

The Effect of Debt Financing on Firm Value: A Panel Data Approach

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ABSTRACT

The study examines the effect of debt financing on firm value of listed Nigerian companies using panel data analysis for the period 2008 to 2017. The population of the study consists of 300 firm-year observations. The data for this study were sourced from the annual accounts and reports of the companies within the period of the study. Using EV/EBITDA ratio as a proxy for firm value, the study found an insignificant effect of the short-term debt to total assets ratio on firm value. But, the ratio of long-term debt to total assets, total debt to total assets and total debt to total equity have positive effect on firm value. While board size and firm growth have no significant effect on firm value, firm size was found to have a negative effect on firm value. Thus, the study concluded that capital structure influences the firm value of listed firms in Nigeria. The study recommends making use of more debt to reduce agency costs of equity, minimize the problem of information asymmetry and increases investors' confidence to boost firm value.

Keywords: Debt financing, Firm Value, Panel Data, Nigeria

1.0 INTRODUCTION

The association between debt financing and firm value is a central and recurrently debated matter in corporate finance. Debt as an important component of a firm's capital structure has both positive and negative influence on its value. While the use of debt exposes the firm to risk, it also increases the shareholder's return. Therefore, it is expected that the marginal costs of debt be equal to the marginal benefits (Huang & Ritter, 2009). Empirical researches regarding the influence of debt on the value of the firm have considerably improved in the wake of the prominent seminal works of Modigliani and Miller (1963). However, Modigliani and Miller (1963) proposed the use of more debt by companies in their capital structure to maximize their value, accomplished through a high return, big share prices and effectiveness in management. Jensen and Meckling (1976) on the other hand, maintained that, while debt may cause a higher profit to shareholders, it may also result in an extra agency cost in the form of covenants and monitoring actions. Myers

(1977) recognized two benefits of debt which includes tax advantage and the reduced agency cost of the free cash flows. He added that the cost of debt includes bankruptcy costs and increased agency costs when firm creditworthiness is in doubt.

The pronouncement by Jensen and Mackling (1976) and Myers, (1977) on the possibility of this influence led to the emergence of numerous studies trying to clarify the connection between capital structure and firm value. However, there is no universal agreement regarding the impact of debt financing on firm value. The number of researches conducted on the association between debt financing and firm value reveals inconsistent results. While, majority of these researches used accounting performance measures especially Return on Asset (ROA) and Return on Equity (ROE) to measure performance (e.g. Abeywardhana, 2015; Hasan et al., 2014; Salim & Yadav, 2012). These types of measures are considered inadequate because they capture only the short-term performance of a firm, i.e., profitability. In

essence, value has the potential to measure long-term performance and be worth to all stakeholders (Bhullar & Bhatnagar 2013; Samiloglu & Demirgunes, 2008; Harrison & Wicks, 2013). However, only limited number of researches have investigated the effect of capital structure on firm value. These studies used different measures and estimates, and their findings appeared inconsistent.

Moreover, most of these studies (e.g. Kodongo, Mokoteli & Maina, 2014; Kausar et al., 2014; Lin, 2010) used Tobin's Q as a proxy of firm value. Other studies (eg. Abor, 2005; Cuong & Canh, 2012) used ROE, while Nieh et al. (2008) use ROE and EPS. Meanwhile, studies such as Naceur and Goaied (2002) and Dhankar and Boora (1996) applied the market-to-book ratio to measure the market value of the firms. Adetunji, Akinyemi and Rasheed (2016) measure firm value using Earning per Share (EPS). Accordingly, all these measures do not capture firm value. Generally, enterprise value has been identified in the literature as a robust proxy for market value (Lifland, 2011). This is because it serves as an economic measure of the real market value of a company as a complete corporate entity (Bhullar, & Bhatnagar 2013). However, this study aims at contributing to the existing literature by using a unique ratio of enterprise value (EV/EBITDA) as a measure of firm value. Furthermore, the present study uses a random-effects model and a sample of 30 listed firms in the Nigerian Stock Exchange.

The paper is organized as follows. Section two of the paper presents the theoretical framework, previous empirical studies and hypotheses development. Next section, i.e. section three, discusses the variable selection and sample selection. Moreover, Section four provides the methods, empirical analyses and discussion of the findings. Section five gives a summary and concludes the paper.

2.0 LITERATURE REVIEW

2.1 Theoretical Perspective

Theories of corporate finance have been postulated to guide decision making related to financing for better performance (Modigliani & Miller, 1958). Capital structure irrelevance theory was the pioneering theory that hypothesized financing decision under perfect market condition. The theory was however, criticize because an ideal market is never in existence in the real world. Miller (1988) explains the MM proposition into a real-world application. He maintained that the MM proposition does not suggest a capital structure to be indeterminate and do not claim investors to take quick and immediate arbitrage opportunity that may wash out the value relevance of capital structure. Miller (1988) pointed out that, tax shield benefit of debt financing under certain conditions, is precisely offset at the firm level by the tax disadvantage of debt company personal income tax. Modigliani and Miller's theory assumed that firms and investors have the same access to financial markets which permit for home-made leverage (Brealey & Myers, 2003).

