debt with a maturity date of twelve months or more is referred to as long term debt (LTD). The business records it as a liability that will not be paid off soon. Mbonu and Amahalu (2021) define debentures as "long-term debt instruments" that governments and enterprises use to raise new capital. A company's long-term debt is its non-current obligation, or debt that is due or payable more than one year from the date of the balance sheet. This type of debt is recorded on the liabilities side of the balance sheet. Borrowing money from a lender and

agreeing to pay it back with interest—which can be either variable or fixed—is called debt. Various forms of debt can be obtained, including loans from banks, trade credit, and asset-based financing, among others (Abor, 2015). The percentage of debt in a company's capital structure is known as debt financing, and it refers to the practice of raising capital from outside sources to support operational expenses in order to strengthen a business's financial position both now and in the future (Racheal et al., 2017). Gomis and Khatiwada (2016) found that enterprises' future productivity and growth are both impacted by external loan funding.

Dimensions of Debt Capital

Short Term Debt

To put it simply, a company's short-term debt is its financial commitments having a maturity date of one year or less (Chad, 2021). Debts having maturity dates within the next twelve months or the current fiscal year are considered short-term debt. Current liabilities are another name for short-term obligations. According to Amahalu et al. (2017), they may be found in the liabilities section of a company's financial situation statement. Awais et al. (2016) found that firms' overall performance might be negatively impacted by both short-term and long-term loans. Poor financial performance is shown when a company's total equity is less than the amount of borrowed money. If a company's entire debt exceeds its total equity, its performance will suffer.

Long Term Debt

Any sum of a company's outstanding debt with a maturity date of twelve months or more is referred to as long term debt (LTD). The business records it as a liability that will not be paid off soon. Mbonu and Amahalu (2021) define debentures as "long-term debt instruments" that governments and enterprises use to raise new capital. A company's long-term debt is its non-current obligation, or debt that does not mature until more than one year from the date of the balance sheet. This type of debt is recorded on the liabilities side of the balance sheet.

Profitability

The term "profitability" refers to a company's capacity to turn a profit relative to its expenditures and other pertinent costs during a given time frame. If a company can't make money, or if it can't bring in any more investors, it can't stay in business as a continuing concern. There are other ways to categorize profitability ratios, such as returns on capital employed (ROCE), returns on assets (ROA), returns on total assets (ROTA), returns on equity (ROE), and return on sales (ROS) which can be expressed as a percentage of net profit or gross profit. Together with investment ratios, these metrics help investors determine a company's profitability, which in turn influences their investment choices. Accordingly, two profitability ratios—net profit margin and return on equity—are taken into account in this study to accomplish its goal (Nasr, 2017).

Dimensions of Profitability Ratio

Net profit margin (NPM)

This is the portion of earnings that remains after all costs have been covered. This concept is more commonly referred to as revenue. A quick way to gauge a company's health is to look at its net profit margin; a "profitable" company has one. A higher ceiling is preferable. They are bad if the business is losing money. The rate of profit, particularly when measured over

time, is a simple and fast way to evaluate any commercial endeavor, but there are other significant ways to do it as well. The model for net profit margin in this study is = **Net Profit ÷ Revenue × 100**.

Return on Equity

It finds out how much money company owners made back. On the flip side, it specifies how the owner's money will be returned. Return on shareholders' equity is the name given to profitability ratios that are based on shareholders' equity (Khan & Jain, 2005). One financial measurement that looks at how profitable a company is in proportion to the equity (shareholder investment) is the return on equity (ROE) ratio. Accounting professionals and investors alike tend to agree that return on equity is the best metric by which to judge a company's financial health. Since equity may fluctuate over the review period, it is prudent to include the whole equity in the denominator when utilizing this ratio. Companies' capital structures and levels of financial leverage have a significant impact on their return on equity, both within and across industries. The same holds true in an ideal market: a better return on capital is achieved when financial leverage is increased through the use of long-term indebtedness. Earnings risk can also increase with higher leverages (Gillingham, 2015).

To top it all off, it specifies how average total shareholders' equity relates to net earnings after taxes. The use of owners' funds by the company is shown by this ratio. Poor resource management is thought to be a potential roadblock to future company success. While preference shareholders do have some ownership in the company, the true owners are the regular shareholders who take on all the risk and have a say in running the show. This is measured by the return on equity (net worth) for ordinary shareholders. Consequently, they have the right to receive the portion of the profit that remains after the preference shareholders' dividend has been distributed. According to Khan and Jain (2005), this ratio is a key indicator of whether or not a company has generated a sufficient return for its equity holders.

