African Journal of Accounting and Management Research, Volume 7, Number 2, 2020
ISSN: 6705 – 4221

www.bushwealthacademicjournal.com

EQUITY DEBT FINANCING AND PROFITABILITY OF CONSUMER GOODS MANUFACTURING FIRM IN NIGERIA

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ABSTRACT

The study therefore investigated the relationship between equity debt financing practices and profitability of consumer goods manufacturing firms in Nigeria. The study proxied equity 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: Equity Debt Financing, Profitability, Consumer Goods

INTRODUCTION

Rahul (1997), poor capital structure decisions may lead to possible reduction in the value derived from strategic assets. Hence, the capability of a company in managing its financial policies is important if the firm is to realize gains from its specialized resources. The nature and extent of relationship between capital structure and financial performance of firms have attracted the attention of many researchers. According to Tudose (2012), the notion of performance is controversial issue in finance, largely, because of its multi-dimensional meanings. The study postulates that performance can be explored from two points of view, namely, financial and organizational (the two being interconnected). A company's performance can be measured based on variables that involve productivity, returns, growth or even customer satisfaction, while financial performance can be reflected in profit maximization, maximization of return on assets (ROA), and maximization of shareholder's return (ROE). This usually determines the firm's efficiency. The financial performance can be viewed from the perspective of the level of gearing of a firm which indicates the extent at which the firm has ventured into financial risk. The higher the financial risk the higher the expected return of the firm.

Aims and Objectives of the Study

The main objective of the study is to ascertain the relationship that exists between capital structure practices and profitability of consumer goods manufacturing firm in Nigeria.
Specifically, the study is undertaken to accomplish the following objectives:

a. Evaluate the relationship between equity/debt financing and return on asset
b. Evaluate the relationship between equity/debt financing and return on capital employed
c. Evaluate the relationship between equity/debt financing and gross profit margin

Research Questions;

The study addressed the following research questions;

a. How does equity/debt relate to return on assets?
b. How does equity/debt financing relate to return on capital employed?
c. How does equity/debt financing relate to gross profit margin?

Research Hypotheses;

The study made the following assumptions;

H_{01}: There is no relationship between equity/debt financing and return on asset
$H_{02:}$ There is no relationship between equity/debt financing and return on capital employed
$H_{03:}$ There is no relationship between equity/debt financing and gross profit margin

Equity/debt financing

Equity/debt financing measures the proportion of creditors fund in relation to shareholders' funds. Creditors would like this ratio to be lower, because the lower the ratio the higher the level of a firm's financing that is being provided by shareholders and the larger cushion (margin of protection) in the event of shrinking asset values or outright losses. This is a measure of how suppliers, lenders and creditors have committed to the firm versus what shareholders have committed (Kurfi, 2003). Total equity and Total debt refer to the ratio of equity to debt capital of a company. As a result of the payment of interest and repayment of principal amount of the debt, a large part of the firm's cash flow would decrease (Magpayo, 2011).

The equity to debt ratio shows the percentage of a company's financing that comes from creditors and investors. A higher debt to equity ratio indicates that more creditors financing (bank loans) is used than investors financing (shareholders). The equity to debt ratio is considered a balance sheet item because all the elements are reported in the statement of financial position. Each industry has different equity to debt ratio benchmarks, as some industries tend to use more debt financing than others. A debt of 0.5 means that there are half as many liabilities as there is equity. In order words, the assets of the company are funded 2 to 1 by investors to creditors. This means that investors own 66.6 cents on the dollar (Erasmus, 2008).

Companies with a higher debt to equity ratio are considered risky to creditors and investors than companies with a lower ratio. Unlike equity financing, debt must be repaid to the lenders, since debt financing also requires debt servicing or regular interest payments, debt can be far cheaper form of financing than equity financing. Creditors view a higher debt to equity ratio as risky because it shows that investors do not have as much in the game as the creditors do. This could mean that investors do not want to fund the business operations because the company is not performing well. Lack of performance might also be the reason the company is seeking the extra debt financing (Stanford, 2009).