Conversely, theories with different prediction in the world of imperfect capital markets suggested many factors which include agency effects, marketing timing, tax effect, signalling effects, asymmetric information and bankruptcy costs that influence financing decisions of a firm and therefore affects its value (Fama, 1980; Jensen & Meckling, 1976; Kim, McConnell, & Greenwood, 1977; Myers & Majluf, 1984; Leland & Pyle, 1977). Furthermore, one of the critical issues for discussion among the theories is the maximization of shareholders value. For instance, Myers (1984) asserted that a firm will trade off costs and benefits of debt to maximize its firm value. However, the advantage of debt primarily emanates from the tax shield of reducing revenue through paying interest (Miller & Modigliani, 1963). More so, Agency cost theory conceived by Jensen and Meckling (1976), Jensen (1986) and Hart and Moore (1994), affirmed that target conflicts exist among managers, shareholders

and debt holders. Specifically, Jensen (1986) argued that with high debt, managers are under pressure to invest in profitable projects to create cash flow to pay interest. Therefore, through reducing agency cost relating to managers and shareholders, debt can have a positive effect on firm value.

Fama and French (2002), contended that too much debt results to higher agency costs, implying a negative relationship between capital structure and firm value. Also, an inverse relationship between debt agency costs and information asymmetry was found (Barnea et al., 1980). The bigger the age of a firm and the longer its history of debt repayment, also, the better the company's status and the lesser its agency costs associated with debt (Chittenden et al., 1996).

In addition, agency costs associated with debt was established to be lesser for big firms than small companies (Um, 2001). According to the trade-off theory, a firm will trade off the costs and benefits of debt associated with tax savings and financial distress to create an optimal capital structure for maximizing firm value (Kraus & Litzenberger, 1973). The costs of debt often derive from direct and indirect bankruptcy costs by intensifying the financial risk (Kim, 1978; Kraus & Litzenberger, 1973). The theory, however, emphasized that the value of a firm with debt is equal to that of a firm without debt plus tax shield after deducting financial distress costs.

Furthermore, the pecking order theory, perceived by Myers and Majluf (1984), proclaimed that financing follows a hierarchy. Firms prefer internal to external financing and debt to equity; that is, internal financing is used first, then the debt is issued, and when no more debt can be approached, equity is issued. Market timing theory stated that the choice of debt or equity issuance depends on the history of the firm's market value (Baker and Wurgler, 2002). The theory further maintained that capital structure decisions are influenced by the market conditions of share prices or managers base on the stock market to decide financing options.

2.2 Empirical Studies

Le and Phan (2017) employed an unbalanced panel data firm the non-financial listed companies from 2007 to 2012 to look at the correlation between capital structure and firm performance in Vietnam using Tobin's Q, ROA and ROE and three capital structure components, i.e. short-term debt to total asset ratio, long-term debt to total asset ratio, and total debt to total equity ratio. The study indicated that all three debt ratios have an inverse relationship with performance. Moreover, the study maintained that the position of debt is not substantial due to relentless information asymmetry and under-developed financial system.

Udeh et al. (2016) studied the impact of debt structures on the performance of companies in Nigeria from 2001 to 2012 using a cross-section of 43 companies from a different sectors. They used three regression estimations, i.e., pooled OLS, fixed effects, and random effects. The findings of the study revealed that debt structure proxies by short-term debt to total asset ratio, long-term debt to total asset ratio, and total debt to total equity ratio have a significantly negative association with performance. They concluded that the debt structure contributes negatively to the performance of Nigerian firms.

Yazdanfar and Öhman (2015) made use of a sample of 15,897 Swedish SMEs covering the period of 2009-2012 to investigate the effect of capital structure components on SMEs profitability. Using three stages least squares (3SLS) and ROA as a proxy of firm profitability, he documented a significant and inverse relationship between debt ratios, i.e., total credit, short-term debt to total asset ratio and SME's profitability. The results of the study indicated that total credit, short-term debt to total asset ratio, and long-term debt to total asset ratio have a significant and negative effect on SME's profitability. It was therefore argued that gainful SMEs prefer to employ equity in their capital structure and retained earnings than other sources of financing.

Moreover, age and size were found to affect firm profitability significantly.

Cole and Hemley (2015) considered the association between capital structure and firm performance of U.S. firms in the industrial, healthcare and energy sector, utilizing the pooled data of each sector to arrive at a sample of 300 observations. However, return on assets, market value per share, operating return, and profit margin were used to represent firm performance, while long-term liability to total assets ratio was used to represent capital structure. The result of the study revealed that capital structure appears to be negatively and significantly related to returns on assets and operating return. The finding of the survey also indicates a direct relationship between capital structure and the profit margin. However, this suggested that taking on more debt will have a positive impact on profit margin, which will result in higher profitability.

Salim and Yadav (2012) employed a population of 237 companies listed in Bursa Malaysia Stock Exchange from 1995 to 2011 to examine the association between capital structure and firm performance, making use of four proxies of company profitability, i.e. ROA, ROE, EPS and Tobin's Q. The study found a significantly negative effect of capital structure components, especially total debt and short-term debt on company performance measured by ROE. Also, capital structure components (long-term debt and total debt) have significant negative effects on firm performance proxies by ROA. However, they reported a significant direct association between long-term debt, short-term debt and firm performance (Tobin's Q). Moreover, a positively weak relationship between EPS and total debt was found.

