

MODERATING EFFECTS OF FINANCIAL RISK ON THE RELATIONSHIP BETWEEN DEBT FINANCING AND VALUE OF FIRM

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ABSTRACT:

The study examined the moderating effects of financial risk on the relationship between debt financing and value of firm. The study adopted ex post facto research design. Whereas, micro panel analysis techniques were utilised for the companies under study spanning 2006-2016. Secondary data were obtained through the companies' individual annual reports and database of Nigerian Stock Exchange. The population of the study consists of all the 19 industrial goods companies that were listed at the Nigerian stock Exchange as at 31st December, 2016. The study arrived on a final sample size of 12 listed industrial goods companies in Nigeria. While, hierarchical moderated multiple regression analysis was used to test the moderating effects of financial risk on the relationship between debt financing and value of firm. Various post estimation tests of autocorrelation, Hausman specification and heteroscedasticity tests were conducted to validate the regression results. The findings of the study revealed that, there is a significant positive association between debt financing and value of listed industrial goods companies in Nigeria. While, financial risk as a good moderator also discovered that, there is a significant positive relationship between debts financing and value of listed industrial goods companies in Nigeria. It was concluded that, debt financing and financial risk are drivers of increasing value of firms among listed industrial goods companies. It is recommended among others that; the management of listed Industrial goods companies should continuously increase their debt ratio as increase in total debt to total assets increases the financial risk of the firm and increase in the level of financial risk increase the return on investment thereby enhancing the value of the firm.

1. INTRODUCTION

If there has been any area of finance theory that has attracted the greatest attention and caused the highest controversy is definitely the theory of capital structure and leverage and how that affect value of firm. Capital structure represents the major claims to a corporation's assets. Its prominence derives from the fact that capital structure is firmly related to the ability of firms to accomplish the needs of various stakeholders. This includes the diverse types of equities and liabilities (Rajhans & Kaur, 2013). A debt-equity mix can take one of the subsequent procedures: 100% equity: 0% debt, 0% equity: 100% debt and X% equity: Y% debt. From these three options, alternative one is that of the unlevered firm, that is, the firm ignores the benefit of leverage (if at all). Alternative two is that of a firm that has no equity capital. This alternative may not really be lifelike or likely in the actual lifetime financial situation, because no benefactor of capital will endow his money in a firm without equity capital. Moderately this explains the term "trading on equity", that is, it is the equity element that is existing in the firm's capital structure that inspires the debt suppliers to give their rare resources to the business. Alternative three is the greatest genuine one in that, it combines both a certain percentage of debt and equity in the capital structure and thus, the advantages of leverage (if any) is being abused. For long, this mix of debt and equity has been the focus of debate regarding its fortitude, assessment, book keeping and accounting.

Research on the theory of capital structure was pioneered by the seminal work of Modigliani and Miller (1958). Noteworthy pragmatic and theoretical postponements followed and the wide accord pattern, nonetheless till in recent times, is that firms select an appropriate (optimal) level of debt, based on a tradeoff between benefits and cost of debt (Krishnan & Moyer, 2004). It has also been contended that profitable firms were less likely to be contingent on debt in the capital structure than rarer profitable ones and that firms with high growth rates have high debt to equity ratios (see Harris & Raviv, 1991; Krishnan & Moyer, 2004; Tian & Zeitun, 2007).

There is no doubt that doles prosper in the use of debt in the capital structure of the firms. The main advantage of debt financing is the tax-deductibility of interest charges, which results in lower cost of capital (Krishnan & Moyer, 2004). Does it then mean that a firm should go on growing the debt quantity in its capital structure? If every addition in debt financing were going to upsurge the earnings for the shareholders, then every firm would have been 100% debt financed. However, there are definite costs related with debt financing. So, between the two excesses of entire equity financing and entire debt financing, a particular debt-equity mix is to be decided. Any attempt by a firm to design its capital structure therefore, should be taken on in the light of two propositions: first that the capital structure be designed

in such a way to be amid the objective of maximizing shareholders wealth, second, that, though the precise optimal capital structure may be unbearable, determinations must be made to attain the best estimate to the optimal capital structure.