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:

ROA = $\frac{Netprofit\ after\ tax}{Total\ asset}$

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:

ROCE = $\frac{Netprofit\ after\ tax}{Capital\ employed}$ 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

This is the ratio of Gross profit to sales. A high gross profit margin ratio is an indication of good performance as it implies that cost of goods sold are being kept at minimum level; it is mathematically given as;

GPM =$\frac{Gross\ profit}{Sales}$ x$\frac{100}{1}$

The Market Timing Theory

This theory expresses that the present capital structure of a firm is the cumulative outcome of past attempts to time the equity market (Baker &Wurgler, 2002). Market timing means that companies will issue new stocks when they see the stocks to be overvalued and that firms repurchase their own shares when they consider them to be undervalued consequently, the current capital structure

is unequivocally linked to historical market value. Managers have more information than any other stakeholder to the "actual" future value of the firm and of any venture that it may embrace, and they are expected to perform to the benefit of the current and existing shareholders, (Myers & Majluf, 1984).

Therefore, managers should critically study the capital market and exploit the information asymmetry that exist and only issues new shares when they trust that those shares are overpriced by the market and vice versa (Gatsi & Akoto, 2010).According to Barclay and Smith, (2015) companies that have better opportunities to utilize capital but think that their shares are actually being priced lower than they ought to be, will generally choose to issue debt as opposed to equity to avoid diluting the value of existing shareholder claim.

Empirical Review

Empirical review entails an appraisal of other studies on a subject matter with the aim of identifying gaps and filling them appropriately. Literature is replete with capital structure and performance but has often produced conflicting findings.

Rahman et al (2019) explored the impact of capital structure on the profitability of publicly traded manufacturing firms in Bangladesh. The paper was analyzed using the fixed effect regression to find out the correlation among independent variables (debt ratio, equity ratio and debt to equity ratio) and dependent variables (return on asset, return on equity and earnings per share). A sample of 50 observations of selected 10 manufacturing companies listed in the Dhaka Stock Exchange was analyzed for 2013 to 2017. The research revealed that the debt ratio and equity ratio have a significant positive impact but the debt to equity ratio has a significant negative impact on ROA. The paper also reflected that the equity ratio has a significant positive impact but the debt to equity ratio has a significant negative impact on ROE. The researchers concluded that firms raise debt finance to reduce the cost of capital and enjoy tax advantage but debt level over the optimum capital structure has a significant negative impact on ROA, ROE, and EPS.

Hassan et al (2014), studied the influence of capital structure on firm's performance on 36 Bangladeshi firms listed in Dhaka Stock Exchange during the period 2007- 2012. The paper used four performance measures; EPS, ROE, ROA and Tobin's Q; as dependent variable and three capital structure ratios, STDTA, LTDTA and TDTA ratio; as proxies of the independent variable. Using pooling panel data regression method, the paper found that EPS is significantly positively related to STDTA while significantly negatively related to LTDTA. There is significant negative relation between ROA and capital structure. On the other hand, there is no statistically significant relation that exists between capital structure and firm's performance as measured by ROE and Tobin Q.

Seetanah et al (2014), sought to empirically assess the impact of capital structure on performance of Mauritian firms listed on the official market of the Stock Exchange of Mauritius for the period of 2005-2011. The study employs both static and dynamic panel data techniques to identify the determinants of firm performance. The results indicate that the main determinants of firm performance are capital structure, firm size, business risk, Mauritius Rupee/Euro exchange rate and Mauritius Rupee/ United State Dollar exchange rate. Growth, opportunities, free cash flow, age of the firm and price of oil are found to have insignificant influence on firm, performance is observed to be negatively related to capital structure, indicating that firms with leverage have better performance, thereby supporting 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 first hypothesis test model; shows the relationship between gross domestic margin and equity:

Table 1
$H0_1$: GPM = f(EQU)..... (vii)
Dependent Variable: GPM
Method: Least Squares
Date: 11/03/21 Time: 09:19
Sample: 1 6
Included observations: 6

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EQU	3.12E-07	1.16E-07	2.696659	0.0543
C	82.41131	117.3028	0.702552	0.5211

R-squared	0.645137	Mean dependent var	394.8114
Adjusted R-squared	0.556422	S.D. dependent var	67.75433
S.E. of regression	45.12551	Akaike info criterion	10.71797
Sum squared resid	8145.248	Schwarz criterion	10.64856
Log likelihood	-30.15392	Hannan-Quinn criter.	10.44011
F-statistic	7.271968	Durbin-Watson stat	2.103108
Prob(F-statistic)	0.054282		

