ISSN: 2204 -012X
Volume, 9, Number 1, 2019
African Journal of Innovative Research and Advanced Studies

DEBT FINANCING AND PROFITABILITY OF CONSUMER GOODS MANUFACTURING FIRM IN NIGERIA

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ABSTRACT

The study therefore investigated the relationship between debt financing and profitability of consumer goods manufacturing firms in Nigeria. The study proxied debt financing and profitability is measured using ROA, ROCE and gross profit margin. The study is anchored on two theories, pecking order theory and marketing timing theory. The study made use of ex-post factor research design. Regression and financial ratio are the techniques use for data analysis. The study population is twenty (20) listed consumer goods manufacturing firms listed on the Nigeria Exchange Group out of which 19 consumer goods manufacturing firms were sampled using Taro Yamane formula. The study found out that there is a significant relationship between equity financing and variables (ROA, ROCE and GPM) of profitability. The study also found out that there is a significant relationship between debt financing and variables (ROA, ROCE and GPM) of profitability. On the other hand, equity/debt financing significantly relates to ROA and GPM but does not significantly relate to ROCE. However, the study recommends that management of Nigeria listed consumer goods firms should work hard to optimize the capital structure of their firms in order to increase the profitability of the firm and enhance firm's value.

Keywords: Debt Financing, Profitability, Consumer Goods

INTRODUCTION

Shubita and Alsawalhah (2012), defined capital structure as a combination of equity and debt, which firms employ in order to facilitate their operations. A firm can choose to raise funds by issuing stocks, debt or other necessary sources of financing such as; convertible bonds, warrant, forward contract, overdrafts etc. Since capital structure impacts wealth maximization as well as the ability of a firm to be sustained in a competitive market, making the right capital mix decision becomes paramount. Nevertheless, the identification of an effective capital structure has proven to be a difficult task for many firms. The difficulty arises from the challenges encountered in generating a model which will deliver accurate result for optimum capital structure (Koech, 2013). For this reason, the issue of capital structure has been attracting keen attention from key industrial players such as analysts, investors and company officers. The attraction stems from the fact that capital structure decisions are crucial in financial management. Not only does capital mix affect the profitability of an organization, but also, it's vital in sustaining the going concern status of companies, in period of financial crisis. With the eruption of financial crises at an international level, many underperforming corporations have had to deal with financial stress encompassing both the local and international markets. At the same momentum, the availability of debt has drastically shrunk and risk exposure has amplified throughout the year, which has led to the increase in cost of capital; a burden that many firms are trying to get rid of. This has therefore placed immense pressure on firms as they try to come up with corporate structure that would address the issues, and bring maximum returns to shareholders (Martins, 2013).

Profitability is the index that shows the efficiency of an organization. In other words, it is the measure of efficiency and guilds management to achieve even greater efficiency. Profitability according to Owolabi & Obida (2012), is the ability of a business to make returns higher than the cost of financing their core operations to ensure the continued survival of the company. This implies that profitability is the ability of a company to make a profit from its operating, investing and financing activities to maximize the values and wealth of the shareholders. Often, listed

companies in Nigeria do find it difficult to make profit; this does affect their performance which may be attributed to inadequate finance or where the finance is available at a cost too expensive (Akintoye, 2016; Lambe, 2014; Akinyomi & Olagunju, 2013; Salawu, 2009)
Consumer goods are any tangible commodity which are produced and subsequently purchased to satisfy the needs of the buyer. These needs include the current need and the perceived needs of the individual buyer in the future. The consumer goods happen to be of three categories which are the durable goods, non-durable goods and services. The consumer goods firms are firms that deal with consumer goods available for the buyers. These firms work in other to create goods that will meet the need of the buyer at any point in time.

Research Hypotheses
The study made the following assumptions;
H_{o1}: There is no relationship between debt financing and return on asset
H_{o2}: There is no relationship between debt financing and return on capital employed
$H_{o3:}$ There is no relationship between debt financing and gross profit margin

