



## CAPITAL MIX, FINANCIAL RISK AND CORPORATE VALUE OF LISTED INDUSTRIAL GOODS COMPANIES IN NIGERIA

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### Abstract

*In recent years, the listed industrial goods companies in Nigeria have experienced dwindling in their corporate value. Capital mix is the utmost arguable matter in finance and one of the strategic corporate decisions affect firm corporate value. Several scholars have examined the effect of capital mix on corporate value of firms have come out with mixed result. Due to that, this paper has tried to address the mixed findings with the starter of moderating variable. Hence, the paper examined capital mix, financial risk and corporate value of listed industrial goods companies in Nigeria, using micro panel analysis techniques for the companies under study spanning 2008-2018. Hierarchical analysis is applied for estimate. The outcome from the study prior to moderation shows that equity financing has a negative 1% significant effect on corporate value of firm. However, the moderator (financial risk) had a negative effect on corporate value as it has altered the direction of the relationship from a negative 1% level of significance to a negative 10% significant relationship. It is also discovered that the firm size have negative influence on the corporate firm's value. The estimate indicates a negative moderating effect of financial risk with equity, firm size and growth. The study conclude that, financial risk results in decline in corporate value among listed industrial goods companies. Hence, the study suggests that corporate financial decision makers are advised to employ more of long-term-debt than equity capital in financing their operations since it results in a positive corporate value of firm. It is also necessary for financial institutions to give more consideration to long term debt and its component to be viable and profitable for the prospective borrowers. Firms in Nigeria should be guided on the possible control and minimizing financial risk for the benefit of long term debt so as to increase the performance of the firms. Thus, financial risk must be eluded at all cost for the progress, profit, high production and enactment of every business entity. Monetary institution should also come up refine modalities in which appropriate and viable capital mix can be apply by the business endeavor in Nigeria.*

**Keywords:** *Capital Mix, Financial Risk, Firm Size, Growth, Moderation, Nigeria.*

### 1. Introduction

The corporate value of firm has been the prime alarm of business practitioners in all types of organizations, largely due to the insinuations it has on organization's health and eventually its survival. Corporate value is the present value of the firm's current and future profits (Baye, 2010). Though a high corporate value reflects management's effectiveness and efficiency in making use of company's resources, financial risk are among other important factors that could affect the corporate value of the firms. The industrial goods sector as debated by some analyst is one of the key sector that plays a major part in the overall economy of Nigeria, the sector's annual contributions to the nation's GDP in 2017 is 9.18% and rose slightly to 9.20% in 2018 (NBS, 2019). In the past couple of years, corporate value of listed industrial goods companies



has weakened. For instance, report provided by the Nigerian Stock Exchange (NSE) revealed that about seven companies have been on the delisting radar of the Exchange (NSE, 2019).

Therefore, decisions carried out by managers or board of directors' impacts corporate value of the enterprises. These decisions are of three classes; financing, investment and dividend decisions. The one of concern in this paper is the financing decisions. Capital mix consist of firm's debt and equity. It is also the precise blend process of firm's operations by the use of equity and debt. Capital combination referred to a firm's long and short terms debts, preferred and common equity. Capital mix is essential on how a firm finances its overall operations and progress using other sources of funds.

Likewise, financial risk is part of an organisational life and firms could gain from it, when presumed resulting to a reasonable calculation and analysis. Financial risk is the additional variability in returns to shareholders that arises because the financial structure contains debt. However, managing financial risk has been one of the primacy issues in financing decisions and the greatest significant judgments that financial managers are faced with because firms most determine the source of funds to finance their assets, operations and growth. Again, capital structure decision is important as it affects the market value of the firm (Sani & Idris, 2019). The absent relationship was the moderating effect of a company's financial risk on the forefront relationship.

Modigliani and Miller (1958) known as MM I, considered the starting point for most studies on capital structure. Modigliani and Miller (1958, 1963) predict two very specific relationships between firm value and the amount of debt in the firm's capital structure, depending on whether or not the firm pays corporate income taxes. This MM I received substantial criticism from researchers who questions the realistic of the MMI theory assumptions. This substantial criticism stimulates Modigliani and Miller (1963) to issue a correction to MMI theory known as MMII. In MMII Modigliani and Miller still quarrel that the transform in the leverage level does not affect the firm's value, but when taxes and other transaction costs are considered two factors need to be recognized: First, the firm's weighted average cost of capital goes downward as leverage level goes upward. Second, the increase in the leverage level will affect the firm's cost of equity positively due to the fact that investors bear higher business risk cause by the increase in the leverage level as it increase the possibility of bankruptcy.

