Capital Structure and its Deterinants: Case of Quoted Firms in Agriculture and Agro-Allied Sector of the Nigerian Economy

[1]Adegbola Olubukola Otekunrin, [2]Johnson Kolawole Olowookere, [3]Dominic Z. AGBA,
[4]Samuel Adeniran Fakile, [1]Damilola Felix Eluyela, [5]Babatunde Oluseyi Ajiboye and
[5]Ibrahim Joseph Adama
[1]Department of Accounting and Finance, Landmark University,
Omu-Aran, Kwara State, Nigeria
[2]Department of Accounting, Osun State University, Osun State, Nigeria
[3]Department of Economics, Landmark University, Omu-Aran, Kwara State, Nigeria
[4]Department of Accounting, Covenant University Ota, Ogun State Nigeria
[5]Department of Agricultural Economics, Landmark University,
Omu-Aran, Kwara State, Nigeria
otekunrin.adegbola@lmu.edu.ng

Abstract: Results of extant researches on capital structure and its determinants are mixed. However, most of these extant researches had been conducted in the pre-International Financial Reporting Standard (hereafter referred to as IFRS) era. This gives rooms for further studies on this area of study. Hence, this study adopted post IFRS period from 2012-2016 to examine the relationship between capital structure proxied by Non-Current Liabilities (hereafter referred to as NCURLIAB) as well as Current Liabilities (hereafter referred to as CURLIAB) and its determinant proxied by Shareholder Equity (hereafter referred to as SHEQUITY) and Profit before Interest and Tax (hereafter referred to as PBIT) in post era using quoted firms in agriculture and agro-allied sector of the Nigerian economy. This research used ordinary least square regression analysis. Secondary data used were obtained the firm's audited annual reports. The result indicates that NCURLIAB and SHEQUITY are negatively and significantly related. The result also shows that CURLIAB and SHEQUITY are negatively and significantly related. NCURLIAB and PBIT are also negatively and significantly related. This shows profitable firms with sufficient SHEQUITY do not depend on either NCURLIAB or CURLIAB to fund its business operation. However, CURLIAB and PBIT are positively and significantly related. This suggests that most of CURLIAB are at little or no cost to firms involved agriculture and agro-allied sector of the Nigerian economy during period under study, hence, they are more like internal source of fund. This result supports the pecking order theory. Therefore, we suggest management of firms should generate sufficient reserves for all their future business needs.

Key words: Capital structure, shareholder equity, non-current liabilities, current liabilities, result, supports

INTRODUCTION

Business managers are responsible for making suitable finance decisions that will ensure that firms maximize earnings, minimize cost of finance and maximize the value of the firm. In finance literature, debate on suitable capital mix to help finance business operations to achieve business objectives mentioned above has been on for many decades and it is still ongoing. Many capital structure theories has been suggested over many decades to be of help in guiding managers to arrive at a finance decision that will offer the firmoptimal capital structure in achieving its goals and objectives. These theories include

(Modigliani and Miller, 1958, 1963) known as MM irrelevant theory and modified irrelevant theory, pecking order theory, trade off theory, dynamic trade off theory, static trade off theory as well as agency theory, just to mention a few. These theories would be discussed later. However, optimal capital structure is a suitable combination of fund from both internal sources and external sources that firm used in financing it business operations to achieve the firm objective of minimization of cost of capital, maximizing earnings and maximizing the value of the firm. Funds such as retained earnings and other reserves from the firm past year's operations constitute internal source of finance while funds such as

Corresponding Author: Adegbola Olubukola Otekunrin, Department of Accounting and Finance, Landmark University, Omu-Aran, Kwara State, Nigeria, otekunrin.adegbola@lmu.edu.ng

debt and new equity are external source of finance. According to Otekunrin *et al.* (2017), capital structure has influencecost of capital and consequently profitability. Also, extant researches such as Bassey *et al.* (2013) and Iwarere and Akinleye (2010) provided evidences in their studies on determinants of capital structure. According to Bassey *et al.* (2013) determinants of capital structure profitability, size of the firm, growth rate in total salesas well as age of the firm just to mention a few. In line with these extant researches this study examined the determinants of capital structure using agriculture and agro-allied firms quoted on Nigerian Stock of Exchange (hereafter referred as NSE). This sector of Nigeria economy was selected based on Nigerian Government focus on the sector as an additional means of generating additional income to run its government and as means of providing reliable solution to the problem of hunger in the country.