Source: Researcher's Statistical Computation from E-view (v.10), 2021
From the table output above, the coefficient of EQU and GPM is 3.12E-07. This value implies that for every unit increase in GPM is predicted to be accompanied by 3.12E-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 0.0543, which means the relationship between EQU and GPM is statistically significant at the 5 percent significant level.
The result also showed that the R2, which measures the goodness of fit, is 0.645137, meaning that 64 percent of the variation in the gross domestic margin 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 7.271968and 0.054282respectively. The Durbin-Watson statistics of 2.103108 also indicate the absence of serial autocorrelation.
The second model: The second hypothesis test model; shows the relationship between gross domestic margin and debt:

Table 2
$H0_2$: GPM = f(DEBT)..... (vii)
Dependent Variable: GPM
Method: Least Squares
Date: 11/03/21 Time: 09:22
Sample: 1 6
Included observations: 6

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DEBT	1.58E-07	6.03E-08	2.619878	0.0588
C	204.2231	75.12834	2.718323	0.0531

R-squared	0.631803	Mean dependent var	394.8114
Adjusted R-squared	0.539754	S.D. dependent var	67.75433
S.E. of regression	45.96550	Akaike info criterion	10.75486
Sum squared resid	8451.308	Schwarz criterion	10.68545
Log likelihood	-30.26458	Hannan-Quinn criter.	10.47699
F-statistic	6.863760	Durbin-Watson stat	2.397680
Prob(F-statistic)	0.000807		

Source: Researcher's Statistical Computation from E-view (v.10), 2021
From the table output above, the coefficient of DEBT and GPM is 1.58E-07. This value implies that for every unit increase in GPM is predicted to be accompanied by 1.58E-07-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 0.0588, which means the relationship between DEBT and GPM is statistically not significant at the 5 percent significant level.
The result also showed that the R2, which measures the goodness of fit, is 0.631803, meaning that 63 percent of the variation in the gross domestic margin 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 6.863760and 0.000807respectively. The Durbin-Watson statistics of 22.397680 also indicate the absence of serial autocorrelation.
The Third Model: The ninth hypothesis test model; shows the relationship between gross domestic margin and equity and debts:

Table 3

$H0_9$: DPM = f(EQU-DEBT) ..... (ix)

Dependent Variable: GPM
Method: Least Squares
Date: 11/03/21 Time: 09:23
Sample: 1 6
Included observations: 6

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EQU_DEBT	1.09E-07	3.86E-08	2.821906	0.0477
C	139.7292	92.14540	1.516400	0.2040

R-squared	0.665640	Mean dependent var	394.8114
Adjusted R-squared	0.582050	S.D. dependent var	67.75433
S.E. of regression	43.80253	Akaike info criterion	10.65846
Sum squared resid	7674.646	Schwarz criterion	10.58905
Log likelihood	-29.97538	Hannan-Quinn criter.	10.38059
F-statistic	7.963156	Durbin-Watson stat	2.342574
Prob(F-statistic)	0.000736		

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

From the table output above, the coefficient of EQU-DEBT and GPM is 1.09E-07. This value implies that for every unit increase in GPM is predicted to be accompanied by 1.09E-07-unit decrease in EQU-DEBT. The T-statistics is above 1, which is sufficient statistical evidence of significant @ 1% T-stat confidence level. The Prob value of EQU-DEBT is 0.0477, which means the relationship between EQU-DEBT and GPM is statistically insignificant at the 5 percent significant level.

The result also showed that the R2, which measures the goodness of fit, is 0.665640, meaning that 5 percent of the variation in the human development 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 7.963156 and 0.000736 respectively. The Durbin-Watson statistics of 2.342574 also indicate the absence of serial autocorrelation.

CONCLUSION

There is a mixed outcome for equity/debt financing as it relates to profitability. There is no significant relationship between equity/debt financing with ROCE. On the other hand, there exist a significant relationship between equity/debt financing and ROA and GPM of consumer goods manufacturing firms in Nigeria.

More so, the study found out that the firm size does not significantly influence capital structure decisions as well as the 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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