It is clear that the proportion of debt in the capital structure is not certain for a company and on the basis of certain factors this ratio changes from one company to another. The Modigliani & Millar model is an ideal case which gives the guidance in this problem, but it is based on certain conditions which are namely, there are no taxes to be charged, there are no costs associated with the bankruptcy, the markets are efficient and all the investors have equal information.

In the light of the above assumptions, the theory concluded the following generalizations. First, the capital structure of a company is irrelevant to its value. Second, the proportion of debt has no effect on the firm's operations and its overall value that is calculated through NPV. Third, capital budgeting decisions are not affected by capital structure of the firm. It means that the decisions of the investments are made without taking into account the capital structure of the company.



For decades, several scholars have examined the effect of equity financing on value of listed companies in emerging and developed markets. The outcome of their studies have been a subject of controversy and disagreement among researchers, some with positive regression results like Sani, Sabo, Kabiru and Ibrahim (2020), and others with negative regression result like Aggarwal and Padhan (2017). Hayes (2013) argued that in a situation of mixed findings, moderation or mediation could be used to overcome the mixed result. Hence, the aim of this study is to contribute to the capital structure debate with the primer of moderator. Moderation effect occurs when the moderating variable results in changing the direction or strength of relationship between a dependent and independent variable. Also, the moderator has to relate with the dependent variable for it to serve as a moderator.

Therefore, for this study, financial risk will be use as a moderator in examining the relationship between equity financing and corporate value. This is because several competing theories and studies have established that capital mix depends on financial risk, as larger firms incline to decide on their debt, cash holdings, and equity payout policies at the same time (Campbell, Gareth, and Rogers, 2018). Hence, the objective of this study is to investigate the moderating effect of financial risk on equity financing and corporate value. To the best of the researcher's knowledge, in this regard no study has been conducted. The basic objective of the study is to examine moderating effect of financial risk on equity financing and corporate value in listed industrial goods firms in Nigeria. The specific objectives are as follow:

- a. To assess the relationship between equity financing and corporate value of listed industrial goods companies in Nigeria.
- b. To determine the moderating effect of financial risk on the relationship between equity financing and corporate value of listed industrial goods companies in Nigeria.

The hypotheses of the study are stated in null forms below:

Ho<sub>1</sub>: There is no statistical significant relationship between equity financing and corporate value of listed industrial companies in Nigeria.

Ho<sub>2</sub>: Financial risk has no moderating effect on the relationship between equity financing and corporate value of listed industrial goods companies in Nigeria.

## **2. Literature Review and Theory**

This section reviews literature concerning study variables such as equity financing, financial risk and corporate value.

### **2.1. Conceptual Literature**

#### **2.1.1. Corporate value of firm**

The concept of corporate value of firm has been the primary concern of business practitioners in all types of organizations, largely due to the implications it has on organization's health and ultimately its survival. Hence, is a concept that has been developed to realistically account for a firm's real value considering the concept of market value? It is helpful measure of performance because it takes into account the long-term interest of all the stakeholders in a company, not just the shareholders. It is relevant to all stakeholders, because companies that maximise value for their stakeholders in the long term also create more employment, treat their current and former employees better, give their customers more satisfaction, and shoulder a greater burden of



corporate responsibility than their short-sighted rivals (Waheed, Fawad Adnan and Jehangir, 2016).

### **2.1.2. Capital Mix**

Capital mix is the means by which an organisation is financed. Some authors argue that, capital structure represents the major claim to a corporation's assets. This includes the different types of both equities and debt liabilities a firm employs in its business operations (Olokoyo, 2013) and is considered as how a company finances its entire operations and expansion by utilising different financial sources whether it is from equity, debt capital and other form of capital such as vendor financing (Muhammad, Ahmed & Muhammad, 2018).

Equity financing is the method of raising capital by selling company stock to investors. In return for the investment, the shareholders receive ownership interests in the company. Equity financing often means issuing additional shares of common stock to an investor (Murtala, Surya and Zunaidah, 2015).

### **2.1.3. Concept of financial Risk**

Financial risk is the additional variability in returns to shareholders that arises because the financial structure contains debt. It is risk over and above the normal business risk, it is associated purely with debt finance, financial risk is nil in a company financed solely by equity (Sani & Badara, 2020). However, financial risk is allied with the promises related to debt obligation. When the business increases then the bankruptcy risk also increases which is positively related with financial risk of company (Sani and Badara, 2020). Therefore, debts (leverage) ratio, which constitutes a financial risk for the firm and effects the firm's value, will be used in this study to represent the financial risk. The level of risk is said to be one of the primary determinants of a firm's capital structure (Kale, Noe and Ramirez, 1991). When a company takes debt its shareholders bear some additional risk, which is called financial risk. It is purely related to debt and as the debt increases the financial risk also increases. Higher the financial risk of a company is the higher would be the required ROR of its shareholders.