Therefore, **return on total shareholders' equity = $\frac{\text{Net Profit after taxes NPAT}}{\text{Total shareholders' Equity TSE}}$**

Where, PAT = Profit after taxes

TSE = Total shareholders' equity.

Theoretical Review

According to Jensen and Meckling (1976), agency expenses consist of a residual loss, agent bonding charges, and principle monitoring expenditures. Additionally, he claims that the agency cost of debt may be decreased by the utilization of secured debt. But according to Um (2017), managers may opt for a high amount of debt to reduce equity agency expenses if a company has little physical assets, all because they are concerned about managing expenditures. According to Um (2017), an equity agency cost explanation is compatible with a negative link between debt and tangibility. In addition, Um contends that the debt agency expenses (monitoring cost) caused by disputes between managers and investors may be approximated by business size. The monitoring cost is cheaper for large enterprises compared to small firms, as shown by Um (2017). This means that bigger companies will be more likely to take out loans than their smaller counterparts. According to Harris and Raviv (2015), a large body of research in corporate finance presupposes that agency costs play a significant role in

determining the capital structure of businesses. So far, three types of agency problems—risk shifting (or asset substitution), the underinvestment dilemma, and the free cash flow hypothesis—have garnered a lot of attention.

Empirical Review

In 2020, Rafiuddin and Rafiqul investigated the characteristics of service sector firms listed on the Australian Stock Exchange (ASX) and how well they performed financially. The influence of capital structure and leverage was investigated using a panel regression approach on data collected over an eleven-year period, from 2009 to 2019. There were four measures to evaluate the company's performance: return on assets, return on equity, operational profit ratio, and return on capital utilized. The data analysis revealed a substantial relationship between stock returns and debt levels.

Senan et al. (2021) investigated the factors that influence the financial performance, liquidity, and debt ratios of Indian enterprises listed on the Bombay Stock Exchange. The study focused mostly on balanced panel data from 1,333 Indian enterprises acquired over a 12-year period from 2007 to 2018. The study employed the Generalized Moment Method (GMM) using static models that included random, fixed, and mixed factors. We discovered that the current and quick ratios have a significant impact on how much debt Indian public corporations have.

From 2003 to 2015, Jim et al. (2021) investigated the relationship between Chinese enterprises' long-term loan financing and financing gaps. It also investigated how market timing, ownership concentration, and state control influence the utilization of long-term loan finance in the absence of funds. The regression analysis revealed a favorable correlation between the financing deficit and changes in the long-term debt ratio.

Al-Taani (2015) investigated the relationship between debt and financial success in 45 Jordanian-listed firms from 2005 to 2009. The short-term and long-term debt ratios were utilized as predictors in this study. Return on Assets and Return on Equity were employed as dependent variables. The sample size consisted of forty cement and automotive firms listed on the Pakistan Stock Exchange. The statistical approach utilized was ordinary least squares multiple regression. The findings revealed that there was no significant relationship between debt levels and financial performance indicators. For example, short-term debt has no impact on ROE, ROA, or NPBT.

Akingunola et al. (2017) used a sample of 22 listed non-financial enterprises in Nigeria to investigate how capital structure decisions impact financial performance. It was carried out using conventional least square multiple regression, and both short-term and long-term loans were employed. The findings revealed that both had negative effects on ROA but favorable benefits on ROE.

Ajibola et al. (2018) examined how capital structure affects the financial health of listed Nigerian manufacturing businesses between 2005 and 2014. The study employed return on equity and return on assets as criterion, using short-term debt proportion as a predictor variable. The investigation was conducted using basic ordinary least square regression. According to the analysis, the short-term debt ratio had no statistically significant influence on ROE or ROA.

In 2019, Abdulkarim et al. investigated how borrowing money affects the financial health of listed Nigerian farming enterprises between 2005 and 2017. The study focused on the long-term debt ratio as an independent variable and revenue as a dependent variable. The study's

data were based on simple ordinary least square regression. The findings revealed that the chosen enterprises' long-term debt ratio had a significant impact on their ability to generate income.

From 2013 to 2017, Mukumbi et al. (2020) investigated the financial performance and debt levels of sixteen (16) manufacturing enterprises in Nairobi. The study's independent factors were financial leverage, corporate cash, and the capacity to view and touch assets. Return on assets and return on equity served as dependent variables. Regression analysis was the mathematical instrument that was employed. According to the study, they were negatively associated with return on asset and return on equity.