In practice, firms vary as of nature, size, earnings, cost of capital, competitive advantage, market expectations and risks of one another. Hence, capital structure theories may provide only a broad theoretical context for exploring the bond between leverage and cost of capital and value of the firm. However, a financial manager should go outside these deliberations as no empirical ideal may be able to include all these slanted features. In fact, there are, a lot of factors which should be reflected such as qualitative, quantitative and subjective and factored in the process of planning and scheming a capital structure for a firm. Besides, these deliberations, care should be taken to make sure that the capital structure is assessed in its entirety and a finance manager should realize as to which capital structure is most beneficial to the firm. The firm should as well aptly be careful of the interest of the shareholders, debt holders and management. Above all, the legal provisions (if any) regarding the capital structure should also be considered (Aljamaan, 2018).

A list of factors has been identified relative to capital structure decisions such as profitability, growth of the firm, size of the firm, debt maturity, debt ratio, tax and tangibility; however, deliberations affecting the capital structure decisions can be considered in the light of minimization of risk. A firm's capital structure must be advanced with a sense concerning risk because it has an uninterrupted tie with the value (Krishnan & Moyer, 2004). Risk may be considered for two deliberations: that capital structure must be dependable with the firm's business risk, as well as that capital structure results in a certain level of financial risk.

The capital structure of a firm, straightly touches its financial risk, which may be termed as the risk follow-on from the use of financial leverage. The main concerned of financial leverage is identify the relationship between earnings before interest and taxes (EBIT) and earnings before tax (EBT). The more fixed-cost financing, that is, debt (including financial leases) and preferred stock, a firm has in its capital structure, the higher its financial risk. Since the level of this risk and the related level of returns are main inputs to the evaluation procedure, the firm must estimate the prospective effect of substitute capital structures on these factors and eventually on value in order to select the best capital structure.

From the aforementioned, a capital structure is said to be well-organized, if it retains the total risk of the firm to the lowest level. The long-term solvency and financial risk of a firm is usually measured for an agreed capital structure. Meanwhile upsurge

in debt financing touches the creditworthiness as well as the financial risk of the firm, the extreme use of debt financing is generally avoided.

However, one of the pervasive issues addressed by the capital structure theory is the debt financing which has a significant role in determining the value of firm. Yet, statically there is no irrefutable empirical proof in the literature about how financial risk moderate the relationship between debt financing and value of listed industrial goods companies in Nigeria. Hence, the raising of appropriate fund in an organization will aid the firm in its operation; hence, it is important for firms in Nigeria to know the debt financing that gives effective and efficient value of firm, after a good analysis of business operations and obligations.

From our preliminary observation of the financial reports of firms considered in this study, debt financing for listed industrial goods companies in Nigeria corresponds mainly to long term debts. However, debt financing affects a company's performance because companies will usually agree to fixed repayments for a specific period. These repayments occur regardless of the firm's performance. Thus, the choice of capital structure is fundamentally a financing decision problem which becomes even more difficult in times when the economic environment in which the company operates presents a high degree of instability like the case of Nigeria. Hence, making appropriate capital structure decision becoming crucial for Nigerian listed industrial goods companies.

In Nigeria, investors and stakeholders as they may assume that attributions of capital structure are not related to their firm's value and appeared not to look in detail the effect of capital structure in measuring their firm's performance. Certainly, a healthy designation of capital structure will tip to the triumph of firms; hence the issues of capital structure which may stimulus the corporate performance of Nigerian firms has to be resolved. Also, the capital structure choice of a firm can lead to insolvency and have an opposing effect on the performance of the firm if not properly utilized. Consequently, this study is an effort to add to the pragmatic studies on how debt financing touches value of firm in the Nigerian context. Hence, the main objective of the current study is to investigate the moderating effects of financial risk on the relationship between debt financing and value of listed industrial goods companies in Nigeria through which the listed industrial goods companies can increase their value more efficiently and effectively. Therefore, the following specific objectives have been developed to guide the study:

- i. To determine the moderating effect of financial risk on the relationship between debt financing and value of listed industrial goods companies in Nigeria.
- ii. To examine how industrial goods companies' size affect their value.
- iii. To establish how industrial goods companies' growth impact their value.

However, it is hypothesized as follows.