## **2.2.Related Empirical Studies**

### **2.2.1. Equity financing and corporate value of firm**

According to prior literature, equity, as a component of capital structure, has highlighted positive meanings as well as negative meanings. Further, several studies have investigated the effect of equity financing on corporate value of firm in both advanced and emerging markets. On the other hand, there are numerous empirical studies conducted which found out negative effect of equity financing and value of firm. For occurrence, Sani and Badara (2020) found out that there is a significant positive relationship between equity financing and value of listed industrial goods companies in Nigeria. Sani, Sabo, Kabiru and Ibrahim (2020) studied equity financing and firm value of 12 listed industrial goods in Nigeria from 2006 to 2016. The multiple regression result shows that equity finance reduce the capacity of firm value in Nigeria. It is also discovered that the firm size and growth have negative influence on the value of firm. Following the findings of this study, managers should design appropriate management skills to come up with the efficient capital mix in financing firm business. This could be through taking into consideration of various theoretical application and the weakened nature of the economy in the best combination of capital for viable business operation. Achieng, Mutur and Joshua (2018) investigated effect of



equity financing options on financial performance of 124 non-financial firms listed at the Nairobi Securities Exchange, Kenya as at 31st December 2017. The ordinary least squares method of regression was employed in carrying out this analysis. The result of the study reveals that in an emerging economy like Nigeria, equity capital as a component of capital structure is irrelevant to the value of a firm, while Long-term-debt was found to be the major determinant of a firm's value. Following from the findings of this study, corporate financial decision makers are advised to employ more of long-term-debt than equity capital in financing their operations since it results in a positive firm value. Similarly, Campbell, Gareth, and Rogers (2018) examined the effect of capital structure and volatilities in Europe. An empirical investigation contradict the predictions of the trade-off theory. The findings of the study reveal that many companies in Europe had substantial variation in their capital structures between 2006 and 2016. The study shows that, this pattern occurred across countries. Companies with the most volatile debt ratios tended to be smaller, and were less profitable. Their high debt volatility was partly due to high volatility in operating and investing activities, and partly due to a reduced propensity to let cash balances and equity payouts absorb the fluctuations.

Also, Aggarwal and Padhan (2017) examined the effect of capital structure and firm quality on firm value of selected BSE listed Indian hospitality firms over a time frame of 2001-2015. An empirical study has been carried out through panel data techniques by applying pooled OLS, fixed effects and random effects models. The findings of the study reveal a significant relationship of firm value with firm quality, leverage, liquidity, size and economic growth. The study shows that Modigliani miller theorem of capital structure irrelevance does not hold for Indian hospitality sector. It is of practical significance for hotel owners to reassess their capital structure to improve firm quality and firm's market performance. Likewise, Adenugba, Abayomi and Olalekan (2016) explored the impact of capital structure on value of manufacturing companies in Nigeria from 2006 to 2015. Using a regression technique to analyse the effects of some key variables like total debt to total assets and equity to total assets ratio on firm value; a negative association was found between capital structure measures (total debt and equity to total assets ratio) and value of firm. The researchers recommended the use of more equity to debt in the financing of business activities, provided the business value is enhanced by the use of debt capital. Similarly, Draniceanu (2016) examined the relationship between return on equity and the capital structure of a sample of 10 Nigerian firms from year 2006 to 2015 and observed that a strong curvilinear relationship exists between return on equity and the debt-to-asset ratio. Their findings which is consistent with the trade-off theory show that at a reasonable parameter values, the financial distress cost burn by debt do, in fact provide a first order counter balance to the tax benefit of debt and that firm's performance is a quadratic function of debt ratio. In a related development, Barret, Bellemare and

### **2.2.2. Financial Risk and Corporate Value of Firm**

Firms with higher leverage seek to avoid higher costs of financial distress and are more likely to issue equity. However, the key significant factor used when examining shareholder's value is the firm financial risk. This is because uncertainty has a negative impact on corporate value of firm. Sharma, Durand and Gur- Arie (1981) documented that financial risk could influence corporate 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.