Salawu (2009) made use of a sample of 50 listed firms in the Nigeria Stock Exchange (NSE) from 1990 to 2004 to evaluate the effect of capital structure on performance. The panel data analysis outcomes confirmed that there is a direct correlation between short-term debt and performance and an inverse relationship

with between performance and long-term debt. Also, the findings indicated an inverse association between total debt and profitability. The study, therefore, argued that companies in Nigeria rely on the external source of funding. The study highlighted the need for companies to implement an effective credit policy to improve their performance.

Hasan et al. (2014) applied panel data regression method based on a population of 36 Bangladeshi firms from 2007 to 2012 to investigate the association between capital structure components and profitability. Short-term debt and long-term debt were discovered to be positively and inversely related to earnings per share (EPS), respectively. But, total debt has an insignificant relationship with EPS, and they also discovered an inverse and insignificant association between ROE and all the capital structure components. While for ROA, the capital structure components were found to have an inverse relationship. Also, the results indicated an insignificant positive relationship between Tobin's Q and short-term debt and total debt. In contrast, the insignificant negative association was found between Tobin's Q and long-term debt.

Kausar et al. (2014) examined the relationship between capital structure and firm value by employing 197 listed companies in Karachi Stock Exchange (KSE) from 2004 to 2011. Their result revealed that capital structure proxies by long-term debt, total debt and short-term debt has a significant negative effect on firm performance measured by P/E. On the other hand, long-term debt and total debt showed a significant negative effect on performance measured by Tobin's Q, while short-term debt has a negative but insignificant impact on Tobin's Q. The study concluded that capital structure choice has a weak-to-no influence on the performance of listed firms in Pakistan.

Abeywardhana (2015) collected a panel of 54183 SMEs in the UK from 1998 to 2008 to investigate the influence of capital structure components on profitability. Using the two-stage least squares (2SLS), he established that capital structure measured by short-term debt,

long-term debt, and total debt revealed a significant influence on the performance of SMEs in the UK. Also, firm size appears to be an extra critical factor that influenced the profitability of SMEs in the UK. He concluded that, due to agency issues and the challenges associated with equity acquisition, SMEs prefer to raise the usage of debt in their capital structure.

Abor (2005) investigated the relationship between capital structure and performance of listed firms in Ghana, employing a panel regression model for the period of 1998 to 2002. He used a short-term debt to total assets ratio as measures of capital structure. However, He reported a significant positive association between short-term debt and profitability. Also, an inverse relationship between long-term debt and profitability was established. Regarding the association between total debt and profitability, the findings revealed a positive relationship between the two.

In American Study, Gill et al. (2011) analysed the effect of capital structure on the profitability of firms listed on New York Stock Exchange for a period from 2005 to 2007 and excising both correlation and regression analysis. They found that there exists a significant relationship between short-term debt, long-term debt, total debt, and profitability. They finally concluded that companies rely more on debt as their main financial option.

2.3 Hypotheses Development

2.3.1 Debt Financing and Firm Value

Jensen and Meckling (1976) underscored the significance of the agency costs of equity resulting from the separation of rights and control of companies whereby managers of a company tend to promote their selfish interest rather than the value of the firm. However, these clashes might happen under circumstances where managers have motivations to take too many risks as part of risk shifting investment strategies. Agency

costs can as well occur due to conflicts between debt and equity investors, especially when there is a risk of non-payment. This type of risk could result in what Myers (1977) called an "underinvestment" or "debt overhang" problem. In this situation, leverage will have a negative impact on firm value.

In line with this, Stulz (1990) advanced a model in which leverage is revealed to alleviate overinvestment hitches but exacerbate the underinvestment problem. Further, the model envisaged that debt can have both a positive and a negative impact on firm value, and seemingly both impacts are present in all firms. Though, we expect the effect of debt ratios on firm value to be positive. We abridge this into a testable hypothesis. As emphasized by the agency cost hypothesis, higher debt is anticipated to reduce agency costs, lower incompetence and consequently lead to an improvement in firm value.

H1: Debt ratios in term of short-term debt, long-term debt and total debt have a significant positive effect on firm value.

2.3.2 Control Variables

A key obligation of the corporate board is to check firms operations, ensure compliance, discipline and formulate strategic decisions to maintain the firm's business (Nguyen et al., 2015). A company board is liable to provide recommendations to the CEO and access to significant information and resources (Linck, Netter, & Yang, 2008) to enhance the value of the firm. However, resource dependence theory contended that large board size possesses an advantage due to the superior quality of advice offered to the firms' management (Lynall et al., 2003.; Zahra & Covin, 1995). Therefore, the following hypothesis is formed:

H2: Board size has a significant effect on firm value.

Previous researches have provided substantiation that the size of a firm is connected with the firm's productivity,

survival, and profitability. Although the previous results on the size effects on profitability are mixed, size is theoretically predicted to exert a positive impact on performance (Yazdanfar & Öhman, 2015). Bigger firms can get the benefit of economies of scale and have better capability to apply technology. Sarkaria and Shergill (1999) considered larger firms to be endowed with specific opportunities, including less expenses and higher income on account of access to the capital market. Thus, the hypothesis is formed as follows:

H3: Firm size has a significant positive effect on firm value.

