FINANCIAL LEVERAGE AND FINANCIAL PERFORMANCE OF LISTED AGRICULTURAL FIRMS ON THE NIGERIA STOCK EXCHANGE

Segun Idowu Adeniyi. Ph.D and Vincent Ayeole Aderobaki

^{1&2}Department of Accountancy, Nnamdi Azikiwe University Awka, Anambra State; E-mail: princesegadeniyi@gmail.com, <u>si.adeniyi@unizik.edu.ng</u> & <u>vickade8425@gmail.com</u>, av.aderobaki@unizik.edu.ng

Abstract

For some years now, the issues of financial capital structure of agricultural firms have become important to the sector since people are now shifting from the traditional farming methods to more modern farming methods which are aided by new technology and mechanization. It is of concern to note that agricultural sector is not competing well with other sectors despite their importance to Nigerians. However, most previous empirical study on financial leverage and financial performance are not focus on listed agricultural sector. Hence this study tends to ascertain the effect of debt level, long term debt and debt – equity level on financial performance of list agricultural firms on the Nigeria stock exchange. This study adopted ex-post facto research design. The study is made up of five (5) agricultural firms listed on Nigeria stock exchange as at 31st December, 2020. All the five firms were adopted as our sample size. We applied the linear regression analysis and findings indicated that debt level significantly affects financial performance of listed agricultural firms while long term debt and debt to equity level does not affect their financial performance. The study recommends among others that agricultural firms should improve on their debt level to sustain their financial performance.

Keywords: Financial Leverage; Financial Performance; Debt; Equity; Agricultural Firm

Introduction

The capital structure of a firm consists of equity, debt or combination of equity and debt. The proportion of debt in a capital structure is known as financial leverage. According to Ahmed, Ningi and Dalhat, (2018), is adding borrowed funds with equity to maximize the return on investment. Tanni (2013) said financial leverage has been an issue in corporate finance literature since Modigliani and Miller presented a seminar paper on the issue in 1958. When there is high proportion of debt in capital structure, it will expose the firm to financial distress risk and bankruptcy which may occur due to inability of the firm to service the debt at the appropriate time. High debt profile in the capital structure of a company suggests that the company must be committed to both principal and fixed interest payments on debt. However, interest on debt is nontaxable, implying that firms can employ debt in the capital structure in order to take advantage of the tax shields benefit provided by debt. Abubakar (2017) observed that an intelligent manager can trade off the financial distress costs of debt against the tax shield benefits in order to improve financial distress.

Tanni (2013) opines that for company to perform very well financially, he must be able to manage her capital structure efficiently and effectively. This implies that financial leverage have link with firm financial performance. In the words of Thaddeus and Chigbu (2012), financial performance shows the yard stick for the firm stakeholders to know net worth of the firm and to know if the firm is performing well financially or not. Investors will prefer to invest their money where it will yield more interest for them. Therefore, investors in Nigeria are more focused on Oil and Gas companies until recently that petroleum oil price crashed in the world marked. It is observed that investors are not focusing on agricultural sector despite the fact that Nigeria is an agrarian economy.

According to IFC (2013), third world countries, including Nigeria, where agriculture is the main occupation of most families living in the rural area, availability of capital funding through investments in the agricultural sector is lacking and wanting. For some years now, the issues of financial capital structure of agricultural firms have become important to the sector since people are now shifting from the traditional farming methods to more modern farming methods which are aided by new technology and mechanization.

NSE (2019) said in their report that shares of listed agricultural firms on the Nigeria stock exchange are lagging behind other stocks being traded on the Nigeria stock exchange. It is of concern to note that agricultural sector is not competing well with other sectors despite their importance to Nigerians. Most of previous studies (Abubakar, 2017; Thaddeus & Chigbu, 2012) on financial leverage and financial performance of listed deposit money banks, Abubakar (2016) investigated the link between financial leverage and financial performance using companies from the Health Care Sector of the NSE; Akingunola, Olawale, and Olaniyan, (2017) utilized firms from the food and beverages industry of Nigeria to study the association between financial leverage and financial performance; Chechet, Garba and Odudu (2013) utilized companies from Nigerian chemical and paints sub-sector of the NSE; David and Olorunfemi (2010) focused on companies from the petroleum industry; Innocent, Ikechukwu and Nnagbogu (2014) sampled Pharmaceutical companies; while Ogbonnaya and Chimara (2016) relied on companies from the Nigerian Brewery Industry.