### **2.2.3. Limitation of Prior Literature**

Prior literature investigations on capital structure and corporate value of firm have been either positive or negative. There has been no substantial dimension to the best of the researcher's knowledge added to the capital structure debate since the pilot and modified studies particularly in emerging market. Unsettled to that, this paper provided that dimension to overcome the mixed findings with introduction of financial risk as moderator of the relationship between capital mix and corporate value of firm. Financial risk could serve as a moderator because it affects corporate value of firms, as larger companies tend to have better investment opportunities, which could result in enhancement in their corporate value.

### **2.3. Modigliani-Miller Theory**

The Modigliani-Miller theorem of capital structure as established by Modigliani and Miller is an irrelevant approach with three propositions. The first proposition states that under certain conditions, a firm's debt-equity ratio does not affect its market value (1958). The second proposition (1961) establishes that a firm's leverage has no effect on its weighted average cost of capital and the third proposition (1965) establishes that firm market value is independent of its dividend policy. This theory assumes that there exists a perfect market where there is information symmetry, no taxes, no bankruptcy costs and no transaction costs. The value of the firm is, therefore, not affected by its capital structure but rather dependent on the ability of the firm's assets to generate income. This suggests that the valuation of a firm is irrelevant to the capital structure of a company. Whether a firm is highly leveraged or has a lower debt component has no bearing on its market value. Rather, the market value of a firm is solely dependent on the operating profits of the company.

The capital structure of a company is the way a company finances its assets. A company can finance its operations by either equity or different combinations of debt and equity. The capital structure of a company can have a majority of the debt component or a majority of equity, or an even mix of both debt and equity. Each approach has its own set of advantages and disadvantages. There are various capital structure theories that attempt to establish a relationship between the financial leverage of a company (the proportion of debt in the company's capital structure) with its market value. One such approach is the Modigliani and Miller Approach. The theory assumes that there are no taxes; transaction cost for buying and selling securities, as well as the bankruptcy cost is nil; there is a symmetry of information. This means that an investor will have access to the same information that a corporation would and investors will thus behave rationally; the cost of borrowing is the same for investors and companies; there is no floatation cost, such as an underwriting commission, payment to merchant bankers, advertisement expenses, etc. and there is no corporate dividend tax.

The theory is criticized based on its assumption. Such criticisms include the assumption of market perfection in which the information was complete and systematic is not obtainable, easy acceptance of firms with high levels of debt trading off for tax deductible benefits and the assumption that investment decisions were not influence by financial decisions. Despite the criticisms, the theory is important because it states that market value of a firm is affected by its operating income and risk involved in the investment. Again, it states that the value of a firm is not dependent on the choice of capital structure or financing decisions of the firm.



### 3. Methodology

#### 3.1. Research Design, Material and Methods

Secondary data is used in this study for the analysis of the objective, along with prowess database various Annual Reports of the companies has been used. Sources of data has been collected from the Annual reports of the companies for the period of 2008 to 2018. 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. (Sambo, 2005). The population of the study consists of the 19 industrial goods companies that are listed on the Nigerian stock Exchange as at 31<sup>st</sup> December, 2018. As supposed, the criteria of industrial goods enterprises 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). 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 nature for the population. Nevertheless, census method has given equal chance for the entire population. 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 equity financing and value of listed industrial goods companies in Nigeria.

Likewise, 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, five are variables considered for the study. Thus, the regression equation model can be expressed below.

$$VF = f (EQTA, FRMSZE, GRWTH) \dots\dots\dots 1$$

In equation (1) EQTA represent equity financing, FRMSZE is firm size and GRWTH represent growth. The econometrics specification of the model is on the following equation.

$$VF_{it} = \alpha_0 + \beta_1 EQTA_{it} + \beta_2 FRMSZE_{it} + \beta_3 GRWTH_{it} + \epsilon_{it} \dots\dots\dots 2$$

In equation (2) VF represent value of firm, EQTA is equity financing (ratio of equity to total assets), FRMSZE is firm size in equation (2)

In equation (3) VF represent value of firm, EQTA is equity financing (ratio of equity to total assets), FRMSZE is firm size (logarithm of total assets), GRWTH represent growth, (logarithm of total assets) and FNRSK represent financial risk (Financial Expenses/ EBIT), while  $\beta$  and  $\alpha$  are the coefficient of the variables,  $i$  represent the corrections of the firms,  $t$  is period of time,  $\epsilon$  is error term. I

To express this as a panel model, we have:

$$VF_{it} = \alpha_0 + \beta_1 EQTA_{it} + \beta_2 FRMSZE_{it} + \beta_3 GRWTH_{it} + \beta_4 FNRSK_{it} + \epsilon_{it} \dots\dots\dots 3.$$