Growth opportunity is considered essential to a firm's performance. Jovanovic (1982) reported that companies that grow might experience an increase in profitability. Therefore, it is anticipated that growth opportunities contain a high-performance ration because a firm with such opportunities generates profit from investment (Zeitun & Tian, 2007). Empirical evidence revealed that high investment opportunities are coupled with lesser agency costs and better return on equity (Hutchinson & Gul, 2004). Firm growth which is measured by sales growth, is projected to have a positive effect on firm value, and the hypothesis is formed as follows:

H4: Firm growth has a significant positive effect on firm value.

3.0 METHODOLOGY/MATERIALS

3.1 Sample

Our sample consists of 30 listed firms in the Nigerian Stock Exchange (NSE) from 2008 to 2017. Therefore, the data for this study were sourced from the annual accounts and reports of the companies which were collected from the Nigerian Stock Exchange (NSE) website and Thomson Reuter's data stream.

3.2 Variable Selection

3.2.1 Dependent and independent variables

Previous researches (e.g. Abor, 2007; Yazdanfar & Öhman, 2015) have applied various variables like EPS, ROE and ROA to proxy profitability that measure short-term performance while firm value captures the long-term performance of a firm (Samiloghu & Demirgunes, 2008). Based on Bhullar and Bhatnagar (2013) EV/EBITDA ratio was considered as a proxy for firm value in this paper and represented as the enterprise value divided by earnings before interest, taxes, depreciation, and amortization (EV/EBITDA).

To explain the association between debt financing and firm value in detail, the capital structure components were categorized into four categories:

- (1) Short-term debt to total asset ratio
- (2) Long-term debt to total asset ratio
- (3) Total debt to total asset ratio, and
- (4) Total debt to total equity ratio

In line with the previous studies Abor (2007), Salawu (2009) Zeitun and Tian (2007), Ebaid (2009) Yazdanfar and Ohman (2015), the first independent variable, short-term debt to total asset ratio is measured as debt repayable within one year, as a percentage of total assets. The long-term debt to total asset ratio is classified as the total debt repayable beyond one year, as a ratio of total assets. While the total debt to total asset ratio is the total company's leverage in relation to its assets. In line with Karadeniz et al. (2009) and Taani (2013), total debt to total equity ratio is measured as the proportion of creditor's funds in relation to shareholders funds.

3.2.2 Control Variables

A company board is responsible for providing recommendations to the chief executive officer and access to significant information and resources to enhance the value of the firm. Prior studies like Jensen (1993) and Mak and Yuanto (2003) used the total number of executive and non-executive members serving on the board of a company to proxy board size.

However, this study measures board size in line with the above studies.

Previous studies used a different number of proxies to measure firm size, such as sales, assets and number of employees (e.g. Sheikh & Wang, 2011). However, in this paper, firm size is measured as the natural logarithm of the firm's book value of sales.

Prior studies have considered growth opportunities as an important determinant of firms' profitability. Firm growth (FGROWTH) is measured in this study as the percentage increases in sales, i.e. the rate of increase in sales (S) of firms between periods. Current sales –previous sales / previous sales. This is in line with the work of Abor (2005), Samiloghu and Demirgunes (2008) and Zeitun and Tian (2007).

3.3 Empirical Models

We employed a panel data models to analyse the direct effect of capital structure components on firm value. This study therefore, makes use of the following linear regression models.

$$FV_{it} = \beta_0 + \beta_1STDA_{it} + \beta_2LTDA_{it} + \beta_3TDTA_{it} + \beta_4TDTE_{it} + \beta_5FIRMSIZE_{it} + \beta_6BSIZE_{it} + \beta_7FGROWTH_{it} + \epsilon_{it}$$

Where:

FV = firm value

STDA= short-term debt to total assets ratio

LTDA= long-term debt to total assets ratio

TDTA = total debt to total assets ratio

TDTE= total debt to total equity ratio

FIRMSIZE = firm size,

BSIZE = board size

FGROWTH = firm growth

ϵ_{it} = represents idiosyncratic shocks, while i stands for the firm (i= 1....30) and t stand for the period of time (t = 2008.....2017).

4.0 RESULTS/FINDINGS

4.2. Descriptive Statistics

Table 1 provides a summary of the descriptive statistics of the dependent and independent variables for the sample of firms. The number of observations for all the variables are 300. However, the mean of the firm value showed that Nigerian firms are valued at 14.35 per cent with respect to their earnings annually, while the minimum and maximum values are 0 per cent and 2.0 per cent respectively over the period of study. This indicates that a quite number of listed firms in Nigeria generate high value due to their improved earnings, while others generate low value due to the significant factors resulting in losses during the period of study.

