

## **Capital Structure Decision on A Firm's Value; A Study of Manufacturing Companies In Nigeria**

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**Abstract:** *The capital structure decision of an entity enables it to have a capital mix which enhances maximization of the organisation's value. The study aims at exploring the capital structure decision of manufacturing companies in Nigeria so as to establish the effect of capital structure decision on maximum organisational value enhancement. The variables used as a proxy for capital structure include debt to; equity ratio, total asset ratio, total asset ratio and total asset ratio while the variable used for firms' value is return on assets (ROA). The sample size used in this study includes 10 manufacturing listed firms in Nigeria and the analysis techniques used in the study is random sampling method. The data required is obtained from the financial statements of the listed manufacturing companies for the period of 2013-2017. The method of analysis in this study was multiple regression analysis model was used to estimate the relationship between capital structure and firm's value. The result revealed that companies with debt and equity mix has higher value than companies with only equity as it significantly affect return on assets which support the traditional view of capital structure. Therefore, the study suggests that companies should ensure that there is a judicious mix of debt and equity in their capital structure which will reduce the weighted cost of capital (WACC) and on the long run enhance the organisations' value.*

**Keywords:** *Capital structure, Firms' value, Weighted average cost of capital and traditional view*

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### **I. Introduction**

One of the firm's major objectives is to maximize its value. The mix of capital raised to finance the long term operation of an entity is known as the capital structure. According to Pandey (2004) in Ogbulu and Emeni (2012), shareholder return and risk are influenced by a firms' capital structure decision which on the other hand impacts on the value of the firm. Therefore, strong actions should be geared by companies in ensuring that appropriate mix of capital is instituted for smooth running of operations of the firm.

According to Modigliani and Millers (1958), capital structure and capital cost decisions of a firm are separate of the firms value, but are positively related in a world tax-deductible interest payment (Ogbule & Emeni, 2012). In Pandey (2004), the irrelevancy of Modigliani and Millers theories of capital structure of firm value paves way for the development of other theories. In Afrasiabishani, Ahmadinia and Hesami (2012), the traditional approach to capital structure opposed the MM theories.

The traditional approach opined that firm value can be maximized in a situation where the optimum capital structure exist that inclusion of leverage. The capital structure that is considered excellent ensures the existence of a balance between return and risk and at the time ensures price stability, however enhancing owners' interest. In a bid to ensure the optimal capital structure that can enhance maximum value of firms, many other theories have emerged which include net income theory, net operating income theory, Perkins order theory, signalling theory, agency cost theory, static trade off theory, dynamic trade off theory, market timing theory (Afrasiabishani et al 2012).

The capital structure choice is a major corporate financing decision because it represents a financing mix that can maximise an organisation's share price as well as the value of such an organisation (Sorana, 2015). However, capital structure financing decision often has an effect on the firms performance and value. According to Pandey (2010) cited in Adesina, Nwidobie and Adesina (2015) described capital structure to contain the different medium for financing in an organisation and usually include debt, equity or the hybrid which is the major managerial decision because shareholders return and risk as well as the organisations value will be affected since the risk and return is the target for optimum capital structure (Ajayi & Zarihudhin, 2016)

Damodaran (2001) cited in Ubesie (2016) stated that a combination of equity and debt utilise by an organisation to finance its operations. Therefore, managers seek to ensure optimum financing mix that will enhance maximum value to shareholders and other stakeholders because capital structure decision must be a

plan action in order to avoid difficulties in raising fund for the operations of the firm and to be able to adapt to evolving business environment.

Many research exercise has been carried out on the subject matter most especially in the developing countries including Nigeria however, few studies have been explored on the manufacturing companies in Nigeria. Capital structure decision must be a continuous process in order to meet the need of various stakeholders (Sharma & Chadha, 2015) cited in (Ajayi & Zarihudhin, 2016). Therefore, capital structure decision is important both to the management and the shareholders. To this end, this study seeks to determine the effect of capital structure decision on the financial performance of manufacturing companies listed on the Nigerian stock exchange.

## **II. Theoretical Review**

### **Pecking Order Theory**

The pecking order theory is a very authoritative theory as regards to corporate leverage and was introduced in 1961 by Donaldson. It does not support the idea that debt and equity finance should be combined in a peculiar way in order to minimize a firm's cost of capital. The idea behind the theory is that a firm has a list of properly defined and preferred sources of long term investments. It also further states that the first choice internally generated funds in the form of retained earnings and subsequently external equity and debt. The theory believes that a firm's borrowing will reduce and it becomes more profitable due to their capability in generating sufficient internal finance to engage in their investment projects. The theory argues that external finance, like corporate bonds and bank borrowings should only be sought for when internal finance is incapable of meeting the investment needs of the firm.