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

$$VF_{it} = \alpha_0 + \beta_1 EQTA_{it} + \beta_2 FRMSZE_{it} + \beta_3 GRWTH_{it} + \beta_4 FNRSK_{it} + \beta_5 EQTA_{it} * FNRSK_{it} + \beta_6 FRMSZE_{it} * FNRSK_{it} + \beta_7 GRWTH_{it} * FNRSK_{it} + \epsilon_{it} \dots \dots \dots 4$$

**4. Results and Discussion of Findings**

**4.1. Results**

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 EQTA with TOBINS Q**

VARIABLES	Model (1) Tobin's Q	Model (2) Tobin's Q	Model (3) Tobin's Q
Eqta	-1.0032*** (0.0181)	-1.0143*** (0.0202)	-1.0239*** (0.0226)
Frmsze	-0.0048 (0.0068)	-0.0006 (0.0093)	0.03524 (0.0245)
Grwth	-0.0007*** (0.0005)	-0.0009*** (0.0004)	-0.0007 (0.2272)
Eqrsk		0.0082*** (0.0128)	-0.1024** (0.0485)
Szersk			0.1406** (0.0655)
Grwrsk			0.0784*** (0.0260)
Constant	1.0474*** (0.0527)	1.0095*** (0.0778)	-0.6689*** (0.2274)
Autocorrelation:			
F(1,9) =			0.403
Prob >F =			0.5445
Breusch-Pagan			
Test:			
Test ( $\chi^2$ )			0.00
Prob > $\chi^2$ =			1.000
IM Test:			
$\chi^2$			70.95
Prob > $\chi^2$			0.0035
R <sup>2</sup>	0.7430	0.7999	0.7481
Adj. R <sup>2</sup>	0.7337	0.7724	0.7461
R <sup>2</sup> Change		0.0093	0.0002
Observations	90	90	60
Number of comp	12	12	12

Note: Equity financing =EQTA; Moderating variable = EQRSK; Interaction terms = EQTA\*FRSK, FRMSZE\*FRSK, GRW\*FRSK, \*\*\* 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
Eqta	1.43	0.7831
Frmsze	1.13	0.7864
Eqrsk	1.13	0.9656
Grwth	1.03	0.9827
mean vif	1.18	

The experimental proof gained from Table 4.2 shows that F-statistics of the models are found to be insignificant.  $R^2$  change in model 3 is 0.0002, which is smaller than the change in  $R^2$  of model 0.0093, indicating the effect of (EQRSK) as a moderating variable in the model. The results indicate the association among 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. Concentrates only on the pooled OLS model of Table 4.2 (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 4.1 (model 3) 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 low and shows that the regression model which consists of (EQTA), (FRMSZE) and (GRWTH) which indicates that only about 0.7481 (75) percent of the variations in (TOBIN'S Q) is explained by the variation (EQTA).

It is also found from the Table 4.2 that (EQTA) is significant in explaining variations in (TOBIN'S Q). However, among the two remaining variables (FRMSZE), is found to meet the expected sign or support the hypothesis, while (GRWTH) is found to have an insignificant and negative effects than expected and has not supported the hypothesis. The negative result of (GRWTH) indicates that an increase in (GRWTH) by less than a unit will decrease value of firm by 0.0007. While the positive result of (EQTA) indicates that an increase in (EQTA) by one unit



will increase value of firm (TOBIN'S Q) by 0.0226 unit. The table also revealed that (EQTA) has the highest beta coefficient value (1.0237); indicating the contribution in explaining the dependent variable.

However, the coefficient of the following variables (EQRSK and GRWRSK) are found to be negatively significant at 5% and 3% level to (TOBIN'S Q) respectively, implying the moderating effects of (FNRSK) on the association between equity financing (EQTA) and value (TOBIN'S Q) of listed industrial goods companies. The change in signs and strengthens of the interaction terms further support that (FNRSK) moderates the association between (EQTA) and (TOBIN'S Q) of listed industrial goods companies in Nigeria.

Nevertheless, financial risk (FNRSK) has effects on the connection between (EQTA) and (TOBIN'S Q) of listed industrial goods companies in Nigeria than the hypothesised sign. It is hypothesized that (FNRSK) has no significant moderating effects on TOBIN'S Q. From Table 4.2 above, it was observed that, this variable (EQRSK) is insignificant at 5% 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 increase 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 reduce in the value of the firm.