Kenn et al. (2019) examined how financial leverage affects the earnings growth of 80 non-financial businesses listed on the Nigeria Stock Exchange between 2000 and 2015. The predictor variables employed in the study were the overall debt to capital ratio, debt to asset ratio, and debt to equity ratio. The cost of debt and long-term debt-to-capital ratios used as criteria factors. Total debt to capital, debt to asset, and long-term debt to capital ratios all showed a positive relationship. In contrast, the debt-to-equity ratio and the cost of debt were found to be adversely associated.

Knowledge Gap

Due to the indispensable and famous literatures on debt capital in this study, considering the variables used as independent and dependent variables none used debt capital that include both the long and short-term debts as a leverage financing to ascertain the effect of Debt capital on profitability of listed food and beverage manufacturing firms, therefore, that scenario created a departure or gap in this study. The aspect of the current study is to investigate the effect of debt capital on profitability of listed food and beverage manufacturing companies in Nigeria which is very indispensable in the manufacturing sectors. The previous studies were conducted in capital intensive industries like the oil and gas industries, electricity or energy industries, automobile and textile manufacturing industries outside Nigeria etc., but the current empirical study was analyzed on the listed food and beverage manufacturing firms strictly in Nigeria is another gap in the study.

Methodology

There are different research designs in management sciences research, but to achieve the aim of this study, ex-post facto research design was employed because it made use of historical data and so many empirical studies already are existing in this aspect of study, and the focus of the researcher is to investigate the possible cause and effect of independent on dependent variables by observing the existing condition and exploring back in time for possible causal factor. Furthermore, the study strategy made use of secondary data by taking sample size of food and beverage manufacturing companies in Nigeria Group Exchange from 2011-2022 to carry out an empirical investigation of the effect of dept capital on profitability of listed food and beverage manufacturing firms in Nigeria. The population of this study was ten (10) listed food and beverage manufacturing firms in Nigerian Exchange Group (NEG) having considered the delisted food and beverage manufacturing companies in Nigeria. The annual reports of the listed food and beverage manufacturing firms as a secondary data, does not involve large population or embrace very large areas, entail manipulation and control (Ogomaka, 1992). The listed and delisted food and beverage manufacturing firms in the Nigeria Exchange Group are

DR. ELEKIMA, AMBIYE OKONTE & DR. WOMENAZU, HARRY, SUNDAY
EFFECT OF DEBT CAPITAL ON PROFITABILITY OF LISTED FOOD AND BEVERAGE...

stated in the appendices. The sample size is five listed food and beverage manufacturing firms in Nigeria selected by the use of purposive and convenience sampling techniques.

Data Analysis

Eviews version 10 was used to find out how loan capital affects the profits of Nigerian companies that make food and drinks. We used descriptive statistics, the unit root test, and ordinary least multiple regression analysis. The unit root test was used to find the results. As Mosby (2009) said, it is the use of both qualitative and quantitative analysis in a study design that is important to the data. This is done by sorting, coding, and listing the information.

Table 1: Descriptive Statistics

	LTD	STD	NPM	ROE
Mean	5.699220	6.570331	13.32203	0.207203
Median	6.944200	7.383500	8.000000	0.203000
Maximum	7.932100	8.434200	90.000000	1.852000
Minimum	-7.419800	-7.419800	1.000000	-2.264000
Std. Dev.	3.640602	3.297718	17.23113	0.518303
Skewness	-2.944104	-3.884253	3.338659	-1.365674
Kurtosis	10.67012	16.64844	14.76566	11.60990
Jarque-Bera	229.8585	606.2977	449.9175	200.5770
Probability	0.000000	0.000000	0.000000	0.000000
Sum	336.2540	387.6495	786.0000	12.22500
Sum Sq. Dev.	768.7308	630.7468	17220.88	15.58098
Observations	59	59	59	59

The descriptive statistics of the study variables was conducted to assisting in improving the comprehension of the distinctive characteristics of the study variables in the historical cross-sectional and time series data. The observations were 59, while the descriptive statistics contains mean, standard deviation, skewness, and kurtosis functioning as Jarque-Bera in Eviews. These statistics assisted to indicate the distributions of the data over the sample period. The variables are LTD, STD, NPM and ROE.

