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Debt Financing and Firm Value: A Panel Data Analysis

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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. Correlational research design is used for the study. The population the study consist of 300 firm-year observation .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 negative effect on firm value. Thus, the study concluded that capital structure influence the firm value of listed firms in Nigeria. The study recommends that to reduce information asymmetry and moral hazard managers of firms ought to be mindful of the significance of transparency measures, which can improve their affairs with financial institutions in the business environment.

Keywords: Debt financing, Firm Value, Nigeria

1. 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 firm to risk, it also increases shareholder`s return. It is therefore expected that the marginal costs of debt be equal to the marginal benefits (Huang & Ritter, 2009). Empirical researches on 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 high return, big share prices and effectiveness in management. Jensen & Meckling, (1976) on the other hand, maintained that, while debt may cause a higher profit to shareholders, it may also results an extra agency costs 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 influence of debt financing on firm value. The amount 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 (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) uses ROE and EPS. Meanwhile, studies such as Naceur & Goaied, (2002) and Dhankar & Boora, (1996) applied the market-to-book ratio to measure the market value of the firms. Adetunji, Akinyemi & 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 300 listed firms in the Nigerian Stock Exchange.

The paper is organized as follows. Section two of the paper presents the theoretical framework, hypotheses development and previous empirical studies. 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 summary and concludes the paper.

2 Literature review

2.1 Theoretical framework

. 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, condemn due to the fact that, an ideal market is never in existence in the real world. Miller (1988) explains the MM proposition into 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 assume 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 suggest many factors which includes agency effects, marketing timing, tax effect, signaling 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 key issues for discussion among the theories is the maximization of shareholders value. For instance, Myers, (1984) asserts that a firm will trade off costs and benefits of debt to maximize firm value. However, the advantage of debt largely emanates from the tax shield of reducing revenue through paying interest (Miller and Modigliani, 1963). More so, the cost of debt originates from direct and indirect bankruptcy costs through the increase in financial risk (Kraus and Litzenberger, 1973).

Fama and French (2002), contended that, too much debt results to greater agency costs, implying a negative relationship between capital structure and firm value. Also, an inverse relationship between the 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).

2.2 Empirical Studies

Le & 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 indicates that all the three debt ratios have an inverse relationship with performance. Moreover, the study maintained that, the position of debt is not substantial due to a 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 for a period of 2001-2012 using a cross-section of 43 companies from a different sector. He 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 debt structure contributes negatively to the performance of Nigerian firms.

Yazdanfar & 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 (35LS) and ROA as a proxy of firm profitability, he documents a significantly 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 indicate 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 source of financing. Moreover, age and size were found to affect firm profitability significantly.

Cole & 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 shows that capital structure appears to be negatively and significantly related with 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 indicates that taking on more debt will have a positive impact on profit margin, which will result in higher profitability.

Salim & 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 effects 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) for 1990 to 2004 to evaluate the effect of capital structure on their 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 indicate an inverse association between total debt and profitability. The study, therefore, argues 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 2007-2012 to emphasize 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, 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. In addition, the results indicate an insignificant positive relationship between Tobin's Q and short-term debt and total debt while 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 firms' performance measured by P/E. On the other hand, long-term debt and total debt show 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 concludes 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 1998-2008 to investigates 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 influences the profitability of SMEs in the UK, especially, long-term debt which has a negative relationship with profitability. 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) investigates the relationship between capital structure and performance of listed firms in Ghana, employing a panel regression model for the period of 1998-2002. He uses short-term debt to total assets ratio as measures of capital structure. He reported a significant positive association between short-term debt and profitability. Also, an inverse relationship between long-term debt and profitability was also 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) analyzed the effect of capital structure on the profitability of firms listed on New York stock exchange for a period from 2005- 2007 and excising both correlation and regression analysis, they found that there exists a high 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 & 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 have a tendency of promoting their selfish interest rather than the value of the firm. However, these clashes might happen under circumstances where managers have motivations to take too much 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 nonpayment. 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) advances a model in which leverage is revealed to alleviate overinvestment hitches but exacerbate the underinvestment problem. Further, the model envisages that debt can have both a positive and a negative impact on firm value and seemingly both impacts are present in all firms.

However, we expect the effect of debt ratios on firm value to be positive. We abridge this into a testable hypothesis. As emphasize 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 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 contends 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 as 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 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 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 Methodology/Materials

3.1 Sample

Our sample consist of 300 firm-year observation of the 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 & 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
(2) Long-term debt to total asset
(3) Total debt to total asset, and
(4) Total debt to total equity

In line with the previous studies (e.g. Abor, (2007); Salawu, (2009) Zeitun & Tian (2007): Ebaid (2009) Yazdanfar & Ohman (2015), the first independent variable, short-term debt to total asset ratio was measured as debt repayable within one year, as a percentage of total assets. The long-term debt to total asset ratio was classify as the total debt repayable beyond one year, as a percentage of total assets. While total debt ratio is the total company`s leverage in relation to its assets. In line with Karadeniz, et al (2009), Taani (2013), total debt to total equity ratio is measured 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 office and access to significant information and resources to enhance the value of the firm. Prior studies like Jensen (1993) and Mak & 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 above studies

Previous studies used a different number of proxies to measure firm value, such as sales, assets and number of employees (e.g. Sheikh and 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 determinants 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 & Demirgunes, (2008) and Zeitun & Tian, (2007).