#### **4.2. Discussion of Findings**

Prior to moderation, the regression outcome in Table 4.1 indicates negative significant relationship between capital mix and corporate value of firm. This implies that, there a decline in corporate value among listed industrial goods companies. Also, financial risk results in decline in corporate value among listed industrial goods companies. Hence, the study suggests that corporate financial decision makers are advised to employ more of long-term-debt than equity capital in financing their operations since it results in a positive corporate value of firm. It is also necessary for financial institutions to give more consideration to long term debt and its component to be viable and profitable for the prospective borrowers. The result is in line with other findings like Sani, Sabo, Kabiru and Ibrahim (2020) and Sani and Badara (2020). Moreover, the finding is consistent with Modigliani and Miller (1958) Known as MMI theory which results that the value of a leveraged firm (a firm that has a mix of debt and equity) is the same as the value of an unleveraged firm (a firm that is wholly financed by equity) if the operating profits and future prospects are same. That is, if an investor purchases shares of a leveraged firm, it would cost him the same as buying the shares of an unleveraged firm.

In contrast, the estimate indicates a negative moderating effect of financial risk with equity, firm size and growth. Hayes (2013) argued that effect of moderation is demonstrated by change in coefficient or change in level of significance. The effect is reflected in the result as negative coefficient prior to moderation became negative and 1% significance became 10% significance. However, the negative result of (GRWTH) indicates that an increase in (GRWTH) by less than a unit will decrease value of firm by 0.0007. While the positive result of (EQTA) indicates that an increase in (EQTA) by one unit will increase value of firm (TOBIN'S Q) by 0.0226 unit. All of these factors contribute to decline in corporate value. This finding is similar to findings derived from other studies like Barret, Bellemare and Hou (2010) where firm size



moderated the relationship between some variables such as growth and corporate value. Theoretically, the result is in line with diseconomies of scale theory, which posit that increase in firm size results in decline in corporate value.

## 5. Conclusion

Owing to the dwindling in corporate value of listed industrial goods companies in Nigeria, this paper investigated the reason for the dwindling to see whether it is as a result of companies' capital mix policy. To overcome the issue of mixed findings from earlier studies, the paper moderated capital mix and corporate value relationship with financial risk. Findings prior to moderation is negative and significant relationship between capital mix and corporate value, but with moderation of financial risk, the effect of capital mix on corporate value became negative and significant. Owing to the result, it is recommended that firms in the industrial good sector should be guided on the possible control and minimizing financial risk for the benefit of long term debt so as to increase the performance of the firms. The study suggest mediating effect of financial risk in relationship with capital mix and corporate value.

## Reference

- Abdullahi, A. (2009). *Financial Management*. Corporate Publishing Lagos. ISBN: 978-978-904-925-7.
- Achieng, B. O., Muter, W., & Joshua Wanjare. (2018). Effect of Equity Financing Options on Financial Performance of Non-Financial Firms Listed at the Nairobi Securities Exchange, Kenya. *Applied Economics and Finance*, 5(4), 267-269.
- Adenugba, A. A., Abayomi, A. Olalekan, R. (2016). Financial leverage and firms' value: A study of selected firms in Nigeria. *European Journal of Research and Reflection in Management Sciences*, 4(1), 14-32. [www.idpublications.org](http://www.idpublications.org).
- Aggarwal, D. & Padhan P.C. (2017). Impact of Capital Structure on Firm Value: Evidence from Indian Hospitality Industry. *Theoretical Economics Letters*, 7(4), 982-1000.
- Amidu, M. (2007). Determinants of Capital Structure of Banks in Ghana. An empirical Approach. *Baltic Journal of Management*, 2(1), 67-69.
- Ashraf, Muhammad, Ameen, Ahsan & Shahzadi, K. (2017). The Impact of Capital Structure on Firm's Profitability: A Case of Cement Industry of Pakistan. *International Journal of Business and Social Science*, 8(4), 140-147. <https://doi.org/ISSN 2219-1933>.
- Aziz, S., & Abbas, U. (2019). Effect of Debt Financing on Firm Performance: A Study on Non-Financial Sector of Pakistan. *Journal of Economics and Commerce*, 2(1), 8-15.
- Babalola, I. (2012). The effects of optimal capital structure on firms' performances in Nigeria, *Journal of Emerging Trends in Economics and Management Sciences (JETEMS)*, 3(2): 131-133.
- Baye, M. R. (2010). *Managerial Economics and Business Strategy*. 7th Edn., New York: McGraw-Hill Companies. Retrieved from: <https://kelly.iu.edu/~mbayecv>, 16th May, 2015.
- Barret, C.B., Bellemare, M. F., & Hou, J.Y. (2010). Reconsidering conventional explanations of the inverse productivity-size relationship. *World Development*, 38(1), 88-97
- Bas, T., Muradoglu, G., & Phylaktis, K. (2013). Determinants of capital structure in developing Countries. *European Research Studies*, XVI (2), 98-119.
- Brealey, R., & Myers, S. (2003). *Principles of Corporate Finance (7th Ed.)*. United Kingdom: McGraw Hill, London UK.