Pecking order theory attempts to measure the impact of unequal information when new securities are being mispriced since there is no benchmark for debt ratios. The theory is of the notion that the investors believe managers of involved firms are fully aware of information that are price sensitive. With the aim of reducing the cost of unequal information dissemination, firms prefer to use internal finance as a main source of finance and subsequently debt and equity financing as last resorts. This study adopts the pecking order theory in that capital structure decision should be based on sourcing capital internally before embarking on external sources of capital.

### **Review of Empirical Studies**

In order to help growing firms finance structure, research has been carried out both locally and internationally to aid these firms. In this section, some of these studies and their findings have been stipulated starting with local research study. Chandrasekharan (2012) carried out a research in Nigeria with a sample size of 87 out of 216 listed firms in Nigeria covering a five year period. The study concluded that firm size, growth and age are relevant in relation to a firm's debt ratio while other factors like tangibility and profitability do not have a relationship. Babalola (2014) also carried out a similar research and concluded that capital balance is a balance between debt's benefit and cost and it debunks the notion that large firms will have higher performance compared to middle firms assuming that they are on the same debt ratio level. Akinyomi (2013) embarked on a study which came to the conclusion that there is a significant relationship between capital structure and financial performance in terms of return on equity and asset. Taiwo (2012) in his study concluded that firms are unable to exploit the fixed asset component of total asset to improve the firm's performance. Simon-Oke and Afolabi (2011) study revealed that there is a significant relationship between equity financing, debt equity ratio and firm performance. However, there is a negative relationship between debt-equity ratio and firm performance. Semiu and Collins (2011) in their study came to a conclusion that there is a significant relationship between a firm's market value and its choice of capital structure in Nigeria. Bassey, Aniekan, Ikpe and Udo (2013) in their study concluded that growth and educational level of owners of the organisation were relevant factors for both short and long term debt ratios; for short term we have debt ratio and for long term we have asset composition, owners gender, age of the firms and export status.

The following empirical findings relate to international studies. Ong and Teh (2011) engaged in a study on capital structure and firm performance in construction companies in Malaysia. The result of the study showed a relationship between corporate performance and capital structure. Jordan, Zeitun and Tian (2007) embarked on a research on corporate performance and capital structure, they discovered that there is a significant negative relationship between capital structure and corporate performance. Sri Lanka, Puwanenthiren (2011) carried out an investigation on capital structure and financial performance of some selected companies in the Colombo Stock Exchange and the results showed that there is a negative relationship between the capital structure and financial performance. Khalaf embarked on a similar research and the findings concluded that manufacturing companies should be careful when determining the amount of debt to be included in the capital structure of the firm. In Pakistan, Abdul (2010) concluded that the firms in the engineering sector of Pakistan

are largely dependent on short term debt, but debts are attached with strong covenants which affect the performance of the firm.

**Research Method**

**Sample selection and Data collection**

The population used in this study was listed manufacturing firms on the Nigerian stock exchange. Random sampling techniques was used in the selection of 10 manufacturing companies in this study. This reperesents about 27% of the total population, its in line with Krejcie & Morgan (1970) which state that it is appropriate to use 5% sample size to represent the entire population. The study covers 5 years period from (2013-2017). Secondary data was used in this study. This study used ordinaryleast square (OLS) statistical tool in analysing the result. Multiple regression analysis was used to determine the relationship between the firm's value and capital structure.

**Model Specification**

The model used in this study was adopted fromOlaniyi, Elelu and Abdulsalam (2015) study on the impact of capital structure on corporate performance.

$$ROA = \beta_0 + \beta_1 DTER + \beta_2 DTTAR + \beta_3 STDTAR + \beta_4 LTDTAR + \epsilon$$

Where;

**Dependent Variable**

Firm's Value

ROA = Returnon Asset

**Independent Variable**

Capital Structure

DTER = Debt to Equity Ratio

DTTAR = Debt to total asset ratio

STDTAR = Short term debt total asset ratio

LTDTAR = Long term debt to total asset ratio

$\epsilon$  = Error Term

**Measurement of Variable**

Variables	Definition	Type	Measurement	Source
ROA	Return on Asset	Dependent	Stands for the return on assests and calculated by dividing Net income by the average total assets of the firm	Khanam,Nasreen & Pirzada (2014)
DTER	Debt to Equity Ratio	Independent	It is calculated by dividing total debt by shareholder's equity of the firm.	Khanam,Nasreen & Pirzada (2014)
DTTAR	Debt to Total Assest Ratio	Independent	It is measured by dividing total debt by total asset and multiply by 100.	Khanam,Nasreen & Pirzada (2014)
STDTAR	Short Term Debt to Total Assest Ratio	Independent	It is measured by dividing short term debt by total asset and multiply by 100.	Khanam,Nasreen & Pirzada (2014)
LTDTAR	Long Term Debt to Total Asset Ratio	Independent	It is measured by dividing long term debtby the total asset and multiply by 100.	Khanam,Nasreen & Pirzada (2014)