- i. Financial risk (FNRSK) has no significant moderating effects on value (TOBIN'S Q) of listed industrial goods companies in Nigeria.
- ii. Size has no significant effect on value of listed Industrial goods companies in Nigeria.
- iii. Growth has no significant effect on value of listed Industrial goods companies in Nigeria.

2. LITERATURE REVIEW

The key significant factor used when examining shareholder's value is the firm financial risk. This is because uncertainty has a negative impact on value of firm. Sharma, Durand and Gur- Arie (1981) documented that financial risk could influence value of firm. Similarly, Messbacher (2004) states that, capital structure and financial risk has an effect on the market value of firm, as it touches companies' current ratio, operating leverage, earnings per share, and dividend payout ratio or share capital of a firm. Further, in the context of corporate finance, to investigate the optimal capital structure is a mature field of finance research. However, Richard and Robins (2006), observed that the objective of the firm is to maximize the current wealth of shareholders but that equity is riskier than debt and that a rational investor expects a higher rate of return on equity or market value that ignoring taxation and cost of financial risk in any financial decision taken will affect the capital structure of the company. The role of an optimal capital structure is very important in maximizing shareholders wealth. It is also very important in maximizing market value of a firm. In addition, Huang and Song (2006) reveal that the positive relation between total debt ratio and volatility is consistent with Hsia's (1981) view that firms with higher leverage level tend to make riskier investment. Despite the broad consensus that financial risk is an important inverse determinant of corporate debt policy, empirical investigation has led to contradictory results. For instance, Rafiq (2011) found positive relationship between leverage and financial risk.

Furthermore, the study of Alkhatib (2012) noted that analyzing corporate financial risk would not be complete without considering the environment within which the firm operates. In qualifying this statement, the author stated that firms normally face varying economic, cultural and sectorial dynamics all of which are crucial in determining their long run financial stability. The importance of sector variable aimed at establishing a realistic positive value in determining corporate financial risk was emphasized by Sabido and Mulato (2006) whose study analyzed growth in profit margins of listed firms in Eastern Africa. The study revealed that movements in profit margins of firms operating within similar sectors were almost level. Further, Dhaene, Hulle, Wuyts, Schoubben and Schoutens (2017) observed that sector-specific factors play a crucial role in determining their leverage behavior.

Although finance and economics scholars have agreed that industry-specific factors are critical in determining the value of firms, studies have provided conflicting results on how these dynamics alter the consequence of capital structure on corporate financial distress. For instance, in their study of 101 Australian firms selected from manufacturing and investments sectors, Akhtar and Oliver (2009) sought to determine whether the effect of financial leverage on firm value is similar across the sectors. Debt to total assets ratio was used as a proxy for firm value while earnings before interest and tax represented profitability. Upon controlling for firm size effect, the study found a negative and statistically significant relationship between debt and corporate performance among firms selected from both sectors. The study therefore concluded that industry dynamics did not influence the leverage profitability relationship. The findings of the study were in consonance with those of Amjad (2007) whose study compared the effect of debt on corporate financial distress among firms listed in textile and energy sectors in Pakistan. In the study, the ratio of total debt to total equity represented the level of borrowing while firm value was measured by use of earnings per share. The results of the study indicated a negative and significant relationship between the two variables in both sectors.

Raheel (2013) conducted a study on the impact of capital structure on value of firm over a panel data sample of 83 companies from KSE 100 index for their analysis and the findings of the study suggested that, the capital structure of a firm is negatively related to its market value and also increases its risk level as the share of debt increases in the capital mix. Additionally, in USA, Dalbor and Upneja (2015), tried to determine whether or not the use of debt contributes to the value of lodging firms. Annual data were used for the U.S. lodging firms over the years 1980-2005. The regression analysis show that after controlling for size and financial risk, a positive relationship is established between debt and the value of the firm. On the contrary, Kinyau (2005) used operating income volatility as the proxy to measure financial

risk. This research explores the extent to which the debts influence the value of firm. The study differentiates between total debt to total assets and equity to total assets in order to moderate the financial risk involved and ultimately differ in returns as well. As stated earlier, the greater the duration, then the greater will be the risk of that security and hence the greater will the returns the investor will ask for (Khan, 2012). Consequently, Smithson and Simkins (2005) in their study had collected previous research and came up with four important questions. The study is concerned with lone of these four questions. Is there an association between financial risk and value of Firm? Also, financial risk was represented by earnings before interest and tax to expenses in the study. Likewise, an empirical study by Mary (2011), on the determinants of capital structure in listed Egyptian Corporations also indicated a positive relation between financial risk and leverage, which contradicts the theoretical background and the findings observed in most developed and developing countries. However, most theories and empirical findings (Titman & Wessels 1988), indicate an inverse relationship between financial risk and debt ratios.