Table 1 above indicated the mean of LTD, STD, NPM and ROE, and their different values are 5.699220, 6.570331, 13.32203 and 0.207203 respectively for the sampled of listed food and beverage manufacturing firms in Nigeria Exchange Group spanning 2011 to 2022 for twelve (12) years. As we compare the two principal study variables, specifically: NPM and ROE (dependent dimensions), the NPM revealed greater variability (SD =17.23113); where SD is standard deviation, ROE showed the least variability (SD = 0.518303). All the variables were almost negatively skewed. As a consequence, they gathered below the mean estimate rather than above the mean estimate.

Respectively, they have a distribution skewed to the left or say a negatively skewed distribution. But only the net profit margin (NPM) skewed positively which means it gathered above the mean estimate, and means that it is positively skewed. Moreover, all the kurtosis and skewness coefficients under statistics values are above the average kurtosis of 3. This means that the distribution is not normally distributed, and that gave further operations like unit root test to investigate if the variables are stationary to address the normality concern, in order to warrant standard regression analysis of the stated hypotheses.

Table 2: Presentation of Stationary Test (At Level Difference)

Variables	ADF t-Statistics	1%	5%	10%	Order Of Integration 1(0)	Probability
LTD	-6.519560	-3.55023	-2.915522	-2.595565	1(0)	0.0000
STD	-9.344320	-3.560019	-2.917650	-2.596689	1(0)	0.0000
NPM	-3.832806	-3.568308	-2.921175	-2.598551	1(0)	0.0048
ROE	-4.569705	-3.555023	-2.915522	-2.595565	1(0)	0.0000

Source: Researcher's Construct, 2026

The outcomes of the unit root tests carried out in table 2 showed that long term debt (LTD), short term debt (STD), net profit margin (NPM) and return on equity (ROE) are all stationary at level (1(0)). This is because the ADF statistic values is greater the critical values and also the p-values are lesser than the chosen level of significance (0.05). Thus, the series were stationary in only at level, and they were integrated in order of 0 i.e. I (0). Based on the outcomes, the researcher, therefore, employed the standard ordinary least square multiple regression because of the long and short run effect addressed through it, since the ADF unit root analyses indicated stationary only in level.

Table 3: Standard Ordinary Least Square Multiple Regression

Dependent Variable: NPM

Method: Least Squares

Date: 04/14/26 Time: 15:37

Sample: 1 64

Included observations: 59

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LTD	0.858312	1.187254	0.722939	0.4727
STD	0.879415	1.091356	0.805800	0.4237
R-squared	-0.105968	Mean dependent var	13.32203	
Adjusted R-squared	-0.125371	S.D. dependent var	17.23113	
S.E. of regression	18.27939	Akaike info criterion	8.682736	
Sum squared resid	19045.75	Schwarz criterion	8.753161	
Log likelihood	-254.1407	Hannan-Quinn criter.	8.710227	
Durbin-Watson stat	0.756532			

Source: Computation from Eviews 10

Employing the historical panel and time series data into multiple regression analysis statistical approach, it revealed that R Squared (R^2) in Table 3 above as the coefficient of multiple correlation squared, known as the coefficient of multiple determination which represents the proportion of variance in the net profit margin (NPM) explained by simultaneous inclusion of the predictors, also known as the proportion of variance in NPM accounted for by model 1, the model being the regression of NPM on the linear combination of LTD and STD. R^2 - 0.105968 of in the multiple regression analysis above revealed how well LTD and STD in linear

DR. ELEKIMA, AMBIYE OKONTE & DR. WOMENAZU, HARRY, SUNDAY
EFFECT OF DEBT CAPITAL ON PROFITABILITY OF LISTED FOOD AND BEVERAGE...

combination predicted NPM. The R^2 revealed that about 11% of the variance of NPM is explained by its linear effect on the two predictors in this analysis. LTD and STD in linear combination do not significantly predict NPM at 89% (Approximately).

The Durbin Watson statistical value of the variables in model 1 is low but the serial error of regression is higher than the 0.05 level of significance in regression model determines there is no autocorrelation because its statistical value is higher, and that makes the variables appropriate for the regression analysis. Also, the estimated results in Table 3 revealed a coefficient of 0.858312 and an associated p-value of 0.4727 indicating a positive insignificant effect of LTD on NPM at a 0.05 level of significance. Besides, the estimated results in table 3 indicated a coefficient of 0.879415 and an associated p-value of 0.4237 indicating a positive insignificant effect of STD on NPM at a 0.05 level of significance.