**Descriptive Statistics**

The table 2 below describes the descriptive statistics and reveals that the average number of return on asset is 13% and a standard deviation of 0.18081. The result also depicts that the average number of Debt to Equity ratio is 1.4918 and a standard deviation of 2.91360. The result indicates that the average number of Debt to total asset ratiois 61% and a standard deviation of 0.14738. The result shows that the average number of Short term debt to total asset ratio is 46% and a standard deviation of 0.15063. The average number of Long term debt to total asset ratio is 15% and a standard deviation of 0.7454.

**Table 2 Descriptive Statistics**

Variables	N	Minimum	Maximum	Mean	Std. Deviation
ROA	50	-0.51	0.48	0.1326	0.18018
DTER	50	-17.07	5.59	1.4918	2.91360
DTTAR	50	0.35	1.06	0.6136	0.14738
STD TAR	50	0.08	1.00	0.4586	0.15063
LTDTAR	50	0.02	0.33	0.1546	0.7454

Source: Researcher computation SPSS

**Correlation Matrix**

Correlation test is used to test the degree the relationship between variables under the study. The objective of this test is to check if there are many multicollinearity problems among variables. According to Tabchnick & Fidell (2001) states that a correlation between the independent variable less than 0.90 does not represent a multicollinearity problem. Table 3 shows the result after running the regression model, the result shows that there is no multicollinearity problem in the study. The table shows that there is a positive relationship between debt to equity ratio and firm's value for the period, the correlation coefficient is 0.259 which is statistically insignificant. There is a negative significant relationship between debt to total asset ratio and firm's value at a significant level of 0.01, the correlation coefficient is -0.652. There is a negative significant relationship between short term debt to total asset ratio and firm's value at a correlation coefficient of -0.654 which is significant at 0.01. There is also a positive significant correlation between Debt to total asset ratio and short term debt to total asset ratio at a correlation coefficient of 0.812 which is significant at 0.01. There is a no significant relationship between long term debt tototal asset ratio and firm's value.

**Table 3 correlation Matrix**

Variables	ROA	DTER	DTTAR	STD TAR	LTDTAR
ROA	1				
DTER	0.259	1			
DTTAR	-0.652**	-0.79	1		
STD TAR	-0.654**	-0.249	0.812**	1	
LTDTAR	0.107	0.276	0.245	-0.238	1

\*\* Correlation is significant at 0.01

Source: Researchers computation

**Testing the Hypothesis**

The hypothesis formula was tested in this section.

H1: There is no significant relationship between Debt to Equity Ratio on firm's value.

According to the result on table 4 there is a positive relationship between firm's value and debt to equity ratio of the firm. The p-value of the t-statistic is equal to 0.211 which is higher than 0.05 this implies that we accept the null hypothesis.

H2: There is no significant relationship between Debt to total asset ratio on firm's value

According to the result on table 4 there is a positive relationship between debt to total asset ratio and firm's value. The p-value is 0.011 which is less than 0.05 which implies that we reject the null hypothesis.

H3: There is no significant relationship between short term debt to total ratio on firm's value

According to the result on the table 4 there is a positive relationship between short term debt to total ratio on firm's value. The p-value is 0.865 which is higher than the 0.05 this implies that we accept the null hypothesis.

Variable	Unstandardized Coefficients		t- statistics	Sig. (p-value)
	B	Std. Error		
(Constant)	.554	.083	6.635	.000
DTER	.009	.007	1.270	.211
DTTAR	-.910	.342	-2.657	.011
STD TAR	.057	.337	.171	.865
LTDTAR	.634	.408	1.554	.127

Source: Researcher computation SPSS

**Table 5 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.720	0.518	0.475	0.13052

Source: Research computation SPSS

a. Predictors: (Constant), DTER, DTTAR, STD TAR and LTDTAR

The findings from the regression analysis for the selected banks as represented in table 5 above shows that R<sup>2</sup> is 0.518. This indicates that the model explains 52% of the systematic variation of firm's value, this means 48% of variations where not captured or covered by the model. This result is backed by the adjusted R square which is about 48%, which represents the total variance in the model.

### III. Conclusion

In conculsion the there exist mixed relationship among capital structure and firm's performance. In this study we establish that there is equity mix enhances maximization of the organisation's value than debt. The first and the last null hypothesis was accepted, while the second null hypothesis was rejected. The rejection and acceptance of the hypothesis is based on varability as showed in the result. shows that it is perferable for a company to finance its business with

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