We are not aware of any previous empirical study on financial leverage and financial performance that focus on listed agricultural sector. Hence, this study tends to fill the gap. The main objective of this study is to ascertain the effect of financial leverage on financial performance of list agricultural firms on the Nigeria stock exchange. The specific objectives are:

1. To ascertain the effect of debt level on financial performance.

- 2. To determine the effect of long term debt on financial performance
- 3. To ascertain the effect of debt equity level on financial performance.

The study will be guided by the following null hypotheses:

 H_01 : There is no significant relationship between debt level and financial performance.

 H_02 : Long term debt does not have any significant effect on financial performance H_03 There is no significant relationship between debt – equity level and financial performance.

This study covers financial leverage and financial performance of listed agricultural firms on the Nigeria stock exchange. We choose to focus on agricultural sector because Nigeria is an agrarian economy but Nigerian government focused on Oil and gas. Now that there is down turn on petroleum price in world market, Nigeria government is trying to diversified the economy and focus on agricultural sector. The study will cover the period of 2016 to 2020 because since late 2018, Federal government of Nigeria has professed to be supporting agricultural sector through COVID-19 special fund.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Financial Leverage

Financial leverage refers to the degree to which an agricultural firm uses debt and equity to finance its operations. It shows the extent of equity and debt used to finance the firm's assets. The financing decision is an important one for the management because it affects the shareholders' value of the company. Burton (2007) defines leverage as the degree to which a business is employing debt to fund its activities. He adds that leverage can also be viewed as the ratio of debt to equity. Kuhlemeyer (2004) affirms that leverage is all about the use of debt for investment. A high debt to equity proportion depicts the reliance of the agricultural firm on debt financing is high. Leverage allows the potential for higher returns due to increased investment but the risk of failure is also high. Excessive use of debt in the capital structure exposes the firm to the risk of financial distress and bankruptcy, which may occur due to inability of the firm to service the debt at the appropriate time. High debt profile in the capital structure of a company suggests that the company must be committed to both principal and fixed interest payments on debt. However, interest on debt is nontaxable, implying that firms can employ debt in the capital structure in order to take advantage of the tax shields benefit provided by debt. The use of debt in the capital structure can be used to discipline managers because of the agency problem created by the separation of ownership from control. A good financial manager should trade-off the financial distress costs of debt against the tax shield benefits in order to improve financial performance (Abubakar, 2017b).

Financial Performance

A firm's financial performance is an estimation of what has been achieved by the firm over a given period of time in monetary terms. The importance of measuring a company's performance is to obtain vital information for the various investors and stakeholders on its liquidity, solvency, profitability and efficiency. According to Almajali et al, (2012), the main factors that influence financial performance of an entity include liquidity, leverage, size of the firm and management's ability i.e. highly competent managerial staff. Financial performance is the measure of how well a firm can use its assets from its primary business to generate revenues. Erasmus (2008) noted that financial performance measures like profitability and liquidity among others provide a valuable tool to stakeholders which aids in evaluating the past financial performance and current position of a firm. Financial performance evaluation are designed to provide answers to a broad range of important questions, some of which include whether the company has enough cash to meet all its obligations, is it generating sufficient volume of sales to justify recent investment. Capital structure is closely linked with financial performance (Tian & Zeitun, 2007). Financial performance can be measured by variables which involve productivity, profitability, growth or, even, customer satisfaction. These measures are related among each other. Financial measurement is one of the tools which indicate the financial strengths, weaknesses, opportunities and threats. Those measurements are return on investment (ROI), residual income (RI), earning per share (EPS), dividend yield, return on assets (ROA), growth in sales, return on equity (ROE),e.t.c (Stanford, 2009). There are various stakeholders who are interested in a company's performance due to leverage. These include the equity holders, who are owners of the firm and they carry the highest risk in the business since they are the last to be paid upon winding up of the firm after all the debt holders claims are settled. They gain through the value of their shares appreciating and through pay out of dividends. The debt holders are also interested since they gain through repayment of their principal amount with some interest. Their debt is secured by the company's assets and are first to be paid in the event that the company winds up or is unable to pay its debtors (Harris & Raviv, 1991).