Another motivation for this study includes the fact that the results of the extant researches on this topic are mixed and most of the studies have been conducted before IFRS in Nigeria. Hence, this study focused on post IFRS analysis of determinants of capital structure which is from 2012-2016. This is the gap, this research attempt to fill in the literature. In line with (Bassey *et al.*, 2013) Non-Current Liabilities (NCURLIAB) and Current Liabilities (CURLIAB) are used as proxies for capital structure while Shareholder Equity (SHEQUITY) and Profit Before Interest and Tax (PBIT) was used as proxies for capital structure determinants. Apart from determinants of capital structure, the size of firm (hereafter referred as SOF), Growth Rate in Total sales for firm (hereafter referred as GRTH) and Age of the Firm (hereafter referred asAOF) were used as control variables.

Objectives of the study: The central research objective is to examine the relationship between capital structure proxied by NCURLIAB and CURLIAB and its determinant proxied by Shareholder Equity (SHEQUITY) and Profit Before Interest and Tax (PBIT) after the adoption of IFRS in Nigeria using agriculture and agro-allied sector of the Nigerian economy. Therefore, this research specific objective is to:

- Examine the relationship between NCURLIAB and its determinants
- Investigate the relationship between CURLIAB and its determinants

Research hypothesis: The following research hypothesis stated in null form were tested to achieve the research

objectives stated above.

Hypothesis one:
- H_0: there is no relationship between NCURLIAB and its determinants

Hypothesis two:
- H_0: there is no relationship between CURLIAB and its determinants

Literature review: The dependent variable is capital structure proxied by NCURLIAB and CURLIAB. NCURLIAB is the firm Non-Current Liabilities. Non current liabilities are long term liabilities of the firm which are falling due after 1 year. This form of liabilities attracts fixed interest to the creditors. Equity plus liabilities is the summation of the liabilities side of the statement of financial position. The summation of this liabilities side must be equal to the summation of the assets side of the statement of financial position. NCURLIAB was used by Salim and Yadav (2012) to examine the capital structure and performance of firms quoted on Malaysian stock exchange from 1995-2011. The result of their study shows that NCURLIAB and its determinants measured by ROA ratio and ROE ratio are negatively and significantly related. Bassey *et al.* (2013) similarly study 60 unquoted firms in agro-based sector in Nigeria to analyse determinants of capital structure form 2005-2010. Their result shows that AOF and GRTH impacted NCURLIAB significantly. Similar to Salim and Yadav (2012) the result of their study shows that NCURLIAB and its determinants measured by ROA ratio and ROE ratio are negatively and significantly related. Based on these results as given above, it was expected in this study that NCURLIAB and Shareholder Equity (SHEQUITY) and Profit Before Interest and Tax (PBIT) are negatively related. However, Voulgaris *et al.* (2004) show significant positive relationship between NCURLIAB and ROA ratio as well as ROE ratio. This is a clear picture contradiction of extant researches on this topic.

CURLIAB is the firm current liabilities. Current liabilities are short term liabilities of the firm which are falling due before 1 year. CURLIAB was used by Salim and Yadav (2012) to examine the capital structure and Performance of firms quoted on Malaysian stock exchange from 1995-2011. The result of their study shows that CURLIAB and its determinants measured by ROA ratio and ROE ratio are negatively and significantly related. Bassey *et al.* (2013) in a similar study used 60 unquoted firms in agro-based sector in Nigeria to analyse determinants of capital structure form 2005-2010. Their result shows that AOF and GRTH impacted CURLIAB

significantly. Similar to Salim and Yadav (2012), the result of their study shows that CURLIAB and its determinants measured by ROA ratio and ROE ratio are negatively and significantly related. Based on these results as given above, it was expected in this study that CURLIAB and Shareholder Equity (SHEQUITY) as well as Profit before Interest and Tax (PBIT) are negatively related. Other extant studies with similar results include (Iwarere and Akinleye, 2010; Chen and Strange, 2005; Esperanc *et al.*, 2003; Hall *et al.*, 2004.