Debt Financing
Debt financing implies raising funds through selling of bonds, mortgages or borrowing directing from financial institutions. You must repay borrowed funds as at when due with interest charges. A lender incurs risk and charges a corresponding interest based on that risk. The lender usually assesses a variety of factors such as the strength of the business plan, management capabilities, financing and the past credit history of the borrower before lending it to him. Debt financing could be divided into two categories; the long-term debt financing and the short- term debt financing. Long-term debt financing: includes items such as equipment, land, building and machineries. According to Nardi et al. (2008) with long term financing, the scheduled repayment of loan and estimated useful life of the assets extends over more than one year. Short – term debt financing: it's the fund for day- to- day activities or financing needs of firms. This includes inventory, supplies of raw materials and paying of employees' salaries or money owed to them. They are called short term debt fund because the fund that was borrowed will be expected to be paid back in less than one year. Sources of debt financing also exist, and they include; Overdraft: The overdraft is a type of short-term debt financing in which a business owner can open a current account with a bank, the bank establishes a credit limit and the business owner is allowed to withdraw up to that limit despite the fact that there are not enough funds in the account to cover the amount. In this case, the business owner will only pay interest for the time he uses the money. Banks: The most used type of debt financing is the bank loan, which requires the business owner to make monthly payments on the principal amount plus interest. However, banks are reluctant to take risks and so this type of debt finance is usually beyond the reach of a startup business. Another stumbling block for a startup business from obtaining a loam is the banks requirement for the provision of collateral. Commercial banks have more experience in providing business loans than ordinary savings or micro finance banks and that is why it is necessary to study differences between bank and terms before deciding on which institution to approach for a loan. Credit Union: credit union provide business loans, but their services are usually exclusive to members of a labor union or the employees of a company. Credit unions have higher loan approval rates than banks and their terms and interest rates are usually much more favorable.

Profitability
Profitability is the ability to make profit from all the business activities of a firm, company, organization or an enterprise. Profitability provides a better way to measure management efficiency in the use of available resources in adding value to the firm (Myers 1984). It is a relative term measured in terms of profit. Soumadi and Hayajneh (2012) posited that, "profitability is the ability of a given investment to earn a return from its use", the main objective of firms is the

maximization of profit. Due to market competition, business managers would have to practice and learn to achieve a sustainable level of profitability. The capital of every firm is dependent on the ability of the firm. The capital structure of a firm is determined by both debt and equity, this means that for a firm to access credit it must be profitable (Ramachandran & Raju, 2012). In other words, the borrowing capacity of a firm is determined by profitability. It is the main factor which is used in determining the capital structure of firms. This concept is measured by profit margin, return on investment or return on asset. In terms of measuring the profitability of firms, return on assets is sufficient and essential for growing firms mostly in food industry (Ramachandran & Raju, 2012). The success of a firm can be measured solely by profitability in relation to the capital employed by the firm. This economic success achieved by the firm is determined by the net profit generated during the course of business. (Majumdar, 1997).

Return on Assets

Return on assets ratio is a measure of the effectiveness of the firm in generating profits i.e. the return achieved on a company's total asset (Firer et al. 2004). The return is taken to be the attributable profit (i.e., profit after tax, minority interest and preference dividend attributable to ordinary shareholders). ROA is calculated by taking the net result over assets for each specified year. ROA measures how efficiently the company's assets are used to generate profit. This ratio is often used by investors and potential investors to evaluate a company's leadership. ROA is best used when comparing returns between different industries. Just as for ROE, ROA can be evaluated in many ways, that is, one can apply results after taxes and interest instead of net result. However, the net result is used frequently and since it is more assessable, we decided to use the net result and not consider taxes, interest as well as extra ordinary items. ROA tells you what earnings were generated for invested capital (assets). ROA for public companies can vary substantially and will be highly dependent on the industry. It is mathematically expressed as:

$$\text{ROA} = \frac{Net profit\ after\ tax}{Total\ asset}$$

Return on Capital Employed

Capital employed is the share of capital and reserves, plus long-term debt such as bank loans, bonds and loan stock. Where possible, use the average capital employed during the year. This is usually the average of the capital employed at the beginning of the year and at the end of the year. ROCE is a metric for analyzing profitability and for comparing profitability levels across companies in terms of capital. Two components are required to calculate return on capital employed: earnings before interest and tax (EBIT) and capital employed.

EBIT, also known as operating income, shows how much a company earns from its operations alone without interest on debt or taxes. EBIT is calculated by subtracting the cost of goods sold and operating expenses from revenues.

Capital employed is very similar to invested capital, which is used in the ROIC calculation. Capital employed is found by subtracting current liabilities from total assets, which ultimately gives you shareholders' equity plus long-term debts. Instead of using capital employed at an arbitrary point in time, some analysts and investors may choose to calculate ROCE based on the average capital employed, which takes the average of opening and closing capital employed for the time period under analysis.