Table 4: Standard Ordinary Least Square Multiple Regression

Dependent Variable: ROE
 Method: Least Squares
 Date: 04/14/26 Time: 16:19
 Sample: 1 64
 Included observations: 59

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LTD	0.003883	0.034320	0.113135	0.9103
STD	0.022877	0.031548	0.725154	0.4713
R-squared	-0.021435	Mean dependent var		0.207203
Adjusted R-squared	-0.039355	S.D. dependent var		0.518303
S.E. of regression	0.528403	Akaike info criterion		1.595396
Sum squared resid	15.91496	Schwarz criterion		1.665821
Log likelihood	-45.06417	Hannan-Quinn criter.		1.622887
Durbin-Watson stat	1.393512			

Source: Computation from Eviews 10

Employing the historical panel and time series data into multiple regression analysis statistical approach, it revealed that R Squared (R^2) in Table 4 above as the coefficient of multiple correlation squared, known as the coefficient of multiple determination which represents the proportion of variance in the return on equity (ROE) explained by simultaneous inclusion of the predictors, also known as the proportion of variance in ROE accounted for by model 2, the model being the regression of ROE on the linear combination of LTD and STD. R^2 - 0.021435 in the multiple regression analysis above revealed how well LTD and STD in linear combination predicted ROE. The R^2 revealed that about 2% of the variance of ROE is explained by its linear effect on the two predictors in this analysis. LTD and STD in linear combination do not significantly predict at 98% (Approximately).

The Durbin Watson statistical value of the variables in model 1 is low but the serial error of regression is higher than the 0.05 level of significance in regression model which determined that there is no autocorrelation because its statistical value is higher, and that makes the

variables appropriate for the regression analysis. Also, the estimated results in Table 4 revealed a coefficient of 0.003883 and an associated p-value of 0.9103 indicating a positive insignificant effect of LTD on ROE at a 0.05 level of significance. Besides, the estimated results in table 4.4 indicated a coefficient of 0.022877 and an associated p-value of 0.4713 indicating a positive insignificant effect of STD on ROE at a 0.05 level of significance.

Summary of Findings

The study looked into how debt capital affects the ability of public Nigerian food and drink companies to make money. We looked at how long-term and short-term loans affected the explanatory variable (the independent variable) in order to reach the study's goal. The aspects of profitability (the dependent variable) were net profit margin and return on equity. The past facts were guessed with the help of Eviews Version 10.

Two models were designed comprising two variables which encompasses four (4) hypotheses stated to achieve the aim of this study. Descriptive statistics was applied to ascertain the normality concern of the data. The unit root was used to determine if the data were at stationary. The Ordinary Least Square multiple regression were used to ascertain the effect of independent dimensions on dependent dimensions. The outcomes of the suitable preferred method of evaluation relied on descriptive statistic which confirmed that the data is suitable for regression analysis and which means that there is no need for further diagnostic tests. Applying historical data multiple regression analysis, it was indicated that R Squared (R^2) in Table 2, and 3 above as the coefficient of multiple correlation squared known as the coefficient of multiple determination, which represents the proportion of variance in the net profit margin (NPM) and return on equity explained by simultaneous inclusion of the predictors, which is the proportion of variance in NPM and ROE accounted for by model 1, and 2, the models being the regressions of NPM and ROE on the linear combination of LTD and STD. R^2 of 0.016 and 0.002 in the multiple regression analyses above indicated how well LTD and STD in linear combination predict NPM and ROE.

The Durbin Watson statistical values of the variables in model 1 and 2 were not so high as required, but the descriptive statistics confirmed that the distribution of variables are not normally distributed, and unit root stated that all the variables are at stationary which addressed the normality concern, therefore, the outcomes gave right to ordinary least square multiple regression analysis to test the stated hypothesis.

Discussion of Findings

From the investigations over,

1. Long Term Debt has insignificant effect on net profit margin and on return on equity which means that the long term debt borrowing was mismanaged.
2. Short Term Debt has insignificant effect on net profit margin and on return on equity which means that there is inefficient utilization of the short term debt.

Recommendations

In view of the empirical investigation, this study outlined the following recommendation:

1. Management of the manufacturing firms ought to create borrowing policy that will ensure the efficient and effective management of the external fund to achieve their financial target.
2. The management of any manufacturing firm should efficiently utilize the long-term and short term debts to create profit and returns on investment.
3. Caution should be taken when applying external borrowing to run the affairs of any manufacturing firm so that it will capable of settle its financial obligation.