Theoretical framework: Two professors, Modigliani and Miller (1958, 1963) came up with irrelevant theory and modified irrelevant theory (Lawal *et al.*, 2013; Eluyela *et al.*, 2019; Voulgaris *et al.*, 2004). Irrelevant theory postulated that under perfect market condition, the combination of equity and debts that form the capital structure of firm does not have effect on firm market value. Modigliani and Miller, 1958 assert that firm earning power and the risk of its underlying assets determine the firm market value under perfect market condition. Years later, modified irrelevant theory was introduced by Modigliani and Miller (1963). Modigliani and Miller (1963) Postulated that where taxation and capital cost exist, the combination of equity and debts that form the capital structure of firm does have effect on firm market value.

Modigliani and Miller (1963) assert that debt would be beneficial to firm where there is tax shield which would lead to reduction in cost of capital by deducting tax from interest. In this case the cost of capital is reduced by tax shield which resulted from deduction of tax from interest. According to Otekunrin *et al.* (2017), Lawal *et al.* (2013) and Voulgaris *et al.* (2004) Modigliani and Miller "assert that returns made from using only equity would be lesser than returns a firm would generate from the mixed capital after the optimal capital structure is reached and from this point, a firm would be able to maximize returns to its shareholders. They went further to encourage firms to use only debt capital to finance their operation because of the tax deductions on interest payment." One of the critics of Modigliani and Miller theory is that though it is sound theoretically but is faulty from practical perspective in the opinion of Bassey *et al.* (2013).

Bassey *et al.* (2013) opined that "cost of bankruptcy have proportional and direct relationship with the level of debt of a firm. Capital structure optimal would be at optimal level only when cost of bankruptcy is equal to tax sheltering benefits obtained from an increase in the debt level of the firm Otekunrin *et al.* (2017), Lawal *et al.* (2013) and Voulgaris *et al.* (2004). Based on the view of Bassey *et al.* (2013), Modigliani and Miller Model though emphasize optimal capital structure but lack practical validity. Capital structure theories adopted in the research

include pecking other theory and trade off theory. However, trade off theory has static trade off theory and dynamic trade off theory. Trade off theory improved on Modigliani and Miller Model by additionally considering risk involved in acquiring debt. Trade off theory was suggested by Myers (1984) as well as Myers and Majluf (1984) and this theory lay emphasis on optimal capital structure has combination of debt finance and equity finance to be used based on balancing the costs and benefits. It involved a balance between tax saving arising from debt, decrease in agent cost, the deadweight costs of bankruptcy as well as financial distress costs.

Trade off theory is also known as tax based theories and bankruptcy costs because under this theory firms are expected to use combination of debt and equity that maximizes the firm value by minimizing the costs of prevailing market imperfections (Sheikh and Wang, 2011). All the discussion on trade off theory so far is the position of static trade off. The position of dynamic trade-off is that "the indebtedness wished (or optimal) and real cannot be equal at any time. Market frictions such as transaction costs and financial market imperfections can prevent instantaneous adjustment of the real debts at the desired level. While adjustment costs are not of key concern under static trade-off theory, it is of primary concern under dynamic trade-off theory.

Dynamic trade-off theory asserts that the time adjustment towards the optimal capital structure brings to existence the adjustment cost. Tarek opined that "firms can not eliminate random events that deviate from the optimum, it is possible to observe the cross-sectional dispersion of current debt ratios across a sample of firms with the same target ratio. Important adjustment costs may explain the observed wide variation of current debt ratios as firms are obliged to operate far from their optimal ratios. Theoretical reflections and empirical extant researches in area are also available (Fischer *et al.*, 1989; Jalilvand and Harris, 1984; Marsh, 1982; Taggart, 1977) and to this extent, this study adopt trade-off theory to examine the relationship between capital structure proxied by NCURLIAB and CURLIAB and its determinant proxied by SHEQUITY and PBIT after the adoption of IFRS in Nigeria using agriculture and agro-allied sector of the Nigerian economy.

Pecking order theory categorized financing business operations under capital structure determinant model into three and these include using retained earnings and other reserves from prior year's operations of the firm issuance of debt and issuance of new equity capital (Miller, 1977). Both issuance of debt and issuance of new equity capital are considered to be external source of finance because both will affect the residue of profit due to

existing shareholders. Use of retained earnings and other reserves from prior year's operations of the firmare considered to be internal source of finance as it will not affect the residue of profit due to existing shareholders. The pecking order theory opined that firm should finance their assets and operations firstly from their internally generated cash, then secondly on issuance of debt and lastly on issuance of new equity capital.