Furthermore, Hall, Hutchinson & Michaelas (2004) conducted a study on the relationship between financial risk and value of firm, and the researchers found presence of significant relationship as well as an inverse relationship (Vijayakumar & Tamizhselvan, 2010). The inverse relationship has been supported by other researchers also in near past (Barret, 2010). Financial risk is not only being studied as an independent variable for measuring value of firms but Rauh and Sufi (2009) concluded that financial risk of firms is an important moderator. Similarly, Rauh and Sufi in that analysis deeply observed a number of researches which were conducted taking financial risk of firm as a moderator and inferred a result that severity of impact of all the environmental factors change. With change in the finances of the organizations. Financial risk of the organizations played a role of moderator variable between entrepreneurial orientation and value of firm (Dess, 1997; Zahra, 1996).

Moreover, Hamada (1972) investigated the financial risk factor in relation to capital structure and describes that capital structure is significantly associated with financial risk and explains about 21% to 24% financial risk of the value of firm. Besides, Castania (1983) conducted a study on 36 business line and the result shows that firms considering bankruptcy risk use less debt in their capital structure because of increased financial risk association. This depicts that increased bankruptcy risk lead the firms towards the less usage of debt in their debt-equity mix. On this earth-breaking theory of irrelevance of the value of firm, Modigliani and Miller (1958) stated that imperfection of capital markets provides the room to leverage for increasing the value of firm.

Although, Allayannis, Brown, and Klapper (2002) conducted a research and Tobin's q ratio was used as a surrogate of firm value (dependent variable) and firm size,

leverage ratio (showing financial risk), Tobin's q and size of investments were used in the study as (independent variables). The study was performed using financial data between the years 1990-1995 of 720 companies that were operating in the United States and are not financial. The method used was a multiple regression analysis, also, the results showed that there is positive correlation between financial risk and value of firm.

3. MATERIALS AND METHODS

The study embraced the ex post facto research design. The choice of ex post facto research design is deemed necessary in examining how an independent variable, present prior to the study in the participants, affects a dependent variable. The ex post facto research design also helps to investigate possible cause and effect relationship by first identifying some existing consequence and searching back by analyzing data to establish possible casual factors (Sambo, 2005).

The population of the study consists of all the 19 industrial goods companies that are listed on the Nigerian stock Exchange as at 31st December, 2016. As shown in Appendix I, the criteria of industrial goods companies are based on Nigerian stock Exchange classification and its choice by this study is informed by the need to make generalizations that cover the entire industrial goods companies.

Therefore, census method have been employed for data collection and enhances validity of the collected data by eliminating errors associated with population (Saunders, Lewis & Thornhill, 2009). Once a population has been identified a decision needs to be made about whether taking a census or selecting a sample will be the more suitable option. Census is a total enumeration which remains merely a head count from part of the population. Similarly, Mugenda and Mugenda (2003) noted that a census is preferred where the population is small and manageable. Hence, information from the census units is used to determine the characteristics for the population. Nevertheless, census method has given equal chance for the entire population.

However, a two-point filter is used to censure the population of the study. For a company to qualify as part of the census, the company must satisfy the following: Firstly, it must be listed within the period of the study. Secondly, it must have the required data for the study. The first filter is to ensure that the same group of companies is used all over the period of the study so as to satisfy the requirement of a panel study. The second filter is to avoid redundant sample. As a result of the foregoing criteria, five companies are dropped because they failed to meet filter (i)

the companies are Austin Laz & Company PLC, Cu tix PLC, Dangote Cement PLC, Paints and Coatings Manufacturers Nig. PLC and Portland Paints and Products Nigeria PLC. Moreover, two companies failed to meet filter (ii) and the companies are African Paints (Nigeria) PLC and Ipwa PLC. Hence, a total of seven (7) companies are dropped from the initial population of nineteen (19) companies. This left the study with a clean filtered twelve (12) listed industrial goods companies as the sample of the study as shown in Appendix II.