- Brigham, E.F., & Dan, H.J.F. (2011) *Fundamental of Financial Management*. (11<sup>th</sup> edition), Cengage Learning.
- Campbell, Gareth, and Rogers (2018). Capital structure volatility in Europe. *International Review of Financial Analysis*, 55 (C), 128– 139.
- Chen, J. J. (2004). Determinants of Capital Structure of Chinese listed companies. *Journal of Business Research*, 57 (12), 1341-1351.
- Chen, L.-J., Jung, C., & Chen, S.-Y. (2011). How the Pecking-Order Theory Explains Capital Structure, Taiwan. Li-Ju Chen, Graduate School of Business and Operations Management, Chang Jung Christian University, Taiwan.
- Dalbor, M., & Upneja, A. (2015). The investment opportunity set and the long term debt decisions of U. S. lodging firms. *Journal of Hospitality and Tourism Research*, 28(3), 346-355.
- Hayes, F.A (2013). *Introduction to mediation, moderation and conditional process analysis*. 72 Spring Street. New York, NY 10012: Guilford Publications, Inc.
- Jensen, M., & Meckling, W. (1976): Theory of the firm: managerial behaviour, agency costs and capital structure. *Journal of Financial Economics*, 3(4), 305-360.
- Ibrahim, E. E. (2009). The Impact of Capita-structure choice on firm Performance : Empirical evidence from Egypt. *The Journal of Risk Finance*, 10(5), 477-487.
- Kale, J.R., Noe, T.H. & Ramirez, G.G. (1991), The effect of business risk on corporate capitalstructure: theory and evidence, *Journal of Finance*, 46 (5), 1693-1715.
- Kodongo, O., Mokoaleli-Mokoteli, T., & Maina, L. K. (2014). Capital Structure, profitability and firm value: Panel evidence of listed firms in Kenya. Profitability and firm value. *Journal of Business and Management*, 7(3), 23–30.
- Koller, T., Goedhart, M. & Wessels, D. (2010). *Valuation: Measuring and Managing the Value of Companies*, 5<sup>th</sup> Edn., New Jersey: John Wiley & Sons, Inc., Hoboken. Retrieved from: [www.gsm.pku.cn](http://www.gsm.pku.cn), 18<sup>th</sup> April, 2015.
- Lawal, B. A., Edwin, T., Monica, W. K., & Adisa, M. K. (2014). Effects of Capital Structure on Firms Performance: Empirical Study of Manufacturing Companies in Nigeria. *Journal of Finance and Investment Analysis*, 3(4), 39-57
- Masidonda, J. L., Idrus, M. S., Salim, U., & Jumahir, D. (2013). Determinants of Capital Structure and Impact Capital Structure on Firm Value. *Journal of Business and Management*, 7(3), 23–30.
- Messbacher, U., 2004. “Does capital structure influence firm’s value?” University of Ulster, *Journal of Finance*, 32(3), 261-275.
- Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American economic review*, 48(3), 261-297.
- Modigliani, F., & Miller, M. H. (1963). A Critical review of Modigliani and Miller’s theorem of capital Structure. *International Journal of Economics, Commerce and Management (IJEEM)*, III (6), 37 – 48.
- Mugenda, O. M. & Mugenda, A. G. (2003). Research methods: Quantitative and qualitative Approaches. *American Journal of Educational Research*. 2(11), 30-38. DOI: 10.12691/education-2-11A.
- Mugenda, M. O., & Mugenda, G. A. (2003). Research methods: Quantitative and qualitative approaches. Laba Graphics Services, Nairobi, Kenya. African Center for Technology Studies.