Pecking order theory opined that cost of debt will have negative impact on the level of SHEQUITY and PBIT in this study and issuance of new equity will dilute the ownership structure of the firm and reduce the percentage of profit due to existing shareholders on the long run. Hence, the most preferred source of finance to minimize cost of capital, maximize profit and maximize of firm value is internal source (Myers, 1984; Margaritis and Psillaki, 2007; Otekunrin *et al.*, 2018a-d; Lawal *et al.*, 2017). Hence, it is expected that capital structure proxied by NCURLIAB as well as CURLIAB and its determinants are measured by SHEQUITY and PBIT are negatively related in this study. This study also adopted pecking order theory in order to examine the relationship between capital structure proxied by CURLIAB and CURLIAB and its determinant proxied by SHEQUITY and PBIT after the adoption of IFRS in Nigeria using agriculture and agro-allied sector of the Nigerian economy.

MATERIALS AND METHODS

In examining the relationship between capital structure proxied by NCURLIAB as well as CURLIAB and its determinant proxied by SHEQUITY and PBIT in post IFRS era. in Nigeria using agriculture and agro-allied sector of the Nigerian economy for period of 5 years (2012-2016), descriptive research design was adopted. In line with previous researches by Adesina *et al.* (2015) and Otekunrin *et al.* (2017) secondary data obtained the audited financial statement of firms using ordinary least square regression analysis.

Population of the study, sample size and sampling technique: The population of this study includes twenty-three in agriculture and agro-allied sector of the Nigerian economy and the sample size nineteen as in Table 1.

In line with the modern online sample size calculator by Raosoft INC which required that at least 50% of the population of the study must be selected (Uwuigbe and Uadiale, 2011; Uwuigbe *et al.*, 2016; Otekunrin *et al.*, 2018a-d). Simple random sampling technique was used to select 828.61% of firmsin agriculture and agro-allied sector of Nigerian economy quoted on the NSE.

Table 1: Number of population and the sample size

Description	Total No. (%)	Sample size (%)
Firms in agriculture and agro-allied sector of Nigerian economy quoted on the NSE	23(100)	19(82.61)

Compilation in 2018

Model specification: In line with Adesina *et al.* (2015), Bassey *et al.* (2013) and Voulgaris *et al.* (2004) two empirical models was adopted in this study as given below:

Model 1:

$$NCURLIAB = \beta_0 + \beta_1 SHEQUITY + \beta_2 PBIT + \beta_3 TOTAST + \beta_4 GRTH + \beta_5 AOF + e_{it} \quad (1)$$

Where:
NCURLIAB = Noncurrent Liabilities
SHEQUITY = Share Equity
PBIT = Profit Before Interest
SOF = Size of Firm = Total assets
$GRTH_{it}$ = Growth Rate in Total sales for firm measured by the change in the value of total assets of firm i in time
AOF = Number of years in business = log of number of years in business
e_{it} = Residual

Expected apriori expectation:
- β_1, β_2, β_3, β_5 and β_4, >0
- β_3 and β_5>0

Hence:
- β_1<0: means that the higher the level of SHEQUITY, the lower the level of NCURLIAB
- β_2<0: means that the higher the level of PBIT, the lower the level of NCURLIAB
- β_3>0: means that the higher the level of SOF, the higher the level of NCURLIAB
- β_4<0: means that the higher the level of GRTH, the lower the level of NCURLIAB
- β_5>0: means that the higher the level of AOF, the higher the level of NCURLIAB

Model 2:

$$CURLIAB = \beta_0 + \beta_1 SHEQUITY + \beta_2 PBIT + \beta_3 TOTAST + \beta_4 GRTH + \beta_5 AOF + e_{it} \quad (2)$$

Where:
CURLIAB = Current Liabilities
SHEQUIT = Share Equity

PBIT   =   Profit Before Interest

SOF   =   Size of Firm = Total assets

$GRTH_{it}$ =   Growth Rate in Total sales for firm measured by the change in the value of total assets of firm i in time

AOF   =   Number of years in business = log of number of years in business

e_{it} =   Residual

Expected apriori expectation

- β_1 and β_4, <0
- β_2, β_3 and β_5>0

Hence:

- β_1<0: means that the higher the level of SHEQUITY, the lower the level of CURLIAB
- β_2>0: means that the higher the level of PBIT, the higher the level of CURLIAB
- β_3>0: means that the higher the level of SOF, the higher the level of CURLIAB
- β_4<0: means that the higher the level of GRTH, the lower the level of CURLIAB
- β_5>0: means that the higher the level of AOF, the higher the level of CURLIAB (Table 2)

Table 2: Measurement of variables

Variables	Measurement
Independent variables	
SHEQUITY	Shareholder Equity
PBIT	Profit Before Interest and Tax
Dependent variables	
NCURLIAB	Non-Current Liabilities
CURLIAB	Current Liabilities
Control variable	
SOF	Size of Firm = Total assets
GRTH	Growth Rate in Total sales for firm measured by the change in the value of total assets of firm i in time
AOF	Number of years in business = log of No. of years in business

Compilation in 2018

RESULTS AND DISCUSSION

Descriptive statistics: The descriptive statistics for the variables in empirical model 1 and 2 combine. Table 3 shows that the probability of the Jarque-Berastatistics of Non-Current Liabilities (NCURLIAB) and Current Liabilities (CURLIAB), Shareholder Equity (SHEQUITY), Profit Before Interest and Tax (PBIT), Size of Firm (SOF), Changes in Total Asset (GRTH) and Age of the Firm (AOF) which are 0.000000, 0.000000, 0.000000, 0.000000, 0.000000, 0.000000 and 0.001986, respectively. It means, we can reject the two null hypothesis. This is because their probability values are highly statistically significant.

Regression analysis: The regression analysis was used to study whether capital structure of firmsproxied by Non-Current Liabilities (NCURLIAB) and its determinants proxied by Shareholder Equity (SHEQUITY) and Profit Before Interest and Tax (PBIT) are significantly related from 2012-2016.

Predictors: (CONSTANT), SHEQUITY, PBIT, SOF, GRTH, AOF.

Dependent variable: NCURLIAB.

Interpretation: Regression analysis result as displayed in Table 4 above indicates capital structure proxied by Non-Current Liabilities (NCURLIAB) and its determinant proxied by Shareholder Equity (SHEQUITY), Profit Before Interest and Tax (PBIT), Size of Firm (SOF), Growth Rate in Total sales for firm (GRTH) are significantly related but Non-Current Liabilities (NCURLIAB) and Age of the Firm AOF) are significantly related.

Non-Current Liabilities (NCURLIAB) and Shareholder Equity (SHEQUITY) are negatively and significantly related where the regression coefficient of the Shareholder

Table 3: Descriptive statistics of variables for empirical model 1and 2 combine

Variables	NCURLIAB	CURLIAB	SHEQUITY	PBIT	TOTAST	GRTH	AOF
Mean	44904706	31971880	68951018	11114232	1.46E+08	12147567	1.557149
Median	6886614.	14919196	18553083	4046722.	49818490	4113004.	1.612784
Maximum	6.54E+08	1.45E+08	6.17E+08	82513306	1.20E+09	1.11E+08	1.977724
Minimum	40341.00	375277.0	-4608386.	-24860992	1739760.	-22781804	0.903090
SD	1.33E+08	38747766	1.33E+08	19793099	2.66E+08	23029739	0.273339
Skewness	3.951280	1.490396	3.000361	1.788468	3.102361	1.998616	-0.886500
Kurtosis	17.03201	4.246881	11.47458	6.059105	12.17334	7.377184	3.003633
Jarque-Bera	1026.585	41.32432	426.8157	87.68732	485.4847	139.0863	12.44319
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.001986
Sum	4.27E+09	3.04E+09	6.55E+09	1.06E+09	1.39E+10	1.15E+09	147.9291
Sum Sq. Dev.	1.66E+18	1.41E+17	1.66E+18	3.68E+16	6.63E+18	4.99E+16	7.023121
Observations	95	95	95	95	95	95	95

Compilation in 2018

Table 4: Regression results of the variables (model 1)