TABLE I.
Descriptive Statistics of Variables

Variable		SD	Min.	Max.
FV	0.1435	0.2060	0.0100	2.017
STDA	0.1569	0.1438	9E-05	0.772
LTDA	0.1475	0.2819	0.0001	4.153
TDTA	0.2424	0.1771	0.0008	1.223
TDTE	0.1709	0.6403	-4.3660	2.657
BSIZE	10.083	2.9140	4.0000	23.00
FSIZE	16.787	1.9126	12.329	21.21
FGROWTH	0.1886	0.3413	-0.9990	1.348

Notes: STDA=short-term debt to total assets ratio; LTDA=long-term debt to total assets ratio; TDTA=total debt to total assets ratio; TDTE=total debt to total assets ratio; BSIZE=board size; FSIZE=firm size; FGROWTH=firm growth

4.3 Diagnostic Tests

This study applies panel data analysis which requires certain estimations to account for time-series and the cross-sectional dimension of the data. The study carried out diagnostic tests which include Variance Inflation Factor (VIF) to check the absence of multicollinearity in the model, the Wooldridge test for serial correlation and Breusch-Pagan / Cook-Weisberg test for heteroskedasticity.

4.3.1 Variance Inflation Factor

The outcome shows that multicollinearity does not exist because it is apparent that the coefficient of VIF for the model is less than the threshold of 10 and the mean is less than 5 (Hair et al., 2014; Pallant, 2005).

TABLE II.
Result of Variance Inflation Factor

Variables	VIF	1/VIF
STDA	1.41	0.7096
LTDA	1.12	0.8922
TDTA	1.41	0.7028
TDTE	1.22	0.8190
BSIZE	1.28	0.7829
FSIZE	1.42	0.7060
FGROWTH	1.07	0.9371
Mean VIF	1.28	

4.3.2 Heteroscedasticity Test

The result from table 3 indicates that the model has reported p-values that are significant at the 0.05 level. Thus, the model rejected the null hypothesis as there is an issue of heteroscedasticity. Moreover, the outcome signposts that the variance are widely spread, which needs to be corrected.

Table III.
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Chi2(1)	Prob>chi2	Null (H0)
203.7	0.0000	Rejected

Note: Ho (null): homoscedasticity

4.3.3 Serial Correlation (Autocorrelation) Test

Based on the result displayed in table 4 below the regression model suffered from the serial correlation problem because the p-value for the model is significant ($p < 0.05$). As a consequence, the null (H_0) hypothesis which state that: 'No first-order autocorrelation', was rejected.

Table IV.
Wooldridge test for autocorrelation

F(1,29)	Prob > F	Null (H0)
4.474	0.0431	Rejected

However, concerning the problems of autocorrelation and heteroscedasticity, we used Driscoll-Kraay standard errors (the xtsc program) suggested by Driscoll and Kraay (1998) to address the two problems.

4.4 Model Specification Test

Table 5 indicates that the null hypothesis was accepted. This shows that the fixed effect model is not appropriate and that the random effect model to be preferred.

Table V.
Hausman Model Specification Test

Chi2 (13)	Prob > chi2	Null (H0)
6.11	0.5272	Accepted

4.4.1 Summary of the random effect model

Table 6 shows the results of the random effect model which indicates that the capital structure variables, short-term debt, long-term debt and total debt are the major determinants of firm value for listed companies in Nigeria.

Table VI.
Summary of the random effect model

Variable	Coefficient	t.stat	p>t
STDA	0.0695	(0.48)	0.641
LTDA	46.4593***	(4.56)	0.001
TDTA	0.0084**	(2.50)	0.034
TDTE	0.3407***	(5.24)	0.001
BSIZE	-0.0009	(-0.16)	0.879
FSIZE	-0.0474**	(-2.49)	0.034

FGROWTH	0.0071	(0.36)	0.728
Constant	0.5897***	(3.76)	0.004

***, **and* represent significant at 1%, 5% and 10% levels respectively

The results of the random effect regression of model in Table 6 above depicts that the overall model is fit for the F statistics of 0.0000 and overall R2 value of 0.1030 which indicates that the independent and control variables employed in this study explained 10.30% of the variation in firm value. It also shows that short-term debt to total assets (SDTA) ($\beta=0.0695$, $P>0.01$) and firm value has found to be insignificant. On the other hand, long-term debt to total assets (LDTA) ($\beta=46.459$, $P<0.001$) has a significant and positive effect on firm value. This denotes that with a 1% increase in the long-term debt, the firm value will increase by 464.59% and vice-versa. Also, total debt to total assets (TDTA) ($\beta=0.0084$, $P<0.05$) shows a significant and positive effect on firm value at 5% level. This implies that the more a firm employs debt in relation to its assets in the company's capital structure, the higher the value of a given firm. Also, total debt to total equity (TDTE) ($\beta=0.3407$, $P<0.001$) has a significant and positive effect on firm value at 1%. This suggests that with a 1% increase in TDTE will result in an increase in firm value by 34.1% and vice-versa. Furthermore, board size (BSIZE) ($\beta=-0.0009$, $P>0.001$) has no significant effect on firm value. Contrarily, firm size (FSIZE) ($\beta=-0.0474$, $P<0.05$) has a significant and negative impact on firm value. This denotes that with the 5% increase in the size of a company, the firm value decreases by 47.4% and vice-versa. More so, the result of firm growth (FGROWTH) ($\beta=0.0071$, $P>0.001$) shows that firm growth does not affect firm value.