References

- Abeywardhana, D., Y., & Magoro, K. (2017). Debt Capital and Financial Performance: A Comparative Analysis of South African and Sri Lankan Listed Companies. *Asian Journal of Finance & Accounting*, 9(2), 103. <https://doi.org/10.5296/ajfa.v9i2.11761>.
- Abdulkarim, G., Ahmadu, A. & Sulaiman, A. S. (2019). Impact of financial leverage on the financial performance of quoted agriculture firms in Nigeria. https://www.researchgate.net/publication/330505813_Impact_of_Financial_Leverage_on_the_Financial_Performance_of_Quoted_Agriculture.
- Abor, J. (2005). The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana, *Journal of Risk Finance*, 6(5), 438-447.
- Ahmed, H. U., Ningi, S. I. & Dalhat, B. S. (2018). Capital Structure and performance of deposit money banks in Nigeria. *NDIC Quarterly* 33(3&4) 49-76
- Ajibola, A., Wisdom, O. & Qudus, O. (2018). Capital structure and financial performance of listed manufacturing firms in Nigeria. *Journal of Research in International Business and Management*.5(1), 81-89.
- Akhtar, M., F. & Sadaqat, K., A. (2011). Liquidity risk management: a comparative study between conventional and Islamic banks of Pakistan. *Interdisciplinary Journal of Research in Business*,1(1), 35-44.
- Akingunola, O., F., Olawale, L., S. & Olaniyan, J., D. (2017). Capital Structure Decision and Firm Performance: Evidence from Non-Financial Firms in Nigeria. *Acta Universitatis Danubius. OEconomica*, 13(6).
- Amahalu, N., N., Okoye, E., I, Nweze, C., C & Okika, E., O. (2017). Effect of capital adequacy on financial performance of quoted deposit money banks in Nigeria. Proceedings of the 2017 Faculty of Management Sciences, *International Conference on African Entrepreneurship and innovation for sustainable development*, Nnamdi Azikiwe University, 841-862.
- Chad, L. (2021). What is the short/current long-term debt account? <https://www.investopedia.com/ask/answers/06/currentportionlongtermdebt.asp>.
- Gomis, R. M., & Khatiwada, S. (2016). Debt and productivity: Evidence from firm- level data. *International Labour Office Research Department*, 5(23), 8.
- Harris, M., & Raviv, A. (2015), "The Theory of Capital Structure," *Journal of Finance* 46, 297-355.
- Hayes, A. (2021). Leverage. <https://www.investopedia.com/terms/l/leverage.asp>.
- Jensen, M. & Meckling, W. (1976). Theory of the firm: Managerial Behaviour, Agency costs and Ownership Structure". *Journal of Financial Economics* 3, 305-60.
- Jim, H., S. Xiaochen, J., & Chien, C., L. (2021). Toward an empirical investigation of the long-term debt and financing deficit nexus: Evidence from Chinese-listed firms. *Applied Economics* 53(33), 3832-3853.

- Khan, M., Sajid, M., Waseem, M. & Shehzad, M. (2016). Capital structure composition demeanour towards corporate financial performance potential. *International Journal of Innovation and Applied Studies*, 14(1). 210-217.
- Mbonu, C., M., & Amahalu, N.N. (2021a). Effect of firm characteristics on capital structure of insurance companies listed on Nigeria stock exchange *International Journal of Management Studies and Social Science Research*, 3(5), 217-228.
- Mukumbi, M. C., Eugene, K. W., & Jinghong, S. (2020). Effect of Capital Structure on the Financial Performance of Non-Financial Firms Quoted at the Nairobi Securities Exchange. *International Journal of Science and Business*, 4(5), 165–179. <https://doi.org/10.5281/zenodo.3787293> sector – MAN - Daily Trust. Daily Trust. <https://dailytrust.com/access-to-forex-credit-facilities-hindering-manufacturing-sector-man/200>.
- Racheal, J., A., Chelichi, I., F., & Raymond, E., A. (2017). Leverage and Financial Performance: Evidence from Nigerian Food Production Firms. *European Journal of Research and Reflection in Management Sciences*, 1-11.
- Um, T. (2017). *Determination of Capital Structure and Prediction of Bankruptcy in Korea*". Unpublished PhD thesis, Cornell University.
- Wambua, M., F. (2019). *Effect Of Debt Financing on Financial Performance Among Firms Listed at Nairobi Securities Exchange by Manzano Felix Wambua A Research Project Submitted in Partial Fulfilment of the Requirements, For the Award of Degree of Master of Science in Finance, School of Business.*