Variables	Coefficient	SE	t-statistic	Problem
C	-22305550	13481432	-1.654539	0.1015
SHEQUITY	-0.252780	0.134660	-1.877175	0.0638
PBIT	-1.540970	0.121279	-12.70598	0.0000
SOF	0.619206	0.066491	9.312627	0.0000
GRTH	-0.349130	0.106855	-3.267336	0.0015
AOF	10098214	8527266.	1.184226	0.2395
R^2	0.977712	Mean dependent var.	-	44904706
Adjusted R^2	0.976460	SD dependent var.	-	1.33E+08
SE of regression	20381226	Akaike info criterion	-	36.55920
Sum squared resid	3.70E+16	Schwarz criterion	-	36.72050
Log likelihood	-1730.562	Hannan-Quinn criteria	-	36.62438
F-statistic	780.8249	Durbin-Watson stat	-	0.855638
Probleb (F-statistic)	0.000000	-	-	

Compilation in 2018

Equity (SHEQUITY) is negative (-0.252780) with negative t-statistic (-1.877175) and a p-value of 0.0638 which makes the coefficient value significant at 1%. This is in line withthe apriori expectation that the higher the Non-current Liabilities (NCURLIAB), the lower Shareholder Equity (SHEQUITY) and vice-visa.

Non-current Liabilities (NCURLIAB) and Profit Before Interest and Tax (PBIT) are negatively and significantly related where the regression coefficient of Profit Before Interest and Tax (PBIT) is negative (-1.540970) with negative t-statistic (-12.705985) and a p-value of 0.0000 which makes the coefficient value significant at 1%. This is in line with the apriori expectation that the higher theNon-Current Liabilities (NCURLIAB), the lower Profit Before Interest and Tax (PBIT) and vice-visa.

Non-current Liabilities (NCURLIAB) and Size of Firm (SOF) are positively and significantly related where the regression coefficient of Size of Firm (SOF) is positive (0.619206) with positive t-statistic (9.312627) and a p-value of 0.0000 which makes the coefficient value significant at 1%. This is in line with the apriori expectation that the higher theNon-current Liabilities (NCURLIAB), the higher Size of Firm (SOF) and vice-visa.

Non-Current Liabilities (NCURLIAB) and Growth rate in total sales for firm (GRTH) are negatively and significantly related where the regression coefficient of Growth Rate in Total sales for firm (GRTH) is negative (-0.349130) with negative t-statistic (-3.267336) and a p-value of 0.0015 which makes the coefficient value significant at 5%. This is in line withthe apriori expectation that the higher the Non-Current Liabilities (NCURLIAB), the lower Growth Rate in Total Sales for firm (GRTH) and vice-visa.

Non-Current Liabilities (NCURLIAB) and Age of the Firm (AOF) are positively but not significantly related where the regression coefficient of Age of the Firm (AOF) is positive (10098214) with positive t-statistic (1.184226) and a p-value of 0.2395. Hence, Non-current Liabilities (NCURLIAB) and Age of the Firm (AOF) not related.

The F-values which are significant at 1% level indicate that our models do not suffer from specification bias. The regression analysis shows that, we can conclude that the variance in the Non-Current Liabilities (NCURLIAB) can be explained for 97.77% (Adj R^2 = 97.65% further justifies this effect) for pooled data because of change in Non-Current Liabilities (NCURLIAB). This percentage is relatively high percentages, hence, the model used to compute Non-Current Liabilities (NCURLIAB) is appropriates (that is the proxy for capital structure).

The regression analysis was used to study whether capital structure of firms proxied by non-Current Liabilities (CURLIAB) and its determinants proxied by Shareholder Equity (SHEQUITY), Profit Before Interest and Tax (PBIT) are significantly related from 2012-2016.

Predictors: (CONSTANT), SHEQUITY, PBIT, SOF, GRTH, AOF.

Dependent variable: CURLIAB.

Interpretation: Regression analysis result as displayed in Table 5 above indicates capital structure proxied by Non-Current Liabilities (CURLIAB) and its determinant proxied by Shareholder Equity (SHEQUITY), Profit Before Interest and Tax (PBIT), Size of Firm (SOF), Growth Rate in Total sales for firm (GRTH) are significantly related but Non-current Liabilities (CURLIAB) and Age of the Firm (AOF) are not related.

Current Liabilities (CURLIAB) and Shareholder Equity (SHEQUITY) are negatively and significantly related where the regression coefficient of the Shareholder Equity (SHEQUITY) is negative (-0.743340) with negative t-statistic (-5.526515) and a p-value of 0.0000 which makes the coefficient value significant at 1%. This is in line withthe apriori expectation that the higher the Current Liabilities (CURLIAB), the lower Shareholder Equity (SHEQUITY) and vice-visa.