5.0 CONCLUSION

The study applies agency theory to persuade its empirical segment, and then to examine the effect of debt financing on firm value. The

Overall findings indicate that short-term to total debt has no significant effect on firm value of listed companies in Nigeria. This result is consistent with Prempeh and Nsiah (2016), El-Sayed (2009) and Baum et al. (2007). Moreover, this study found that long-term debt to total asset has a significant positive effect on firm value. The reason attributed to this positive effect is that firms try to compare the life of their assets with liabilities. Therefore, when a firm uses long-term debt, it indicates an attempt to match with the long life & fixed assets (Dalbor, Lee & Upneja, 2007; Kakanda, Bello and Abba 2016). In addition, firms considered long-term debt as important because the long-term debt would be regarded as a tool for a manager's discipline. Although it is associated with specific agency costs, it can still be used to reduce the agency costs between shareholders and management (Arbiyan & Grayly, 2009; Berger & Bonaccorsi di Patti, 2006). Furthermore, a similar positive result was also reported by the study of El-Sayed (2009), Berger and Bonaccorsi di Patti (2006), Prempeh and, Nsiah (2016). This indicates that when firm's long-term debt increases, the value of the firm will also increase.

Further, this study found a significant positive effect of total debt to total asset on firm value. The plausible reason for this positive effect is that making use of more debt could reduce agency costs of equity and makes manager take more steps in line with the interest of the shareholders than boost the firm's value (Margaritis & Psillaki, 2010). Also, the use of debt by firms could minimize the problem of information asymmetry and increases investors' confidence (Hadlock & James, 2002). In the same way, this study found a significant positive relationship between total debt to total equity and firm value. This consistent with the findings of Taani (2013) and Saputra Achsani and Anggraeni (2015) and also contradict the findings of Detthamrong et al. (2017), Zeitun and Tian (2007) and Moscu (2014).

For this study, three control variables were used, viz: firm size, the board size, and firm

growth. From the regression result, firm size (FSIZE) has a negative and significant effect on firm value. This result has contradicted the finding of Kakanda, Bello & Abba. (2016) who documented that firm size has a negative, but insignificant effect on the performance of listed consumer goods companies in Nigeria. For board size (BSIZE), which is the second control variable, shows an insignificant negative effect. In addition, firm growth (FGROWTH) has no significant effect on firm value revealed by the regression results.

However, some limitations are related to this study. Firstly, the data of this study were obtained from the non-financial sector, so efforts should be made to examine this issue in the financial sector. Furthermore, due to inadequate data available, the study covers only ten years, future studies may consider a longer period. More so, future research can be conducted using qualitative studies, more precisely, interviews with managers of the company, to investigate in-depth their different opinions on investment alternatives.

6.0 REFERENCES

- Abeywardhana, Y. D. (2015). Capital structure and profitability: An empirical analysis of SMEs in the UK. *Journal of Emerging Issues in Economics, Finance and Banking (JEIEFB)*, 4(2), 1661-1675.
- Abor, J. (2005). The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana. *The journal of risk finance*, 6(5), 438-445.
- Adetunji, A. A., Akinyemi, I. A., & Rasheed, K. O. (2016). Financial Leverage and Firm's Value. *European Jurnal of Research and Reflection in Management Sciences*, 4(1)
- Arbaban, A. A., & Grayly, M. S. (2009). The effect of capital structure on profitability Companies listed on the Iran Stock Exchange. *Landscape Management*, 330, 175-159.
- Baker, M., & Wurgler, J. (2002). Market timing and capital structure. *The journal of finance*, 57(1), 1-32.
- Barnea, A., Haugen, R.A. and Senbet, L.W. (1980), "A rationale for debt maturity structure and call provision in the agency theoretic framework", *Journal of Finance*, Vol. 5 No. 12, pp. 1223-1233.
- Baum C. F., Schafer D. and Talavera O. (2007): The Effects of Short-Term Liabilities on Profitability: The Case of Germany», Money Macro and Finance (MMF) Research Group Conference 2006 61, Money Macro and Finance Research Group.
- Berger, A. N., & Di Patti, E. B. (2006). Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry. *Journal of Banking & Finance*, 30(4), 1065-1102.
- Bhullar, P. S., & Bhatnagar, D. (2013). Theoretical framework EV vs. Stock price—A better measurement of firm value. *International Journal of Commerce, Business and Management*, 2(6), 335-343.
- Brealey, R.A. and Myers, S. C. (2003). *Principles of Corporate Finance* (international). Boston: McGraw-Hill.
- Chaganti R, DeCarolis D and Deeds D 1995, 'Predictors of capital structure in small ventures', *Entrepreneurship Theory and Practice*, winter, pp.1042-2587.
- Chittenden, F., Hall, G. and Hutchinson, P. (1996), "Small firm growth, access to capital markets and financial structure: review of issues and an empirical investigation", *Small Business Economics*, Vol. 8 No. 1, pp. 59-67.
- Cole, C., & Hemley, D. (2015). Does Capital Structure Impact Firm Performance : An Empirical Study of Three U . S . Sectors. *The Journal of Accounting and Finance*, 15(6), 57-65.
- Coles, J. L., Daniel, N. D., & Naveen, L. (2008). Boards: Does one size fit all?. *Journal of financial economics*, 87(2), 329-356.
- Cuong, N. T., & Canh, N. T. (2012). The Effect of Capital Structure on Firm Value for Vietnam's.pdf. *International Research Journal of Finance and Economics*, (89), 221-233.
- Dhankar, R. S., & Boora, a J. S. (1996). Cost of Capital , Optimal Capital Structure , and