Theoretical Framework

This study adopts the Trade-Off Theory as its theoretical framework. Myers (1984) argued that firms that follow the trade-off theory set a target financial leverage ratio and then gradually move towards it. He argued further that managers may be reluctant to issue equity if they feel that it is undervalued in the market. An optimal capital structure is achieved when the marginal present value of tax shield on additional debt is equal to the marginal present value of the costs of financial distress on additional debt. Financial leverage impacts positively on firm's performance by limiting conflicts between shareholders and managers resulting from having excess cash. However, higher financial leverage implies higher costs of financial distress

and higher commitment to fulfill future obligations in terms of principal and fixed interest payments (Myers, 1984). Miller (1977) argued that the cost of higher financial leverage is lower than its benefits, implying that the choice of leverage over equity is worthwhile. The trade-off theory suggests that those firms with higher level of retained earnings, i.e. profitable firms tend to have higher debt levels because they can effectively take advantage of tax shields on interest (Abubakar, 2017). In addition, since these companies have higher operating profits, the probability and costs of financial distress are also lower. Consequently, the trade-off theory predicts positive relationship between firms' leverage ratios and their performance (Abubakar, 2017).

Empirical Studies

Abubakar, Maishanu, Abubakar, and Aliero, (2018) studied the effect of financial leverage on the financial performance of quoted conglomerate firms in Nigeria during the period of 2005- 2016, using Fixed Effect Model (FEM). The study measured financial performance by the return on asset (ROA). The findings revealed that short-term debt ratio (STDR) has positive effect on the financial performance, while long-term debt ratio (LTDR) and total-debt equity ratio (TDER) have significant negative effect on the financial performance.

Abubakar (2017) examined the effect of financial on financial performance of 66 non-financial quoted companies in Nigeria during the period 2005- 2014. Descriptive statistics in the form of mean, median, maximum and minimum values; and panel data technique in the form of Random Effects Model (REM) had been applied to analyze the data. Results from the REM reveal that TDER has a positive and significant effect on the financial performance surrogated by Return on Equity (ROE), while STDR, LTDR and TDR have no significant effect on the financial performance, during the period of study.

Ashraf, Ahmad and Mehmood (2017) examined the impact of financial leverage on performance of ten (10) listed companies from the fuel and energy sector of Pakistan and found among others that debt equity ratio has a significant negative impact on ROA, ROE and return on capital employed (ROCE) using multiple regression technique. In another study of Pakistani firms, Nazir (2017) measured the impact of financial leverage on financial performance of twenty-one (21) listed companies in the textile, automobile, sugar, petroleum and energy sectors of Pakistan using ordinary least squares and correlation techniques during the period 2012- 2015. The study unraveled that financial leverage measured by debt to asset ratio has significant negative effect on financial performance proxy by ROA.

Akingunola, Olawale and Olaniyan (2017) evaluated the effect of capital structure decisions on the performance of 22 listed non-financial firms in Nigeria spanning

2011 to 2015. The results revealed that short term debt to total asset (STDTA) and total debt to total equity (TD/TE) have significant negative effect on performance indicated by ROA, while STDTA and long-term debt to total asset (LTDTA) have significant positive effect on the ROE. The authors also found total debt to total asset (TD/TA) to be significantly positively associated with ROE.

Enakirerhi and Chijuka (2016) explored the determinants of capital structure of United Kingdom (UK) Financial Times Security Exchange (FTSE) 100 firms using Fixed Effects Model, and discovered significant relationship between long term debt, short term debt, total debt and return on asset. Hossain and Nguyen (2016) examined the relationship between financial leverage and performance of ten (10) US companies for a ten-year period from 2004 to 2013, and reported strong negative association between financial leverage and performance using regression analysis

Abubakar (2016) investigated the effect of financial leverage on the financial performance, using five companies from the Health Care Sector of the NSE over the period 2005- 2014. The study adopted the panel data framework in the form of the Fixed Effects Model (FEM). Short-term debt ratio (STDR), long-term debt ratio (LTDR), total-debt ratio (TDR) and total-debt equity ratio (TDER) were used to proxy financial leverage, while Return on Equity (ROE) was used to measure financial performance. Results from the FEM indicate that STDR and LTDR have significant positive effect on the financial performance, while TDR and TDER have significant but negative effect on the financial performance.