Table 5: Regression results of the variables (model 2)

Variables	Coefficient	SE	t-statistic	Problem
C	22856120	13465889	1.697335	0.0931
SHEQUITY	-0.743340	0.134504	-5.526515	0.0000
PBIT	1.536237	0.121139	12.68157	0.0000
SOF	0.378797	0.066414	5.703544	0.0000
GRTHIT	0.349502	0.106732	3.274585	0.0015
LOGAOF	-10390915	8517435.	-1.219958	0.2257
R^2	0.738647	Mean dependent var	-	31971880
Adjusted R^2	0.723964	SD dependent var	-	38747766
SE of regression	20357728	Akaike info criterion	-	36.55689
Sum squared resid	3.69E+16	Schwarz criterion	-	36.71819
Log likelihood	-1730.452	Hannan-Quinn Criterion	-	36.62207
F-statistic	50.30713	Durbin-Watson statistic	-	0.857862
Prob (F-statistic)	0.000000	-	-	

Compilation in 2018

Current Liabilities (CURLIAB) and Profit Before Interest and Tax (PBIT) are positively and significantly related where the regression coefficient of Profit Before Interest and Tax (PBIT) is positive (1.536237) with positive t-statistic (12.68157) and a p-value of 0.0000 which makes the coefficient value significant at 1%. This is in line withthe apriori expectation that the higher the Current Liabilities (CURLIAB), the higher Profit Before Interest and Tax (PBIT) and vice-visa.

Current Liabilities (CURLIAB) and Size of Firm (SOF) are positively and significantly related where the regression coefficient of Size of Firm (SOF) is positive (0.349502) with positive t-statistic (5.703544) and a p-value of 0.0000 which makes the coefficient value significant at 1%.This is in line withthe apriori expectation that the higher the Current Liabilities (CURLIAB), the higher Size of Firm (SOF) and vice-visa. Current Liabilities (CURLIAB) and Growth rate in total sales for firm (GRTH) are positively and significantly related where the regression coefficient of Growth Rate in Total sales for firm (GRTH) is positive (0.349502) with negative t-statistic (3.274585) and a p-value of 0.0015 which makes the coefficient value significant at 5%. This is in line with the apriori expectation that the higher the Current Liabilities (CURLIAB), the higher Growth Rate in Total sales for firm (GRTH) and vice-visa.

Current Liabilities (CURLIAB) and Age of the Firm (AOF) are negatively but not significantly related where the regression coefficient of Age of the Firm (AOF) is negative (-10390915) with negative t-statistic (-1.219958) and a p-value of 0.2395. Hence, Current Liabilities (CURLIAB) and Age of the Firm (AOF) not related. The f-values which are significant at 1% level indicate that our models do not suffer from specification bias. The regression analysis shows that we can conclude that the variance in the Current Liabilities (CURLIAB) can be explained for 73.86% (Adj R^2 = 72.39% further justifies this effect) for pooled data because of change in Current Liabilities (CURLIAB). This percentage is

relatively high percentages; hence, the model used to compute Current Liabilities (CURLIAB) is appropriates (that is the proxy for capital structure).

Hypothesis testing Our decision rule is from the significances of the t-statistics represented by the p-values.

Hypothesis one:
- H_0: there is no relationship between NCURLIAB and its determinants

Discussion of findings on hypothesis: The result of the regression analysis shows that Non-Current Liabilities (NCURLIAB) and Shareholder Equity (SHEQUITY) are negatively and significantly related. Based on the regression analysis results, the null hypothesis is here by rejected and the alternative hypothesis which states that there is a relationship between NCURLIAB and its determinants [proxied by Shareholder Equity (SHEQUITY)] is accepted. The significant relationship is negative. This result is in line with this study apriori expectation that the higher the level of SHEQUITY, the lower the Non-Current Liabilities (NCURLIAB). This result is consistent with the findings of Sorana (2015). Non-Current Liabilities (NCURLIAB) and Profit Before Interest and Tax (PBIT) are also negatively and significantly related. Based on the regression analysis results, the null hypothesis is hereby rejected and the alternative hypothesis which states that there is a relationship between NCURLIAB and its determinants [proxied by Profit Before Interest and Tax (PBIT)] is accepted. This result is consistent with the findings of (Adesina *et al.*, 2015; Avdalovic and Milenkovic, 2017; Stiglitz, 1972; Thamila and Arulvel, 2013 and Otekunrin *et al.*, 2018).