A profit-oriented organization is expected to make enough in relation to the amount of money or capital invested in the business in terms of adding value to the owners of the money invested known as Returns on Investment. This ratio computes percentage return in the company on finds invested in the business by its owners. A high ratio indicates good management, while a low ratio indicates inefficiency utilization of capital employed. It also indicates earning power. It is mathematically expressed as:

$$\text{ROCE} = \frac{Net profit\ after\ tax}{Capital\ employed} \quad x\frac{100}{1}$$

Gross Profit Margin

Gross margin is the difference between revenue and cost of goods sold (COGS), divided by revenue. Gross margin is expressed as a percentage. Generally, it is calculated as the selling price of an item, less the cost of goods sold (e. g. production or acquisition costs, not including indirect costs like office expenses, rent, or administrative costs), then divided by the same selling price. "Gross margin" is often used interchangeably with "gross profit", however the terms are different: "gross profit" is technically an absolute monetary amount and "gross *margin*" is technically a percentage or ratio. Gross margin is a kind of profit margin, specifically a form of profit divided by net revenue, e. g., gross (profit) margin, operating (profit) margin, net (profit) margin, et cetera. The purpose of margins is "to determine the value of incremental sales, and to guide pricing and promotion decision" "Margin on sales represents a key factor behind many of the most fundamental business considerations, including budgets and forecasts. All managers should, and generally do, know their approximate business margins. Managers differ widely, however, in the assumptions they use in calculating margins and in the ways, they analyze and communicate these important figures

The Pecking Order Theory

Pecking order theory was first suggested by Donaldson (1961) and made popular by Myers & Majluf (1984). The theory suggests that management follow a preference order when it comes to financing. The order is as follow; firms prefer internal finance. However, if external finance is required, firms issue the safest security first. That is, they start with debt, then, possibly hybrid securities such as convertible bonds, then perhaps equity as a last resort. Each firm observe debt ratio that reflects its cumulative requirement for external finance.

The pecking order theory suits large firms with high profitability and which has enough internal funds in the form of retained earnings and depreciation. Miglo (2010) posited that, good quality firms would use internal funds to avoid adverse selection problem and value loss. According to Myers (1984), firms that follow this theory target their dividend payout ratios to their investment opportunities although the dividends are sticky and targeted payout ratios are only gradually adjusted to shifts in the extent of valuable investment opportunities. The sticky dividend policies, plus unpredictable fluctuations in profitability and investment opportunities, mean that internally generated cash flow may be more or less than investment outlays. If it's less, the firm first draws down its cash balance or marketable securities portfolio.

The pecking order theory predicts that high- growth firms, typically with large financing needs, will end up with high debt ratios because of a manager's reluctance to issue equity. Relating to the pecking order theory are the signaling, or asymmetric information and the market timing theories which attempt to explain the pecking order theory.

METHODOLOGY

|Research Design

The research was designed to investigate the relationship that exists between capital structure practice and profitability of consumer goods manufacturing firms in Nigeria. The study therefore employed ex-post facto and correlation design. An ex-post facto design aims to establish a cause-and-effect relationship between an independent and dependent variable, the ex-post facto and correlation designs were employed because of the relationship that persist between variables that are not subset to manipulation and it was chosen since the variables for investigation are from listed consumer goods manufacturing firms in Nigeria past company financial reports that are not under the total control of the researcher.

Population of the Study
The study primarily focused on the listed consumer goods manufacturing firms in Nigeria. There are twenty (20) listed firms in the Nigerian Stock Exchange. Therefore, the population of the study was the twenty-eight (20) listed consumer goods manufacturing firms in Nigeria stock exchange for the period 2015-2020 (6) years.

Sampling Size and Sampling Techniques
The entire population was used for the study because of the size.

Source of Data
This study used secondary source of data. The data were obtained from the annual reports and accounts of the selected consumer goods manufacturing firms and Nigerian Stock Exchange Fact Book. Secondary data were used due to the nature of the variables under study.

Instrument for Data Collection
Cross-sectional/time series data were extracted from the annual report and accounts of the firms for the part of assessing the relationship between the variables of study. Panel data was used in the study in order to detect and measure effect that cannot be simply observed by pure cross-sectioned or pure tone series data.