This study is based on secondary source of data, the data were collected from the annual reports and accounts of the industrial goods companies listed on the Nigerian stock spanning from 2006 to 2016. To minimise data error and ensure accuracy, the data collected from individual's firm's annual report and the financial statements of the companies published in the Nigerian stock exchange Fact book for the various years and the data obtained from these sources relate to both dependent and independent variables.

Though, the data collected was analyzed using multiple and hierarchical regression analysis using 132 observations, including 12 cross-sectional units, Time-series length of 11years. The objective of the study is to investigate the moderating effect of financial risk on the relationship between debt financing and value of listed industrial goods companies in Nigeria.

Furthermore, multiple and hierarchical regression analysis was used to decide the nature and significance of an association between changes in the response variable and change in the predictor variables (causes) recognized in the study. From the above, three variables considered for the study. Thus, the regression equation model can be expressed below.

$$VF_{it} = \alpha_o + \beta_1 LTDA_{it} + \beta_2 LnFRMSZE_{it} + \beta_3 LnGRWTH_{it} + \varepsilon_{it} \dots\dots\dots(1)$$

Where: VF = Dependent Variable – (value of firm)

β_1 = Debt Ratio (total debt to total assets)

β_2 = Firm Size (logarithm of total assets)

β_3 = Growth (logarithm of total assets)

β_0 = Constant ε = error term.

To express this as a panel model, we have:

$$VF_{it} = \alpha_o + \beta_1 LTDA_{it} + \beta_2 LNFRMSZE_{it} + \beta_3 LnGRWTH_{it} + \beta_4 LnFNRSK_{it} + \varepsilon_{it} \dots\dots\dots(2)$$

The regression panel model estimated by this study is therefore stated as below:

$$VF_{it} = \alpha_o + \beta_1 LnTDTA_{it} + \beta_2 FRMSZE_{it} + \beta_3 GRWTH_{it} + \beta_4 FNRSK_{it} + \beta_5 LnTDTA * FNRSK_{it} + \beta_6 LnFRMSZE * FNRSK_{it} + \beta_7 LnGRWTH * FNRSK_{it} + \varepsilon_{it} \dots\dots\dots(3)$$

Where:

VF_{it} = Value of firm

$TDTA_{it}$ = Debts ratio (Ratio of TD to TA as used by Zelgalve and Berzkaine, 2015)

$SIZE_{it}$ = Firm Size (Log of total assets as used by Khaledi (2014)

$GRWTH_{it}$ = Growth (Assets growth rate as used by Abba and usman (2016)

$FNRSK_{it}$ = Financial risk (Financial Expenses/ EBIT) as used by Asifa, Mian and Hashim (2014)

α_0 = Constant

$\beta_1, \beta_2, \beta_3 \beta_4 \beta_5 \beta_6 \beta_7$ = Coefficients of the explanatory variable

ε_{it} = error term

i = cross-sectional observation of firms

t = Time period

4. RESULTS AND DISCUSSIONS

This section discusses the results of the model estimated by the study. Results from the panel regression analysis is presented in the table 4.1 presented below:

Table 4.1: The estimated model of moderating effects of FNRSK on TDTA with TOBINS Q

VARIABLES	Model (1) Tobin's Q	Model (2) Tobin's Q	Model (3) Tobin's Q
Lntdta	0.8143*** (0.0636)	0.8056*** (0.0955)	0.2457*** (0.0350)
Lnfrmsze	-0.7219** (0.3591)	-0.7632** (0.4572)	-0.2996* (0.0176)
Lngrwth	-0.0315 (0.0201)	-0.03033 (0.0265)	0.0044** (0.0017)
Lnfnrsk		0.0072*** (0.0127)	-0.1022** (0.0484)
Lntdarsk			0.1404** (0.0651)
Szersk			0.0774*** (0.0160)
Grwrsk			-0.0396*** (0.0133)
Constant	1.6162** (0.8007)	1.6972 (0.9983)	0.9351 (0.1640)
Autocorrelation:			