- Value of Firm : An Empirical Study of Indian Companies. *Vikalpa, The Journal for Decision Makers*, 21(3), 29–36
- Dalbor, M. C., Lee, S., & Upneja, A. (2007). An investigation of long-term debt and firm value in the lodging industry. In *Advances in Hospitality and Leisure* (pp. 195-204). Emerald Group Publishing Limited.
- Detthamrong, U., Chancharat, N., & Vithessonthi, C. (2017). Corporate governance, capital structure and firm performance: Evidence from Thailand. *Research in International Business and Finance*, 42(July), 689–709
- El-Sayed Ebaid, I. (2009). The impact of capital-structure choice on firm performance: empirical evidence from Egypt. *The Journal of Risk Finance*, 10(5), 477-487.
- Fama, E. F. (1980). Agency Problems and the Theory of the Firm. *Journal of Political Economy*, 88(2), 288–307
- Fama, E. F., & French, K. R. (2002). Testing trade-off and pecking order predictions about dividends and debt. *The review of financial studies*, 15(1), 1-33.
- Gill, A., Biger, N., & Mathur, N. (2011). The Effect of Capital Structure on Profitability: Evidence from the United States. *International Journal of Management*, 28(4), 3–15
- Hadlock, C. J., & James, C. M. (2002). Do banks provide financial slack? *Journal of Finance*, 57(3), 1383–1419.
- Hair Jr. J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate Data Analysis* (7th. Ed.). UK: Pearson International edition
- Harris, M., & Raviv, A. (1991). The theory of capital structure. *The Journal of Finance*, 46(1), 297-355.
- Harrison, J. S., & Wicks, A. C. (2013). Stakeholder theory, value, and firm performance. *Business ethics quarterly*, 23(1), 97-124.
- Hart, O., & Moore, J. (1994). Debt and seniority: An analysis of the role of hard claims in constraining management (No. w4886). *National Bureau of Economic Research*.
- Hasan, M. B., Ahsan, A. F., Rahaman, M. A., & Alam, M. N. (2014). Influence of Capital Structure on Firm Performance: Evidence from Bangladesh. *International Journal of Business and Management*, 9 (5), 184-194.
- Hutchinson, M., & Gul, F. A. (2004). Investment opportunity set, corporate governance practices and firm performance. *Journal of corporate finance*, 10(4), 595-614.
- Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American economic review*, 76(2), 323-329.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360..
- Jensen, M., (1993). The modern industrial revolution, exit, and the failure of internal control systems. *Journal of Finance* 48, 831—880.
- Jovanovic, B. (1982). Selection and the Evolution of Industry. *Econometrica: Journal of the Econometric Society*, 649-670.
- Kakanda, M., Bello, A., & Abba, M. (2016). Effect of capital structure on the performance of listed consumer goods companies in Nigeria. *Research Journal of Finance and Accounting*, 7(8).
- Karadeniz, E., Yilmaz Kandir, S., Balcilar, M., & Beyazit Onal, Y. (2009). Determinants of capital structure: evidence from Turkish lodging companies. *International Journal of Contemporary Hospitality Management*, 21(5), 594-609.
- Kausar, A., Nazir, M. S., & Butt, H. A. (2014). Capital structure and firm value: Empirical Evidence from Pakistan. *Asian Journal of Research in Economics and Finance*, 1(1), 11-22.
- Kim, E. H. (1978). A mean-variance theory of optimal capital structure and corporate debt capacity. *The journal of Finance*, 33(1), 45-63.
- Kim, E. H., McConnell, J. J., & Greenwood, P. R. (1977). Capital Structure Rearrangements and Me-First Rules in an Efficient Capital Market. *Journal of Finance*, 32(3), 789–809
- Kodongo, O., Mokoaleli-Mokoteli, T., & Maina, L. N. (2014). Capital

