

Capital Structure and Firm Value of Industrial Firms in Nigeria

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Abstract

The term capital structure and the valuation of firm has been of great discussed in the accounting and finance discipline. The study examine the influence of capital structure and firm value of listed industrial goods on the Nigeria Exchange Group for the period of (2011 to 2020), The population of the study consists of the thirteen (13) listed industrial entities in Nigeria Exchange Group (NGX) as at 31st December, 2021, the researcher adopts the purposive random sampling techniques. The study sample size is ten (10) entities based on the availability of data. The study obtained the data from the published financial report of the selected firms. Debt ratio show positive statistical significant on firm value, this implies that debt ratio should ensure that they consistently lower their debt ratio even if they are faced with the agency challenges. Tangibility of asset has negative and non-statistical relationship with firm value. The study also suggests that businesses should expand to achieve economies of scale and, eventually, to levels that do not deplete corporate value. Also, the industrial firms should ensure that they create strong and effective management structures must be adopted at very large scales, especially to create business value.

Keywords: *Firm Value, Tangibility Asset, Debt Ratio, Firm Age, Nigeria*

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I. Introduction

The term capital structure and the valuation of firm has been of great discussed in the accounting and finance discipline. Baker and Martin (2011) describe the capital structure of a company as the mix of debt and equity used to fund its productive assets, operations, and future expansion. It is a direct determinant of overall capital costs and contributes to the overall risk level of the company. The choice of different debt proportions among mixed financing resources can have a significant impact on the firm's value, and consequently on the owners' wealth (Baker and Martin, 2011) in (Binh & Tram, 2020). Although, capital decision is viewed as one of the most important aspects of corporate finance, it has piqued the interest of academics and practitioners alike in recent decades. According to Osazee and Aigbedo (2019) they added that it is impossible to overestimate the value of capital to corporate entities. It serves as the foundation and basis for the establishment and operation of corporate entities.

In study of Gambo, Ahmad, and Musa (2016) posited that capital structure refers to a company's overall sources of funding, which can range from retained earnings to stock and debt financing. Due to its critical significance in corporate performance, capital structure has been regarded as one of the most essential variables in firm finance policy. Firm managers seek to make the best use of resources in order to maintain a competitive advantage (Mailafia & Ada, 2013). In light of the foregoing, managers pay close attention to the capital mix of debt and equity they choose in order to achieve optimization and so increase business value (Mahmoud, 2017). As noted by Modigliani and Miller (1958, 1963) at the outset of their theory development, capital structure was believed to be unrelated to corporate success. Given the existence of imperfect market conditions and behaviors, however, the concept of optimal capital structure develops with the suggestion of trade-off theory, which incorporates the effects of corporate taxes, financial crisis, and agency difficulties. The discovery of information asymmetry, on the other hand, leads to the development of the signaling hypothesis and the pecking order theory, both of which ignore the concept of optimal leverage. Similarly, Jensen and Meckling (1976) looked into the agency cost theory, which they defined as the potential conflict of interest that can occur between managers and shareholders on the one hand, and debtors and shareholders on the other. From their perspective viewpoint birthed other capital structure theories such as pecking order, market timing, and static trade off theory.

Since Miller and Modigliani's seminal work in (1958), there have been several theoretical and empirical studies in the topic of capital structure. While there are several empirical studies on the subject of capital structure and firm value, the majority of these researches have concentrated on developed nations, with

little literature on developing countries, particularly industrial sector of Nigeria. The study is expected to examine the association between capital structure (tangibility asset and debt ratio) and firm value (stock value) of listed industrial firms in the Nigerian Exchange Group (NGX).

II. Literature Review

Theoretical Foundation

The study anchors on the peck order theory;

Pecking-order theory, as proposed by Myers (1984), and Naimi, Nor, Rohami & Wan-Hussin (2010), cited in Abata and Migiroy (2016), simply explains why corporations make their funding decisions the way they do. They believed that enterprises will use internal financing first, such as retained profits, before turning to external sources for logic and safety because it is less expensive. Firms should first finance investments with retained earnings, then with safe debt (newly issued debt that is default-risk free), then with risky debt, and finally with equity to eliminate asymmetric information and other financing costs (Myers, 1984; Ramakrishnan et al., 2015). If funds are required from outside sources, companies will first issue debt, then maybe hybrid instruments such as convertible bonds, and then equity as a last resort because investors view equity as the safest option.

Empirical Review

In the work of Asen, Nwude, Idamoyibo, Ufodiama, Udo (2021) they focused on the capital structure and firm performance of fifteen manufacturing firms in Nigeria for the duration of 1999-2018. From their analytical output; the results show that STV and Tobin's Q-mediated performance proxy have a significant impact on SDTA, SIZE, LDTA, and TDTA, while ROA has a negative impact on LDTA, D_E, and TDTA.

Kalagbor, Okoba, and Amah (2021) investigated the impact of capital structure on company performance in Nigeria. According to the study, Nigerian businesses rely largely on short-term funding rather than long-term financing. To some extent, the disparity in long-term vs short-term debt may restrict the explanatory effectiveness of capital structure theories in Nigeria. It implies that the theoretical foundations of the observed correlations are still substantially unknown with a view to the future, professional and qualified employees should be in control of business financing decisions.