Validity of instrument
This is the degree to which a tool measures what it purports to measure (Borg & Gall, 1989). It is concerned with whether the findings relay what it measures. It is the accuracy and mean-fullness of inferences, which are based on the research result. It is the degree to which results obtained from the analysis of the data actually represents the phenomena under study, (Mugenda & Mugenda, 2003). The research used audited financial reports of the firms under study, making this study very valid.

Reliability of instrument
The reliability refers to the stability, accuracy and precision of measurement. The quality of a research depends on the way the research is conducted and the reliability of the process. According to Mugenda and Mugenda (2003), reliability is a means of the degree to which the research instrument yields consistent result after data repeated trials.

Method of Data Analysis
The method adopted to analyze the data for this study was basically of ratio analysis. This was done by evaluating the financial statements with respect to the return on assets (ROA), return on capital employed (ROCE) and gross profit margin (GPM). E-view (v.10) was used to generate the statistical tool data for the research work. In addition, E-view (v.10) was used to regress in order to determine the relationship between the dependent and the independent variables. This is necessary in order to find the extent to which the independent variable can explain the dependent variable. Regression was used because it will show the extent or degree of relationship between both the independent and the dependent variables.

Model Specification
In this study, the structure of equity and debt is the independent variable while profitability is the dependent variable. This is here by operationalize as below;

PROF = f(Eqt, Dbt)

Where:

Prof = Profitability

Eqt = Equity Value

Dbt = Debt Value
Where:
Prof: ROA, ROCE and GPM
This implies that profitability is determined by dependent variables such as return on asset, return on capital employed and gross profit margin.
Hence:
ROA = f (Eqt, Dbt)
ROCE = f (Eqt, Dbt)
GPM = f (Eqt, Dbt)
The model simply explains that all those dependent variables are subsection to respective combination of equity and debt to determine profitability.
Such that

$Y = \alpha + bixi + b_2x_2 + \mu$
$y_1 = \alpha + bixi + b_2x_2 + \mu$
$y_2 = \alpha + bixi + b_2x_2 + \mu$
$y_3 = \alpha + bixi + b_2x_2 + \mu$

Where:
Y = y_1 y_2 y_3
Y = Profitability
y_1 y_2 y_3 = ROA, ROCE and GPM

The First Model: The fourth hypothesis test model; shows the relationship between return on capital employed and equity:

Table 1
$H0_1$: ROCE = f(EQU)…….. (iv)
Dependent Variable: ROCE
Method: Least Squares
Date: 11/03/21 Time: 08:45
Sample: 1 6
Included observations: 6

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EQU	1.47E-07	9.62E-08	1.525004	0.0019
C	287.9896	97.59144	2.950972	0.0419

R-squared	0.667653	Mean dependent var	141.0091
Adjusted R-squared	0.629566	S.D. dependent var	42.22725
S.E. of regression	37.54271	Akaike info criterion	10.35004
Sum squared resid	5637.821	Schwarz criterion	10.28062
Log likelihood	-29.05011	Hannan-Quinn criter.	10.07217
F-statistic	2.325638	Durbin-Watson stat	2.252260
Prob(F-statistic)	0.000046		

Source: Researcher's Statistical Computation from E-view (v.10), 2021
From the table output above, the coefficient of EQU and ROCE is 1.47E-07. This value implies that for every unit increase in ROCE is predicted to be accompanied by a 1.47E-07-unit decrease in EQU. The T-statistics is above 1, which is sufficient statistical evidence of significant @ 1% T-stat confidence level. The Prob value of EQU is 0.0019, which means the relationship between EQU and ROCE is statistically significant at the 5 percent significant level.

The result also showed that the R2, which measures the goodness of fit, is 0.667653, meaning that 66 percent of the variation in the return on capital employed can be explained by the dimension of the independent variables. The result indicates that the model is proper and adequate for the study. The model's goodness of fit and appropriateness is also supported by the outcomes of F-statistics and probability of F-statistics of 2.325638and 0.000046respectively. The Durbin-Watson statistics of 2.252260also indicate the absence of serial autocorrelation.