3.3 The Empirical Models

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

$$FV_{it} = \beta_o + \beta_1 STDA_{i`t} + \beta_2 LDTA_{it} + \beta_3 TDTA_{it} + \beta_4 TDTE_{it} + \beta_5 FIRMSIZE_{it} + \beta_6 BSIZE_{it} + \beta_7 GROWTH_{it} + \varepsilon_{it}$$

Where:
FV = firm value
STDA= short-term debt to total assets
LTDA= long-term debt to total assets
TDTA = total debt to total assets
TDTE= total debt to total equity.
FIRMSIZE = firm size,
BSIZE = board size
GROWTH = firm growth
ε_{it} = represents idiosyncratic shocks, while i stands for the firm (i= 1….300) and t stand for the period of time (t = 2008...…2017).

4 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 is 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 value 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 to losses during the period of study.

Table 1
Descriptive Statistics of Variables

Variable	Observation	Mean	SD	Min.	Max.
FV	300	0.1435	0.2060	0.0100	2.0171
STDA	300	0.1569	0.1438	9E-05	0.7728
LTDA	300	0.1475	0.2819	0.0001	4.1537
TDTA	300	0.2424	0.1771	0.0008	1.2234
TDTE	300	0.1709	0.6403	-4.3660	2.6579
BSIZE	300	10.083	2.9140	4.0000	23.000
FSIZE	300	16.787	1.9126	12.329	21.215
FGROWTH	300	0.1886	0.3413	-0.9990	1.3481

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

4.3 Diagnostic Tests

4.3.1 Variance Inflation Factor

This study applies panel data analysis which requires certain estimations to account for time-series and cross-sectional dimension of the data. The study carried out diagnostic tests which includes Variance Inflation Factor (VIF) to check the absence of multicollinearity in the model, the Wooldridge test to check the absence of autocorrelation and serial correlation to check the absence of heteroskedasticity in the model. 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 2:
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, and thus, the model rejected the null hypotheses as there is an issue of heteroscedasticity. Moreover, the outcome signposts that the variance are widely spread which needs to be corrected.

Table 3
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

	Chi2(1)	**Prob>chi2**	**Null (H0)**
FV	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 (Ho) hypotheses which state that: 'No first order autocorrelation', were rejected.

Table 4.
Wooldridge test for autocorrelation

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

Notes: H0: No first order correlation

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

4.4 Model Specification Test

Table 2 indicates that the null hypotheses was accepted, this indicates that fixed effects model is not appropriate and that random effect model to be preferred.

Table 5
Hausman Model Specification Test

	chi2(13)	**Prob > chi2**	**Null (H0)**
FV	6.11	0.5272	Accepted

Note: the null hypotheses were accepted, this indicates that fixed effects model is not appropriate and that random effect model to be preferred

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

Table 6,
Summary of the random effect model

Variables	Coef.	t.stat	p>t
STDA	0.0695	(0.48)	0.641 .
LDTA	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

Notes: STDA=short term debt to total assets; LTDA=long term debt to total assets; TDTA=total debt to total assets; TDTE=total debt to total assets; BSIZE=board size; FSIZE=firm size; FGROWTH=firm growth, ***, **and* represent significant at 1%, 5% and 10% levels respectively

Table 6 shows that the results of the random effect regression of model 1 which depicts the overall model 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 variation in firm value. It also shows that short-term debt to total assets (SDTA) (β=0.0695, P>0.01) and firm value has not found to be insignificant. On the other hand, long-term debt to total assets (LDTA) (β=46.459, P<0.001) has a significant and positive effect on firm value. This denotes that with 1% increase in the long-term debt, the firm value will increase by 464.59% and vice-varsa. Also, total debt to total assets (TDTA) (β=0.008, P<0.05) shows a significant and positive effect on firm value at 5% level. This implies that firm, the more a firm employ more debt in relation to its assets in the company's capital structure the higher the value of a given firm. In addition, total debt to total equity (TDTE) (β=0.341, P<0.001) has a significant and positive effect on firm value at 1%.This suggest that with 1% increase in TDTE will results in an increase in firm value by 34.1% and vice-versa. Furthermore, board size (BSIZE) (β=-0.009, P>0.001) has no significant effect on firm value. Contrarily, firm size (FSIZE) (β=-0.047, P<0.05) has a significant and negative effect on firm value. This denotes that with the 5% increase in the size of a company, firm value decreases by 47.4% and vise-varsa, More so, the result of firm growth (FGROWTH) (β=0.007, P>0.001) shows that firm growth has no effect on firm value.

5. 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 that short term to total debt *(*STDA*)* 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 considered as a tool for 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, 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 long-term debt increases, the value of the firm will also increase.

Further, this study found that 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 and 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 & Anggraeni, (2015) and also contradict the findings of Detthamrong et al., (2017), Zeitun & Tian, (2007a) and Moscu, (2014).

For the purpose of this study, three control variables were used, viz: firm size, 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 documents that firm size has negative, but insignificant effect on the performance of listed consumer goods companies in Nigeria. For board size (BSIZE), which is the second control variable show 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 with this study. Firstly, the findings study were attained from non-financial sector, so efforts should be made to examine this issue in 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.

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