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DEBT FINANCING AND GROSS MARGIN OF CONSUMER GOODS MANUFACTURING FIRM IN NIGERIA

Dr Kaine Awuri Horsefall
Department Of Accountancy, Faculty of Business Studies
Ignatius Ajuru University of Education, Port Harcourt, Rivers State, Nigeria

ABSTRACT

The study therefore investigated the relationship between debt financing and gross margin of consumer goods manufacturing firms in Nigeria. The study proxied debt financing and gross 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

Capital structure concerns the composition of the liability of a company, which is relative to the several financial sources in the composition of the total obligation. Capital structure decision is very vital for any organization, every organization wants a mix of arrangements that eventually achieves or increases its performance and/ or profitability and overall value. Different alternatives available to firms to finance itself sometimes are through issuing of shares, securities or sometime from debt. Firms take the combinations, which increase their efficiency, performance and / or profitability and its value. Capital structure decisions are very difficult in an uncertain economy such as in Nigeria investment climate with the existence of the macroeconomic environment factors such as high interest rates in double figures and volatility in the economy and the political situations are big factors or problem for the combination of capital structure. However, many theories and practical approaches exist on capital structure. The optimal capital structure of a firm is the capital structure with minimum cost implications which maximizes the total value of the term. It could be obtained using a combination of debt and equity financing that would give the firm a minimum cost of capital and enhanced market value. The amount of debt contained in a firm's optimal capital structure is referred to as its debt capacity. The debt capacity has implications on the borrower. Borrowed funds usually carry fixed change interest expense. The borrower is under obligation to pay interest to debt-instrument holders irrespective of whether profits or losses are made. If a borrower fails to pay the fixed interest charges in time, the creditors are at liberty to take legal action against the borrower to get the payments and in extreme circumstances, it may force the borrower into liquidation (Nude, 2003)

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.

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 $= \frac{Gross\ profit}{Sales} \times \frac{100}{1}$

Theoretical Review

Modigliani and Miller (1958) established what has been known as the theoretical principles underlying the combination of debt-equity mix or the capital structure of a firm. Theories on capital structure have been proposed by researchers and scholars of the subject. However, no single theory is capable of explaining all of the time series and cross-sectional patterns associated with capital structure, that economists and researchers, have documented (Huang &Ritter, 2009).

However, there are many useful restrictive theories, each of which is very helpful to scholars to comprehend the structure of debt-to-equity ratio that firms choose: notable among them are the trade- off theory, the packing order theory, the signaling theory and the market- time theory. This study will be hedged on two of the above listed theories.

Empirical Review

Umar et al (2012), examined the impact of capital structure on firm's financial performance in Pakistan of top 100 companies in Karachi Stock Exchange for a period of 4 years from 2006-2009. Exponential generalized least square regression is used to test the relationship. The results show that all three variables of capital structure, STDTA, LTDTA and TDTA, have negative impacts on the earnings before interest and tax (EBIT), ROA, EPS and Net profit margin whereas price earnings ratio shows negative relationship with STDTA and positive relationship is found with LTDTA whereas the relationship has significant impact on STDTA and TDTA but a positive relationship exists with LTDTA.

Muzir (2011), examined and tested the relationship between firm size, capital structure and financial performance, providing evidence from Turkey. It is also aimed to argue the validity of three major capital structure theories- Irrelevance theorem, Trade-off theory and pecking order theory- on a comparative basis. A data set of the financial statements for at least 9 years, from 1994-2003 of 114 firms listed at the Istanbul stock exchange is used in modeling insolvency risk based on specific financial ratios through a binary logistic regression analysis. The results present some robust evidence suggesting that the effect of firm size on financial performance and sustainability may differ according to the way size expansion is financed. Any asset expansion financed with debt has proven to increase risk exposure, especially, during economic downturns, which favors for trade- off theory over the others.

Kajananthan and Nimalthasan (2013), examined the relationship between capital structure and firms' performance of 25 companies using the data covering the periods of 2008-2012. Gross profit, net profit, returns on equity and returns on asset was used as measures of firm performance. Whereas, debt equity ratio and debt asset ratio was used as the measures of capital structure. The statistical test was used, where the results showed that gross profit, net profit, returns on equity, returns on asset are not significantly correlated with debt/equity ratio. And gross profit margin and returns on equity are significantly correlated with debt-asset ratio as the measures of capital structure, and capital structure has significant impact on gross profit and returns on equity.

Leon (2013), studied the impact of capital structure on financial performance of the listed manufacturing firms in Sri Lanka from 2008 to 2012. Financial performance was in terms of accounting profitability, represented by ROA and ROE. 30 listed manufacturing firms were tested through correlation and regression analysis by using SPSS. The finding revealed that, there was a significant negative relationship between leverage and return on equity. And there was no significant relationship between leverage and return on asset.

Revathy and Santhi (2018) investigated the impact of capital structure on profitability of the manufacturing companies in India and attempt to establish the hypothesized relationship as to how far the capital structure variables affect the business revenue of companies and the interrelationship between capital structure variable and profitability. This study was carried out after categorizing the selected manufacturing companies into three categories based on stages and periods. In terms of phases, manufacturing companies were grouped into a pioneering stage, growth stage, and consolidation stage. Second, in terms of the period, these companies were classified into pre and post-merger. A sample of seventy companies was chosen by multi-stage sampling techniques. The study showed that capital structure variables have a significant impact on the profitability of manufacturing companies in India. The study further revealed that there has been a strong one-to-one relationship between capital structure variables and profitability and an

increase in debt-equity ratio inversely affects the profit of the manufacturing companies listed in the Bombay Stock Exchange in India.

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

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

Table 1

H01: 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.
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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