- Muhammad, M. K., Ahmed, B. B., & Mohammed, A. (2016). Effect of Capital Structure on Performance of Listed Consumer Goods Companies in Nigeria. *Research Journal of Finance and Accounting*, 7(8), 211- 219.
- Murtala, B. U., Suraya, I. and Zunaidah, S. (2015). Stock Market-Based Financial Development and Economic Growth with Reference to Nigeria: A Review of Literature. *International Journal of Academic Research in Economics and Management Sciences*, 4(1), 141-159.
- Mwangi, L. W., Makau, M. S., & Kosimbei, G. (2014). Relationship between Capital Structures and Performance of Non-Financial Companies Listed In the Nairobi Securities Exchange, Kenya. *Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics*, 1(2), 72–90.
- Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187-221.
- NPC (2015). Nigeria: National economic empowerment and development strategy. National Planning Commission (NPC): Abuja.
- NBS (2019). Nigeria, National Bureau of Statistics. Statistical Abstract. <http://www.nigerianstat.org.ng>
- NBS (2020). Nigeria, National Bureau of Statistics. Statistical Abstract. <http://www.nigerianstat.org.ng>
- NSE (2019). The Nigerian Stock Exchange Publication. <http://www.nigeriansse.org.ng>  
Email: primarymarkets@nse.com.ng
- Nirajini, A., & Priya, K. (2013). Impact of capital structure on financial performance of the listed trading companies in Sri Lanka. *International Journal of Scientific and Research Publications*, 3(5), 1- 9 ISSN 2250–3153.
- Michael J. de S. (2018). Statistical Analysis Handbook. A Comprehensive Handbook of Statistical Concepts, Techniques and Software Tools. Issue version: 2018-1
- Ogbulu, O. M & Emeni, F. K. (2012). Capital Structure and Firm Value. Empirical Evidence from Nigeria. *International Journal of Business and Social Science*. 34(4), 575-592.
- Olokoyo, F. O. (2013). Capital Structure and Corporate Performance of Nigerian Quoted firms. *A panel Data Approach for African Development Review*, 25(3), 358-369.
- Onaolapo, A.A., & Kajola, S.O. (2010). Capital structure and firm performance.Evidence from Nigeria. *European Journal of Economics, Finance and Administrative Sciences*, 25 (2), 70 -82.
- Pandey, I. M. (2009). Essentials of Financial Management (1<sup>st</sup> Edition). New Delhi: DN, Vikas Publishing House Ltd.
- Peirson, G., Brown, R, Easton., S. & Howard, P.(2002). Business Finance, (McGraw Hill: Sydney,2002).
- Richard, O. A. Luqman, S. O<sup>2</sup>. Joshua, D. O. (2017).Capital Structure Decision and Firm Performance: Evidence from Non-Financial Firms in Nigeria. *Acta Universities Danubius, Economica*, 13 (6), 351-364.
- Salerno, D. (2019). Does the private equity financing improve performance in family SMEs? *Journal of Family Business Management*, 9(1), 110–124. <https://doi.org/10.1108/JFBM-122017-0046>.



- Sambo, A. A. (2005). *Research Methods in Education*. Ibadan, Oyo State: *Stiling-Horden Publishers (Nig.) Ltd. Gaaf Building, 110-112 Oyo Road, Orogun, off University of Ibadan, Second Gate.*
- Sani, A. I., & Badara, M. S. (2020). Moderating Effects of Cost of Capital on Equity Financing and Firm Value in Nigeria. *Academic Journal of Economic Studies*, 6(3), 81–84.
- Sani, A. I., & Idris, I. T. (2019). Moderating effects of cost of capital on debt financing and firm value in Nigeria. *International Journal of Research and Scientific Innovation (IJRSI) | Volume VII, Issue VI, 156-159. (June 2020).* [www.rsisinternational.org](http://www.rsisinternational.org)
- Sani, A. I., Sabo, H., Kabiru, S., & Ibrahim, S. A. (2020). Equity Financing and Firm Value in Nigeria. *International Journal of Research and Innovation in Social Science (IJRISS) Volume IV, Issue VII, 267-269 (July, 2020).*
- Saunders, M. L., Lewis, P., & Thornhill, A. (2009). *Research Methods for Business Students*. London, UK: Financial Times Prentice Hall Inc.
- Shah, A., & Khan, S. (2014). Determinants of capital structure: Evidence from Pakistani Panel data. *International Business Research*, 3(4), 265–282.
- Sharma, S., Durand, R., & Gur-Arie, O. (1981). Identification and analysis of moderator variables. *Journal of Marketing Research*, XVIII, 291-300.
- Vo, X. V., & Ellis, C. (2017). An empirical investigation of capital structure and firm value in Vietnam. *Finance Research Letters*, 22(4): 90–94.
- Waheed, A.M., Fawad A. K., Adnan, S. & Jehangir, A. (2016). Effects of debt on value of a firm. *International Journal of Accounting & Marketing*, 8(12), 231-242. Islamic University, Pakistan ISSN: 2168-9601 5:4 DOI: 10.4172/2168-9601.1000202.