Ubesie (2016) found that long term debt has insignificant negative effect on financial performance. This was the result of the consideration of capital structure on the financial performance of conglomerates quoted on the floor of the Nigerian stock exchange for the five-year period 2011-2015.

Kuria and Omboi (2015) examined the relationship between capital structure and financial performance of investment and banking firms listed on the Nairobi securities exchange in Kenya over the period 2009- 2013. The study adopted both descriptive and regression analysis techniques to examine the effect of the selected variables. Results revealed that debt to equity and debt to capital ratios have a negative significant relationship with ROA, while long term debt has no significant relationship with ROA. In another model, the results also revealed that debt to equity ratio has a significant positive relationship with ROE, while debt to capital ratio has a significant negative relationship with ROE. However, just like with the ROA model, long term debt has no significant association with ROE.

Innocent, Ikechukwu and Nnagbogu (2014) studied the effect of financial leverage on the financial performance of three (3) quoted pharmaceutical firms in Nigeria over the period of 2001- 2012, utilizing descriptive statistics, Pearson correlation and

multiple regression techniques. The study reported that debt ratio and debt-equity ratio have negative relationship with ROA, while interest coverage ratio is positively associated with ROA. Uwalomwa and Uadiale (2012) which was based on the data of a sample of thirty-one firms listed on Nigerian stock exchange for the period 2005-2009. The method of analysis was Ordinary Least Squares (OLS) technique. It was reported that financial performance was affected positively by short-term debt in the period of study.

David and Olorunfemi (2010) assessed the impact of capital structure on corporate performance using evidence from the petroleum sector of Nigeria for the period of 1999- 2005. The authors documented significant positive link between debt equity ratio and financial performance surrogated by earnings per share (EPS) and dividend per share (DPS) using fixed effects estimation, random effects estimation and maximum likelihood estimation. Applying correlation and multiple regression analysis,

Research Method

This study adopted *ex-post facto* research design. The choice of Ex-post factor design was justified because the study relied on historical data that researchers cannot manipulate (Okoye & Adeniyi, 2018). The study is made up of five (5) agricultural firms listed on Nigeria stock exchange as at 31st December, 2020. All the five firms are adopted as our sample size. Secondary data was used for the study. The sources of secondary data used for the study include annual reports and accounts of companies, corporate website of companies and the Nigerian Sock Exchange Fact books. We applied linear regression analysis with the aid of SPSS 20.0 software for the panel data in order to determine the relationship between the variables.

Model specification

 $FIPE = f(FLEV) \dots (i)$

Below is the linear regression model guiding the research which is adopted from Uwalomwa and Uadiale (2012); Kuria and Omboi (2015); Abubakar (2016) is modified by inserting the variables of this study. Explicitly, the regression model is:

 $ROA_{it} = \beta 0it + \beta 1DLit + eij (ii)$ $ROA_{it} = \beta 0it + \beta 2LTDLit + eij(iii)$ $ROA_{it} = \beta 0it + \beta 3DELit + eij.(iv)$

General linear regression model which is adopted from Creel (2010); Nurkhin (2009) is modified by inserting the variables to test hypotheses.