F(1,9) =			0.401
Prob >F =			0.5422
Breusch-Pagan Test:			
Test (χ^2)			0.00
Prob > χ^2 =			1.000
IM Test:			
χ^2			70.95
Prob > χ^2			0.0035
R ²	0.7330	0.7361	0.7897
Adj. R ²	0.7237	0.7361	0.7614
R ² Change		-0.0031	0.0536
Observations	90	90	60
Number of comp	12	12	12

Note: Debt financing =LNTDTA; Moderating variable = LNFNRSK; Interaction terms = LNTDTA*RSK, LNTSZE*RSK, LNGRW*RSK, *** p<0.01, ** p<0.05, * p<0.1

Also, the problem of multicollinearity among the variables used in the estimated model is investigated using the variance inflation factor VIF presented in Table 4.2 below.

Table 4.2: Multicollinearity Diagnostic Test

Variables	Tolerance Value	VIFs Value
Lntdta	1.26	0.7921
Lnfrmsze	1.26	0.7954
Lnfnrsk	1.03	0.9746
Lngrwth	1.01	0.9925
Mean vif	1.14	

The experimental proof gained from Table 4.1 shows that F-statistics of the models are found to be significant. R² change in model 3 is 0.00536, which is larger than the change in R² of model 2 (0.0031), indicating the effect of (LNFNRSK) as a moderating variable in the model. The results indicate the association between the usual of independent variables and value of firm (TOBIN'S Q). Moreover, diagnostic checks for heteroscedasticity and normality were conducted using Cameron and

Trivedi im-test. Also, multicollinearity and specification tests were conducted to ascertain the validity of the estimated Pooled OLS model (Model 3).

The Cameron and Trivedi im-test for heteroscedasticity conducted indicates that there was no problem of heteroscedasticity as can be seen in Table 4.1. Equally, the test for autocorrelation indicates that the estimates are at liberty from the tricky of autocorrelation as shown by the P-value of the test for autocorrelation. Additionally, from all the three models estimated, the Breusch-Pagan test for random effects indicates that the pooled OLS with robust standard errors estimates is the most appropriate model and therefore, the interpretation of results obtain in Table 4.1 concentrates only on the pooled OLS model of Table 4.1 (Model 3). In addition to that, the VIF test obtain in Table 4.2 for multicollinearity among the variables indicates that not any of the variables in the model has a VIF value of up to 5 and therefore no much multicollinearity among the variables included in the pooled OLS model.

Furthermore, the empirical evidence obtained from the table (model 1) suggests that F-statistics, which explains the overall significance of the model are satisfactory though, which indicates that the regression equation and estimates are significant and can be relied upon to make valid and meaningful inferences. Nonetheless, the F-Statistics majorly shows the fitness of the model and the fact that the established relationship is not due to mere chance. Hence, the coefficients indicate a relationship between the set of independent variables and (TOBINS Q). The adjusted R^2 value are however high and shows that the regression model which consists of (LNTDTA), (LNFRMSZE) and (LNGRWTH) which indicates that only about 0.7237 (72) percent of the variations in (TOBIN'S Q) is explained by the variation (LNTDTA).

It is also found from the table that (LNTDTA) and (LNFRMSZE) are significant in explaining variations in (TOBIN'S Q), while (LNGRWTH) is found to be insignificant. However, among the two significant variables, only (LNTDTA) is found to meet the expected sign or support the hypothesis, while (GRWTH) is found to have a different sign than expected or has not supported the hypothesis. The negative result of (LNFRMSZE) and (LNGRWTH) indicates that an increase in (LNFRMSZE) and (LNGRWTH) by one unit will decrease value of firm by 0.72 and 0.032 units respectively, while the positive result of (LNTDTA) indicates that an increase in (LNTDTA) by one unit will increase value of firm (TOBIN'S Q) by 0.8143 unit. The table also revealed that (LNTDTA) has the highest beta coefficient value (0.8143); indicating the strongest contribution in explaining the dependent variable.