Binh and Tram (2020) used a meta-analytical approach to synthesis a result from disputed studies as well as the origins of such inconsistency to provide insights on the relationship between capital structure and company performance. The analysis is separated into two parts using secondary data, with the first focusing on the overall strength of the relationship, the effect size, and the potential paper-specific variables impacting the level of leverage and firm performance consequences (moderators of the relationship). The study discovered that capital decisions are inversely associated to business performance, pointing to a trade-off model with agency costs and pecking order theory. The estimation produces a relatively small effect size, implying a sufficiently large sample size to be explored effectively.

Igbinovia and Ogbeide (2019) investigated the relationship between the capital structure and corporate value of fifteen selected listed manufacturers in Nigeria covering the period of 2012 to 2017. The data was analyzed using descriptive statistics, correlation analysis, and panel normal least squares regression (OLS) techniques. The study found that leverage, asset tangibility, profitability, and corporate age have a significant bearing on corporate value. The study suggested that sound, efficient and consistent capital structure management policy would allow financial managers to determine the appropriate combination or combination of debt, capital, or both that enhances Nigeria's goodwill.

Mahmoud (2017) empirically investigated the determinants of the capital structure in Nigeria's manufacturing industry between 2012 and 2016. The data was collected from the Nigeria Stock Exchange (NSE) factbook. Conditional probability model analysis is estimated using Probit. The study found that profitability, size, liquidity, and leverage are negatively correlated with corporate value, while growth potential, age, and tangibility are positively correlated with corporate value. The study recommended that corporate regulators, the board of directors, and management should always consider the above variables as the basis for their leveraged financing decisions to achieve the optimal capital structure.

Abata and Migiroy (2016) looked into the link between capital structure and company performance in Nigerian Exchange Group (NGX). Multiple regression methods were used to analyse a sample of 30 listed enterprises out of a total of 173 from 2005 to 2014. To evaluate the acquired data, two hypotheses were formulated and tested using descriptive statistics and an econometric panel data technique. On the one hand, there was an insignificantly negative association between financial leverage and ROA, and on the other hand, there was a significantly negative relationship between debt/equity mix and STV. To improve business performance and survival, it recommended that enterprises use long-term obligations to finance their activities and mix debt and equity correctly by ensuring that the debt financing ratio is low.

Osazee and Aigbedo (2019) examined the impact of capital structure on the performance of multinational firms in Nigeria. Panel data of 2008 to 2017 were sourced from the official publication of the Nigeria Stock Exchange (NSE). Data was analyzed, using descriptive statistic, ADF statistic, Levin, Lin and Chut statistics, correlation analysis and panel regression techniques. The findings revealed that capital structure is significant and negatively affects multinational firms' performance in Nigeria thereby confirming that pecking order theory is valid in Nigerian multinational firms. Other firm specific factors of board size, firm age, firm size, and board independence considered were positively related to the performance of multinational firms in Nigeria though not significant (except for firm size). It is, therefore, recommended that managers of multinational companies should continue to prioritize such that they make use of the internally generated funds (retained earnings) first and if this source of finance has been exhausted, then resort to the use of debt capital and eventually equity source of financing. Besides, managers of multinational firms want to ensure the movement of their capital structure to a level that is optimal (where cost associated with capital is at the minimum level and value of the firm is at maximum level) and strive to sustain and maintain it as much as possible

Osazee and Aigbedo (2019) investigated the impact of capital structure on multinational enterprises' performance in Nigeria. Panel data from 2008 to 2017 was obtained from the Nigeria Exchange's Group (NGX). The descriptive statistic, ADF statistic, Levin, Lin, and Chut statistics, correlation analysis, and panel regression techniques were used to examine the data. The data demonstrated that capital structure had a considerable negative impact on multinational enterprises' performance in Nigeria, proving the validity of the pecking order theory in Nigerian multinational firms. Other firm-specific indicators such as board size, firm age, firm size, and board independence were found to be favorably related to multinational firm performance in Nigeria, though not statistically significant (except for firm size).

III. Methodology

Research Design

This study adopts the Ex-post factor design method. The study data were obtained from the secondary sources which were collected from the audited annual reports and accounts of the listed manufacturing companies in Nigeria for the period of 2011-2020.

Population and Sample Size

The population of the study consists of the thirteen (13) listed industrial entities in Nigeria Exchange Group (NGX) as at 31st December, 2021, the researcher adopts the purposive random sampling techniques. The study sample size is ten (10) entities based on the availability of data.

Model Specifications

The general model for this study is represented by;

$$Y = f(X);$$

The general model of the study will therefore be;

$$SV = \beta_0 + \beta_1 DBTR + \beta_2 TANGASS + FAGE + \mu$$

In the above models:

β_0 = the intercept

μ = residual

β_1 - β_3 = the coefficients

DBTR = is Debt ratio, which is the total debt/total assets

TANGASS = is tangibility of asset, which is the ratio of fixed assets over its total assets.