 $ROA_{it} = \alpha_0 + \beta_1 DL_{it} + \beta_2 LTDL_{it} + \beta_3 DEL_{it} + eij.....(v)$

Where: ROA = return on assets; α_0 = the intercept; $\beta_1 \beta_2$ = the parameters to be estimated in the equation; DL = debt level; LD = long term debt; DEL = debt-equity level; it= time period of study; $\beta > 0$; r2 > 0; $\beta 0$ = intercept; eij = error term; $\beta 1$ measure the effect of financial leverage on financial performance

		Table 5,1 Variables and measurement						
Concept	Variables	Indicator	Measurements					
Leverage	Debt Level	Ratio of total	Total debt divided by					
-		liabilities to total	Total Assets					
		assets.						
	Long Term Debt	Ratio of long-term	Long term debt divided					
	Level	debt to total assets	by Total Assets					
	Debt-Equity Level	Ratio of total	Total Liabilities divided					
		liabilities to its	by Shareholder's Funds					
		stockholders' equity	or Total equity					
Financial	Return on Assets	Ratio of profit	Profit after Tax divided					
Performance		generated from the	by Total Assets					
		total assets of the						
		firm.						

Table 3,1Variables and measurement

Source: Researcher, 2021

Results And Discussions

Hypothesis One

 H_1 : There is significant relationship between debt level and financial performance. Ho: There is no significant relationship between debt level and financial performance.

Mo	del	Sum of Squares	Df	Mean Square	F	Sig.
	Regression	.388	1	.388	9.352	.006 ^b
1	Residual	.954	23	.041		
	Total	1.343	24			

a. Dependent Variable: Return on asset

b. Predictors: (Constant), Debt Level

Source: Extract from SPSS output

Table 2: Regression coefficient for debt level on financial performance

Model		Unstandardize	d Coefficients	Standardized Coefficients	Т	Sig.
		В	Std. Error	Beta		
1	(Constant)	.254	.087		2.919	.008
1	Debt Level	423	.138	538	-3.058	.006

Source: Extract from SPSS output

Model	R	R Square	Adjusted R	Std. Error of the	Durbin-Watson
		_	Square	Estimate	
			_		
1	.538ª	.289	.258	.20371	.934
2					

Table 3: Model Summary for debt level on financial performance

Note: $r^2 = .28$, f(1, 23) = 9.352, p = 0.00 Source: Extract from SPSS output

From Table 3: *model summary* shows that R square and the adjusted R square are .538 and .289. This implies that 28.9% variation experienced in financial performance among the sampled population was explained by companies' debt level. More so, It was observed from Table 1 (ANOVA Table) that firms debt level is statistically significant to predict the firm financial performance since the probability value obtained (p-value), that is 0.00, is less than 0.05 (P< 0.05). This was further confirmed in Table 2 where the coefficient of firms debt level indicated a negative (T,-3.058) influence of debt level on financial performance.

Decision: Based on the analysis above, the alternative hypothesis (Hi) is accepted while null hypothesis (Ho) is rejected; which state that there is significant relationship between debt level and financial performance of listed agricultural firms on the Nigerian Stock Exchange.

Hypothesis Two

Ho: Long term debt has significant effect on financial performance Ho: Long term debt does not have any significant effect on financial performance

Μ	Iodel	Sum of	Df	Mean Square	F	Sig.			
		Squares							
	Regression	.193	1	.193	3.862	.062 ^b			
1	Residual	1.149	23	.050					
	Total	1.343	24						

Table 4: ANOVA^a Result : Long term debt on financial performance

a. Dependent Variable: Return on asset

b. Predictors: (Constant), Long term Debt Level Source: Extract from SPSS output

Model			dardized ficients	Standardized Coefficients	Т	Sig.
		В	Std. Error	Beta		
	(Constant)	.116	.067		1.742	.095
1	Long term Debt Level	305	.155	379	-1.965	.062

 Table 5: Regression coefficient for long term debt on financial performance

Source: Extract from SPSS output

Table 6: Model Summary forlong term debt on financial performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.379 ^a	.144	.107	.22356	.744

Note: $r^2 = .14$, f(1, 23) = 3.862, p = 0.09 Source: Extract from SPSS output

A look at Table 6: *model summary* shows that R square and the adjusted R square are .379 and .144. This implies that 37.9% variation experienced in financial performance among the sampled population was explained by long term debt. More so, It was observed from Table 4 (ANOVA Table) that long term debt is not statistically significant to predict the financial performance since the probability value obtained (p-value), that is 0.09, is greater than 0.05 (P> 0.05). This was further confirmed in Table 5, where the coefficient of long term debt indicated a negative (T,-1.965) influence of long term debt on financial performance.