- Structure. *Profitability, and Firm Value: Panel Evidence of Listed Firms in Kenya*, 1-21
- Kraus, A., & Litzenberger, R. H. (1973). Optimal Financial Leverage. *Journal of Finance*, 911-922.
- Le, T. P. V., & Phan, T. B. N. (2017). Capital structure and firm performance: Empirical evidence from a small transition country. *Research in International Business and Finance*, 42, 710-726.
- Leland, H. E., & Pyle, D. H. (1977). Informational asymmetries, financial structure, and financial intermediation. *The journal of Finance*, 32(2), 371-387.
- Lifland, S. (2011). The impact of working capital efficiencies on the enterprise value option: empirical Analysis from the energy sector. *Advances in Business Research*, 2(1), 57-70
- Lin, F. (2010). A Panel Threshold Model of Institutional Ownership and Firm Value in Taiwan. *International Research Journal of Finance and Economics*, 42(42), 1-12.
- Linck, J. S., Netter, J. M., & Yang, T. (2008). The determinants of board structure. *Journal of financial economics*, 87(2), 308-328.
- Lynall, M., Golden, B., & Hillman, A. (2003). Board composition from adolescence to maturity: A multitheoretic view. *Academy of Management Review*, 28: 17.
- Majumdar, S. K., & Chhibber, P. (1999). Capital structure and performance: Evidence from a transition economy on an aspect of corporate governance. *Public choice*, 98(3-4), 287-305.
- Mak, Y. T., & Yuanto, K. (2003). Board size really matters: further evidence on the negative relationship between board size and firm value. *Pulses by Singapore Stock Exchange*, 15.
- Margaritis, D., & Psillaki, M. (2010). Capital structure, equity ownership and firm performance. *Journal of banking & finance*, 34(3), 621-632.
- Miller, M. H. (1988). The Modigliani-Miller propositions after thirty years. *Journal of Economic perspectives*, 2(4), 99-120.
- Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American*, 1, 3.
- Modigliani, F., & Miller, M. H. (1963). Corporate income taxes and the cost of capital: a correction. *The American economic review*, 53(3), 433-443.
- Moscu, R.-G. (2014). Capital Structure and Corporate Performance of Romanian Listed Companies. *International Journal of Academic Research in Accounting Finance and Management Sciences*, 4(1), 287-29
- Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of financial economics*, 5(2), 147-175.
- Myers, S. C. (1984). The capital structure puzzle. *The journal of finance*, 39(3), 574-592
- 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.
- Naceur, S. B., & Goaied, M. (2002). The relationship between dividend policy, financial structure, profitability and firm value. *Applied Financial Economics*, 12(12), 843-849.
- Nguyen, T., Locke, S., & Reddy, K. (2015). Ownership concentration and corporate performance from a dynamic perspective: Does national governance quality matter?. *International Review of Financial Analysis*, 41, 148-161
- Nieh, C.-C., Yau, H.-Y., & Liu, W.-C. (2008). Investigation of Target Capital Structure for Electronic Listed Firms in Taiwan. *Emerging Markets Finance and Trade*, 44(4), 75-87
- Pallant, J. (2005). *SPSS survival manual: a step by step guide to data analysis using SPSS* (3rd. Ed.), Australia: Allen & Unwin.
- Petersen, M.A. and Rajan, R.G. (1994), "The benefits of lending relationships: evidence from small business data", *Journal of Finance*, Vol. 49 No. 1, pp. 3-37.
- Prempeh, K. B., & Nsiah Asare, E. (2016). The Effect of Debt Policy on Firms Performance: Empirical Evidence from Listed Manufacturing Companies on the Ghana Stock Exchange.

- Salawu, R. O., & Awolowo, O. (2009). The effect of capital structure on profitability: An empirical analysis of listed firms in Nigeria. *The International Journal of Business and Finance Research*, 3(2), 121-129.
- Salim, M., & Yadav, R. (2012). Capital structure and firm performance: Evidence from Malaysian listed companies. *Procedia-Social and Behavioral Sciences*, 65, 156-166.
- Samiloglu, F., & Demirgunes, K. (2008). The effect of working capital management on firm profitability: Evidence from Turkey. *The International journal of applied Economics and Finance*, 2(1), 44-50.
- Saputra, T., Achsani, N. A., & Anggraeni, L. (2015). The Effect of Capital Structure on Firm Performance: Empirical Evidence from the Indonesian Financial Industry. *International Journal of Business and Management Invention*, 4(8), 57-66.
- Shergill, G. S., & Sarkaria, M. S. (1999). Impact of Industry Type and Firm Characteristics on Firm-level Financial Performance—Evidence from Indian Industry. *The Journal of Entrepreneurship*, 8(1), 25-44.
- Sheikh, A. N., & Wang, Z. (2011). Determinants of capital structure: An empirical study of firms in manufacturing industry of Pakistan. *Managerial Finance*, 37(2), 117-133.
- Shergill, G. S., & Sarkaria, M. S. (1999). Impact of Industry Type and Firm Characteristics on Firm-level Financial Performance—Evidence from Indian Industry. *The Journal of Entrepreneurship*, 8(1), 25-44..
- Stulz, R. (1990). Managerial discretion and optimal financing policies. *Journal of financial Economics*, 26(1), 3-27.
- Taani, K. (2013). Capital structure effects on banking performance: A case study of Jordan. *International Journal of Economics, Finance and Management Sciences*, 1(5), 227-233.
- Udeh, S. N., Nwude, E., Itiri, I., & Agbadua, B. (2016). The Impact of Debt Structure on Firm Performance: Empirical Evidence from Nigerian Quoted Firms. *Asian Economic and Financial Review*, 6(11).
- Um, T. (2001), "Determination of capital structure and prediction of bankruptcy in Korea", *PhD dissertation*, Cornell University, Ithaca, New York, NY
- Yazdanfar, D., & Öhman, P. (2015). Debt financing and firm performance: an empirical study based on Swedish data. *The Journal of Risk Finance*, 16(1), 102-118..
- Zahra, S. A., & Covin, J. G. (1995). Contextual influences on the corporate entrepreneurship-performance relationship: A longitudinal analysis. *Journal of business venturing*, 10(1), 43-58., (2014)
- Zeitun, R., & Tian, G. G. (2007). Capital Structure and Firm Performance: Evidence from Jordan. *Australia Accounting Business and Finance Journal*, 1(4), 148-168.