Appendix I

Data for Analysis Computed from Selected Firms in Nigeria from 2011-2022

COY	LTD	STD	NPM (%)	ROE
NB PLC				
2011	7.4771	6.9542	19	-0.045
2012	7.6532	6.9542	15	0.076
2013	6.9542	6.9542	16	0.061
2014	7.3922	5.3624	13	0.6
2015	7.3922	6.4771	90	0.605
2016	5.9398	7.2304	90	0.806
2017	6.9031	5.6729	60	0.407
2018	7.4971	7.0486	2	0.385
2019	7.5899	7.2259	2	0.247
2020	7.5981	7.7144	3	0.221
2021	6.6125	7.3782	3	0.171
2022	6.3849	8.0785	7	1.852
NASCOM PLC				
2011	4.5862	5.5288	8	0.096
2012	4.5863	6.2149	8	0.599
2013	4.5862	6.0778	6	-0.356
2014	4.5862	6.8705	9	-0.899

DR. ELEKIMA, AMBIYE OKONTE & DR. WOMENAZU, HARRY, SUNDAY
EFFECT OF DEBT CAPITAL ON PROFITABILITY OF LISTED FOOD AND BEVERAGE...

2015	4.5862	6.0705	7	-0.39
2016	4.5862	7.1539	3	-0.256
2017	4.5862	7.1388	1	-0.129
2018	4.5862	7.1388	5	0.01
2019	6.5236	7.1928	4	0.069
2020	4.5862	7.3636	12	0.064
2021	4.5862	6.6806	1	-0.033
2022	4.5862	6.6806	1	0.21
HONEY WELL PLC				
2011	-6.7206	-7.1962	13	0.01
2012	-6.7206	7.3835	15	0.086
2013	6.7461	7.4279	12	0.039
2014	7.0277	7.4429	1	0.019
2015	7.4902	7.5032	15	-0.011
2016	7.1895	7.6455	12	0.075
2017	7.5378	7.4203	9	-2.264
2018	7.5279	7.4438	8	0.431
2019	7.5279	7.6228	7	0.091
2020	7.4277	7.7244	3	0.118
2021	7.3530	7.7906	1	0.054
2022	7.3287	7.8219	5	-0.46
GUINNESS PLC				-0.03
2011	-7.4198	-7.4198	4	0.008
2012	-7.3879	-7.3879	12	0.625
2013	6.9442	7.0900	1	0.257
2014	7.4382	7.5861	8	0.751
2015	7.0882	7.5997	19	0.856
2016	7.1472	7.7970	22	0.751
2017	7.3960	7.7788	21	0.43
2018	6.9094	6.7496	24	0.402
2019	6.9087	7.6409	19	0.445
2020	6.9087	7.7408	22	0.134
2021	6.9087	7.8902	21	0.258
2022	6.9087	8.0043	24	0.212
DANSU PLC				
2011	7.3813	7.3813	17	0.189
2012	7.4214	7.4214	13	0.233
2013	7.3326	7.3326	7	0.252
2014	7.4084	7.4084	19	0.203
2015	7.4319	7.4319	17	0.191
2016	7.9321	7.9321	7	0.19
2017	7.8568	7.8568	9	0.381
2018	7.7112	7.7112	8	0.241
2019	7.7731	7.7731	9	0.204
2020	5.9933	8.0660	6	0.928
2021	5.8862	8.2795	7	0.848
2022	5.7256	8.4342	1	0.801