Decision: Based on the analysis above, the alternative hypothesis (Hi) is rejected while null hypothesis (Ho) is accepted; which state that long term debt does not have any significant effect on financial performance of listed agricultural firms on the Nigerian Stock Exchange.

Hypothesis Three

 H_1 : There is significant relationship between debt – equity level and financial performance.

Ho There is no significant relationship between debt – equity level and financial performance.

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Iat	Table 7.11100 711 Result : Debt Cquity level on infancial performance						
Model		Sum of	Df	Mean Square	F	Sig.	
		Squares					
	Regression	.018	1	.018	.316	.579 ^b	
1	Residual	1.324	23	.058			
	Total	1.343	24				

Table 7:ANOVA^a Result : Debt – equity level on financial performance

a. Dependent Variable: Return on asset

b. Predictors: (Constant), Debt-Equity Level

Source: Extract from SPSS output

Table 8: Regression coefficient for debt – equity level on financial performance

Mo	del	Unstandar Coeffici		Standardized Coefficients	Т	Sig.
		В	Std. Error	Beta		
1	(Constant)	.025	.049		.508	.616
1	Debt-Equity Level	001	.002	116	562	.579

Source: Extract from SPSS output

Table 9: Model Summary fordebt – equity level on financial performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.116ª	.014	029	.23996	.692

Note: $r^2 = .014$, f(1, 23) = 0.316, p = 0.61 Source: Extract from SPSS output

From Table 9: *model summary* shows that R square and the adjusted R square are .116 and .014. This implies that 01.4% variation experienced in financial performance among the sampled population was explained by their debt to .equity level. More so, It was observed from Table 7 (ANOVA Table) that debt to .equity level is not statistically significant to predict the financial performance of agricultural firms since the probability value obtained (p-value), that is 0.61, is greater than 0.05 (P> 0.05). This was further confirmed in Table 3 where the coefficient of household level of education indicated a negative (T, -0.562) influence of debt to .equity level on financial performance of agricultural firms.

Decision: Based on the analysis above, the alternative hypothesis (Hi) is rejected while null hypothesis (Ho) is accepted; which state that debt to equity level does not have any significant effect on financial performance of listed agricultural firms on the Nigerian Stock Exchange.

Hypothesis one shows that there is significant relationship between debt level and financial performance of listed agricultural firms on the Nigerian Stock Exchange. The analysis reveals that firm debt level have positive significant effect on financial performance. This finding is consistent with observations made by Uwalomwa and Uadiale (2012); Abubakar (2016); Akingunola, Olawale and Olaniyan (2017) who in their studies discovered positive significant relationship between debt level and financial performance.

Hypothesis two shows that long term debt does not have any significant effect on financial performance of listed agricultural firms on the Nigerian Stock Exchange. The analysis reveals that firm long term debt have no significant effect on financial performance. This finding is consistent with observations made by Innocent, Ikechukwu and Nnagbogu (2014); Kuria and Omboi (2015); Ubesie (2016); Hossain and Nguyen (2016) who in their studies discovered that there is no significant relationship between long term debt and financial performance.

Hypothesis three shows that debt to .equity level does not have any significant effect on financial performance of listed agricultural firms on the Nigerian Stock Exchange. .The analysis reveals that firm debt to .equity level have no significant effect on financial performance. This finding is consistent with observations made byInnocent, Ikechukwu and Nnagbogu (2014); Abubakar (2016); Enakirerhi and Chijuka (2016)who in their studies discovered that there is no significant relationship between debt to .equity level and financial performance.

Conclusion and Recommendations

Based on the findings made in this study, it was concluded that apart from debt level that significantly affects financial performance of listed agricultural firms on the Nigeria stock exchange, long term debt and debt to equity level does not affect their financial performance. In view of these findings, the study recommends that agricultural firms should improve on their debt level to sustain their financial performance.

The study observed that long term debt and debt to equity does not affect financial performance of agricultural firms, the study recommends that the firm should give little attentions to those obligations that she does not have to pay for within her accounting year because it will not have any effect on his financial performance for that period.

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