The Second Model: The fifth hypothesis test model; shows the relationship between return on capital employed and debt:

Table 2

$H0_2$: ROCE = f(DEBT)..... (v)

Dependent Variable: ROCE
Method: Least Squares
Date: 11/03/21 Time: 08:49
Sample: 1 6
Included observations: 6

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DEBT	8.02E-08	4.73E-08	1.695815	0.0052
C	237.6539	58.85568	4.037909	0.0156

R-squared	0.748249	Mean dependent var	141.0091
Adjusted R-squared	0.722811	S.D. dependent var	42.22725
S.E. of regression	36.00945	Akaike info criterion	10.26664
Sum squared resid	5186.722	Schwarz criterion	10.19723
Log likelihood	-28.79992	Hannan-Quinn criter.	9.988774
F-statistic	2.875790	Durbin-Watson stat	2.012562
Prob(F-statistic)	0.000063		

Source: Researcher's Statistical Computation from E-view (v.10), 2021

From the table output above, the coefficient of DEBT and ROCE is 8.02E-08. This value implies that for every unit increase in ROCE is predicted to be accompanied by a8.02E-08-unit decrease in DEBT. The T-statistics is above 1, which is sufficient statistical evidence of significant @ 1% T-stat confidence level. The Prob value of DEBT is 0.0052, which means the relationship between DEBT and ROCE is statistically significant at the 5 percent significant level.

The result also showed that the R2, which measures the goodness of fit, is 0.748249, meaning that 95 percent of the variation in the return on capital employed can be explained by the dimension of the independent variables. The result indicates that the model is proper and adequate for the study. The model's goodness of fit and appropriateness is also supported by the outcomes of F-statistics and probability of F-statistics of 2.875790and 0.000063respectively. The Durbin-Watson statistics of 2.012562also indicate the absence of serial autocorrelation.

The Third Model: The sixth hypothesis test model; shows the relationship between return on capital employed and equity and debt:

Table 3
H03: CPI = f(EQU-DEBT) ..... (vi)
Dependent Variable: ROCE
Method: Least Squares
Date: 11/03/21 Time: 09:17
Sample: 1 6
Included observations: 6

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EQU_DEBT	5.13E-08	3.28E-08	1.566598	0.0023
C	261.1668	78.18620	3.340318	0.0288

R-squared	0.780251	Mean dependent var	141.0091
Adjusted R-squared	0.725314	S.D. dependent var	42.22725
S.E. of regression	37.16684	Akaike info criterion	10.32991
Sum squared resid	5525.496	Schwarz criterion	10.26050
Log likelihood	-28.98974	Hannan-Quinn criter.	10.05204
F-statistic	2.454228	Durbin-Watson stat	2.061458
Prob(F-statistic)	0.000072		

Source: Researcher's Statistical Computation from E-view (v.10), 2021.

From the table output above, the coefficient of EQU_DEBT and ROCE is 5.13E-08. This value implies that for every unit increase in ROCE is predicted to be accompanied by 5.13E-08-unit decrease in EQU_DEBTthe T-statistics is above 1, which is sufficient statistical evidence of significant @ 1% T-stat confidence level. The Prob value of EQU_DEBT is 0.0023, which means the relationship between EQU_DEBT and ROCE is statistically insignificant at the 5 percent significant level.
The result also showed that the R2, which measures the goodness of fit, is 0.780251, meaning that 78 percent of the variation in the consumer price index can be explained by the dimension of the independent variables. The result indicates that the model is proper and adequate for the study. The model's goodness of fit and appropriateness is also supported by the outcomes of F-statistics and probability of F-statistics of 2.454228and 0.000072respectively. The Durbin-Watson statistics of 2.061458 also indicate the absence of serial autocorrelation.

CONCLUSION

As a result of the discussion and analysis in the preceding chapter, the study concludes thus;
There is a significant relationship between debt financing and variables (ROA, ROCE and GPM) of profitability. We therefore conclude that debt is one of the variable of capital structure that contribute to profitability of listed consumer goods manufacturing firms in Nigeria.

RECOMMENDATIONS

In line with the findings of the study, the following recommendations are made;

i. The management of Nigerian listed consumer goods manufacturing firms should work very hard to optimize the capital structure of their firms in order to increase the profitability of the firm. They can do that through ensuring that their capital structure is optional.
ii. Stakeholders of listed consumer goods manufacturing firms in Nigeria should increase their commitment with equity financing or debt financing in order to improve financial performance of their business operation. This is in line with the findings of this study

that the equity/debt financing of listed manufacturing firms in Nigeria influences performance positively.

iii. The management of listed consumer goods manufacturing firms in Nigeria should be concerned about the level of their firm size for better performance. This is because the findings of this study revealed that there is no significant relationship between the variables and profitability.

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