However, the coefficient of the following variables (LNTDTA, LNFRMSZE, GRWTH, FNRSK, LNTDARSK, SZERSK and GRWRSK) are found to be significant all at 1% level to (TOBIN'S Q), implying the moderating effects of (LNFNRSK) on the relationship between debt financing (TDTA) and value (TOBIN'S Q) of listed industrial goods companies. The change in signs and strength of the interaction terms further support that (LNFNRSK) moderates the relationship between (LNTDTA) and (TOBIN'S Q) of listed industrial goods companies in Nigeria.

Nevertheless, financial risk (LNFNRSK) has different effects on the relationship between (LNTDTA) and (TOBIN'S Q) of listed industrial goods companies in Nigeria than the hypothesised sign. It is hypothesized that (LNFNRSK) has no significant moderating effects on TOBIN'S Q. From Table 4.1 above, it was observed that, this variable is significant at 1% level. This shows that financial risk (FNRSK) has negative and significant effect on value of listed industrial goods firms in Nigeria. This implies that a unit decrease in the level of financial risk will bring about a unit decrease in the (TOBIN'S Q). This finding may be argued in favour of the fact that, the higher the risk taken in good times by organization, the higher the return and hence increase in the value of the firm.

5. CONCLUSIONS

This study has presented an empirical analysis of the moderating effects of financial risk (FINRSK) on the relationship between debt financing (TDTA) and value (TOBIN'S Q) of listed industrial goods companies in Nigeria based on data available on their annual reports for the period 2006 – 2016. The effect of one explanatory variable is measured on firm value by using (TOABIN'S Q); one of the market-based measures value of firm (TOABIN'S Q), financial risk (FNRSK) as moderating variables was used to restrain the relationship between debt financing and value of firm.

The study confirms that the trade-off theory is valid in the sense that the debt financing to be adopted by an organization will be a balance between tax shields associated with the level of debt used and related to the financial risks (FNRSK). It was resolved that; debt financing and financial risk are drivers of increasing value of the firm among listed industrial goods companies. It is recommended among others that; the management of listed Industrial goods companies should continuously increase their debt ratio as increase in total debt to asset assets increases the financial risk of the firm and increase in the level of financial risk increase the return on investment thereby enhancing the value of the firm. While suggesting for future research the study attempted to establish the moderating effects of financial risk on

the relationship between debt financing and value of listed industrial goods companies in Nigeria, the attempt is by no means all-encompassing.

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Appendix: I

Table 1.1 Population of the Study

S/N	NAME OF COMPANY	YEAR OF LISTING
1	African Paints (Nigeria) Plc.	1996
2	Ashaka Cement Plc.	1990
3	Austin Laz & Company Plc.	2012
4	Avon Crown caps & Containers Plc.	1994
5	Bergers Paints Plc.	1974
6	Beta Glass Co. Plc	1986
7	Chemical and Allied Products Plc.	1978
8	Cement Company of northern Nig. Plc.	1993
9	Cutix Plc.	2008
10	Dangote Cement Plc.	2010
11	DN Meyer Plc.	1979
12	First Aluminium Nigeria Plc.	1992
13	Grief Nigeria Plc.	1979
14	Ipwa Plc.	1978
15	Lafarge Wapco Plc.	1979
16	Nigeria Ropes Plc.	1978
17	Paints and Coatings Manufacturers Nig. Plc.	2010
18	Portland Paints & Products Nigeria Plc.	2009
19	Premier Paints Plc.	1995

Source: NSE, 2016

Appendix: II

Table 3.2 Census Sample of the Study

S/N	NAME OF COMPANY	YEAR OF LISTING
1	Ashaka Cement Plc.	1990
2	Avon Crown caps & Containers Plc.	1994
3	Berger's Paints Plc.	1974
4	Beta Glass Co. Plc	1986
5	Chemical and Allied Products Plc.	1978
6	Cement Company of northern Nig. Plc.	1993
7	DN Meyer Plc.	1979
8	First Aluminums Nigeria Plc.	1992
9	Grief Nigeria Plc.	1979
10	Lafarge Wapco Plc.	1979
11	Nigeria Ropes Plc.	1978
12	Premier Paints Plc.	1995

Source: NSE, 2016