FAGE = Entity age

IV. Results and Analysis

Table 1: Correlation Analysis

	STV	DBTR	TANGASS	FAGE
STV	1.0000	0.6028	0.2726	-0.4856
DBTR	0.6028	1.0000	0.7966	0.3974
TANGASS	0.2726	0.7966	1.0000	0.5147
FAGE	-0.4856	0.3974	0.5147	1.0000

Source: Researcher E-view Output, V.12

Table 1 show the relationship between the dependent variable (STV) and the independent variables (DBTR, TANGASS, FAGE) respectively, it reveals the positive correlation between variable except for FAGE ratio that have negative (-0.4856) relationship with the variable.

Table 2: Descriptive Statistics

	STV	DBTR	TANGASS	FAGE
Mean	30.50000	41.03333	65.83333	81.26667
Median	27.60000	41.80000	67.70000	72.55000
Maximum	39.50000	60.90000	86.50000	112.8000
Minimum	23.40000	16.20000	27.00000	66.50000
Std. Dev.	6.887670	19.01827	21.24671	17.66767
Skewness	0.538183	-0.131276	-1.014596	1.072760
Kurtosis	1.535713	1.324523	3.002935	2.628759
Jarque-Bera	0.825674	0.719039	1.029408	1.185269
Probability	0.661770	0.698012	0.597678	0.552869
Sum	183.0000	246.2000	395.0000	487.6000
Sum Sq. Dev.	237.2000	1808.473	2257.113	1560.733
Observations	100	100	100	100

Source: Researcher E-view Output, V.12

Table 2 summarized the descriptive statistics of the Mean 30.50000, 41.03333, 65.83333, 81.26667 Median 27.60000, 41.80000, 67.70000, 72.55000, Maximum 39.50000, 60.90000, 86.50000, 112.8000, Minimum 23.40000, 16.20000, 27.00000, 66.50000 and Standard deviation 6.887670, 19.01827, 21.24671, 17.66767 of the variables (STV, DBTR, TANGASS and FAGE) for the study respectively. The indication is that TANGASS the most dispersed variable in the study while STV is the least dispersed among the variables. Jarque-Bera statistics and the associated probability values also showed that the STV, DBTR, TANGASS and FAGE are normally distributed with probabilities of 0.661770, 0.698012, 0.597678 and 0.552869 (which are greater than 5%) respectively.

Table 3: Regression Output

Dependent Variable: STV

Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DBTR	0.371740	0.037593	9.888486	0.0101
TANGASS	-0.037550	0.036017	-1.042580	0.4066
FAGE	-0.325084	0.028534	-11.39285	0.0076
C	44.13684	2.067791	21.34493	0.0022
R-squared	0.992129	Mean dependent var		30.50000
Adjusted R-squared	0.980322	S.D. dependent var		6.887670
S.E. of regression	0.966186	Akaike info criterion		3.003800
Sum squared resid	1.867031	Schwarz criterion		2.864973
Log likelihood	-5.011400	Hannan-Quinn criter.		2.448064
F-statistic	84.03111	Durbin-Watson stat		2.076868
Prob(F-statistic)	0.011783			

Source: E-view 12 output

From the analytical output in Table 3, the independent variables combined significantly explained the variations in the dependent variable with F-statistics probability value of 0.011783 (at 5% significant level). The R-squared (coefficient of determination) value 0.992129 indicates that 99% of changes in the dependent variable are accounted for by the combined effect of variations in the independent variables. Also, the adjusted R-squared value of 0.980322 indicates that the model used in testing the hypotheses for the study is a proper and good fit, with a confidence level of approximately 98% for acceptance of the goodness of the study model. Durbin- Watson statistics value 2.076868 is approximately equal to the 2.0 benchmark, which indicates the non-existence of serial auto correlation among the independent variables. The regression showed that DBTR is positively statistical significant (coefficient 0.371740, p-value 0.0101) with STV, this implies that DBTR will help improve firms stock value this agreed with (Abata and Migiro 2016); Osazee and Aigbedo 2019), on the other hand, FAGE is negatively statistical significant (coefficient -0.325084, p-value 0.0076) which implies that increased in FAGE will leads to a decline in the firm value. This agreed with Igbinovia and Ogbeide (2019).

However, TANGASS has no significant statistical (coefficient -0.037550, p-value 0.4066) relationship with firm stock value, this also agreed with Abata and Migiroy (2016)

V. Conclusion and Recommendations

The study examine the influence of capital structure and firm value of listed industrial goods on the Nigeria Exchange Group for the period of (2011 to 2020), The study obtained the data from the published financial report of the selected firms. Debt ratio show positive statistical significant on firm value, this implies that debt ratio should ensure that they consistently lower their debt ratio even if they are faced with the agency challenges. Tangibility of asset has negative and non-statistical relationship with firm value. The study also suggests that businesses should expand to achieve economies of scale and, eventually, to levels that do not deplete corporate value. Also, the industrial firms should ensure that they create strong and effective management structures must be adopted at very large scales, especially to create business value.

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