Appendix II

Raw Data from the Five Selected Food and Beverage Manufacturing Firms in Nigeria

COY		Long-term Debt	Short Term Debt	Rev/Sales	Net Profit	Total Shareholders EQT
NB	Year					
	2011	30,000,000	9,000,000	297,303,379	38,434,033	297,303,379
	2012	45,000,000	9,000,000	252,674,213	38,042,714	38,042,714
	2013	9,000,000	9,000,000	268,613,518	43,080,349	43,080,349
	2014	24,670,000	230,380	266,372,475	42,520,253	42,520,253
	2015	24,670,000	3,000,000	293,905,792	38,049,518	38,049,518
	2016	870,611	17,000,000	313,743,147	28,396,777	28,396,777
	2017	8,000,000	470,930	365,799,057	33,009,292	33,009,292
	2018	31,412,283	11,185,092	350,226,472	19,401,169	19,401,169
	2019	38,893,313	16,826,218	323,602	19,437,944	16,104,763
	2020	39,636,707	51,810,629	337,006,267	7,525,621	7,525,621
	2021	4,097,694	23,887,436	437,195,534	12,927,163	12,927,163
	2022	2,425,875	119,824,926	621,318,254	13,925,086	13,925,086
NASCOM	Year					
	2011	38,570	337,886	4,681,720	2,154,077	10,046,709
	2012	38,570	1,646,243	13,414,185	2,760,306	10,689,544
	2013	38,570	1,252,795	10,837,261	2,699,542	11,431,167
	2014	38,570	7,422,337	11,250,544	1,867,038	12,555,885
	2015	38,570	7,422,337	16,178,197	2,108,646	16,294,826
	2016	38,570	14,252,729	18,291,792	2,415,183	24,603,267
	2017	38,570	13,764,206	27,064,325	5,345,592	30,123,247
	2018	38,570	13,764,206	25,769,352	4,420,217	30,270,429
	2019	3,338,570	15,586,893	27,487,788	1,845,243	38,668,792
	2020	38,570	23,097,507	28,010,059	2,690,310	12,719,820
	2021	38,570	4,792,881	33,279,688	2,690,310	14,630,680
	2022	38,570	4,792,881	58,786,251	5,469,248	19,042,366
Honeywell	Year					
	2011	-,255,807	-15,711,759	29,310,102	2,412,769	32,983,854
	2012	5,255,807	24,183,810	37,949,173	2,600,712	47,930,278
	2013	5,573,050	26,790,814	45,709,382	2,843,520	47,930,278
	2014	10,665,151	27,727,355	55,084,305	3,351,564	63,830,440
	2015	30,914,573	31,860,220	49,057,511	1,120,267	67,943,444
	2016	15,470,752	44,213,225	50,883,780	-3,023,852	76,046,576
	2017	34,498,351	26,318,698	50,883,780	-3,023,852	113,151,714
	2018	33,726,562	27,786,428	71,476,319	4,426,978	124,835,013
	2019	33,726,562	41,956,536	74,409,113	68,368	137,505,112
	2020	26,770,433	53,010,660	80,450,397	650,492	57,160,022
	2021	22,544,629	61,739,605	109,594,730	1,125,864	14,630,680
	2022	21,315,817	66,368,056	550,477,627	13,925,086	56,429,751

DR. ELEKIMA, AMBIYE OKONTE & DR. WOMENAZU, HARRY, SUNDAY
EFFECT OF DEBT CAPITAL ON PROFITABILITY OF LISTED FOOD AND BEVERAGE...

GUINNESS	Year					
	2011	-26,290,156	26,290,156	123,663,125	17,927,934	40,283,492
	2012	-24,425,994	24,425,994	116,461,882	14,214,620	40,352,504
	2013	8,796,183	12,304,644	122,463,538	11,863,726	46,039,111
	2014	27,429,985	38,552,684	109,495,882	9,573,480	45,061,717
	2015	12,250,754	39,780,558	118,495,882	7,794,899	48,341,376
	2016	14,034,546	62,663,423	101,973,030	-2,015,886	41,660,605
	2017	24,889,439	60,085,978	125,919,817	1,723,720	42,943,015
	2018	8,116,367	5,618,506	142,975,792	6,717,605	87,588,174
	2019	8,104,582	43,743,150	131,498,373	5,483,732	89,060,462
	2020	8,104,582	55,054,971	104,376,015	-2,578,818	73,038,140
	2021	8,104,582	77,668,677	160,416,257	1,255,338	74,286,575
	2022	8,104,582	100,992,332	206,822,127	15,651,362	89,979,391
DANSU	Year					
	2011	24,059,552	24,659,552	107,218,642	7,403,597	39,133,709
	2012	26,389,075	26,389,075	106,868,054	10,796,416	46,269,159
	2013	21,508,166	21,508,166	102,467,361	13,537,612	53,817,512
	2014	25,609,260	25,609,260	94,103,677	11,908,690	58,526,202
	2015	27,031,108	27,031,108	100,092,221	12,659,855	66,386,057
	2016	85,521,443	85,521,443	167,409,061	14,198,693	74,584,750
	2017	71,913,344	71,913,340	198,120,639	37,822,608	99,207,358
	2018	51,428,634	51,428,634	78,608,142	12,869,455	107,180,126
	2019	59,304,050	59,304,650	158,104,577	24,102,816	118,082,944
	2020	984,651	116,422,608	206,360,656	31,370,659	125,302,900
	2021	764,448	190,328,707	276,054,781	22,660,116	129,830,169
	2022	531,563	271,770,792	403,245,988	54,346,390	172,029,685