Hypothesis two:
- H_0: There is no relationship between CURLIAB and its determinants

Discussion of findings on hypothesis: The result of the regression analysis shows that Current Liabilities (CURLIAB) and Shareholder Equity (SHEQUITY) are negatively and significantly related. Based on the regression analysis results, the null hypothesis is hereby rejected and the alternative hypothesis which states that there is a relationship between CURLIAB and its determinants [proxied by Shareholder Equity (SHEQUITY)] is accepted. The significant relationship is negative. This result is in line with this study apriori expectation that the higher the level of SHEQUITY, the lower the Current Liabilities (CURLIAB). This result is consistent with the findings of Vatavu (2015). Current Liabilities (CURLIAB) and Profit Before Interest and Tax (PBIT) are also positively and significantly related. Based on the regression analysis results, the null hypothesis is hereby rejected and the alternative hypothesis which states that there is a relationship between CURLIABand its determinants [proxied by Profit Before Interest and Tax (PBIT)] is accepted. This result is consistent with the findings of Alipour *et al.* (2015) and Voulgaris *et al.* (2004) findings of Adesina *et al.* (2015).

CONCLUSION

This study examinedthe relationship between capital structure proxied by NCURLIAB and CURLIAB and its determinant proxied by Shareholder Equity (SHEQUITY), Profit Before Interest and Tax (PBIT) in the post IFRS era in Nigeria using agriculture and agro-allied sector of the Nigerian economy. The result indicates that Non-Current Liabilities (NCURLIAB) and Shareholder Equity (SHEQUITY) are negatively and significantly related. The result of the regression analysis also shows that Current Liabilities (CURLIAB) and Shareholder Equity (SHEQUITY) are negatively and significantly related. This shows profitable firms with sufficient Shareholder Equity (SHEQUITY) do not depend on either Non-CurrentLiabilities (NCURLIAB) or Current Liabilities (CURLIAB) to fund its business operation. Non-Current Liabilities (NCURLIAB) and Profit Before Interest and Tax (PBIT) are also negatively and significantly related. This further shows profitable firm does not depend on either Non-Current Liability (NCURLIAB) to fund its business operation. This result support the pecking order theory which opined that firm should finance their assets and operations firstly, from their internally generated cash, then follow by issuance of debt if necessary and finally, issuance new equity if necessary. Pecking order theory opined that cost of debt will have negative impact on the level of profitability of the firm and issuance of new equity will dilute the ownership structure of the firm and reduce the percentage of profit due to existing shareholders on the long run. Hence, the most preferred source of finance to minimize cost of capital, maximize profit and maximize of firm value is internal source.

RECOMMENDATIONS

It is therefore, recommended that management of firms should generate sufficient reserves for all their future business needs. Current Liabilities (CURLIAB) and Profit Before Interest and Tax (PBIT) are also positively and significantly related. This suggests that most of CURLIAB are at little or no cost to firms involved agriculture and agro-allied sector of the Nigerian economy during period under study, hence, they are more like internal source of fund.

ACKNOWLEDGEMENT

REFERENCES

Adesina, J.B., B.M. Nwidobie and O.O. Adesina, 2015. Capital structure and financial performance in Nigeria. Intl. J. Bus. Soc. Res., 5: 21-31.

Alipour, M., M.F.S. Mohammadi and H. Derakhshan, 2015. Determinants of capital structure: An empirical study of firms in Iran. Intl. J. Law Manage., 57: 53-83.

Avdalovic, S.M. and I. Milenkovic, 2017. Impact of company performances on the stock price: An empirical analysis on select companies in Serbia. Econ. Agric., 64: 561-570.

Bassey, N.E., A.J. Akpaeti, I.K. Ikpe and U.J. Udo, 2013. Analysis of the determinants of capital structure: Evidence from unlisted agro-based firms in Nigeria 2005-2010. Agric. Sci., 1: 36-47.

Brigham, E. and L. Gapenski, 1996. Financial management. Strategic Manage. J., 17: 713-728.

Chen, J. and R. Strange, 2005. The determinants of capital structure: Evidence from Chinese listed companies. Econ. Change Restruct., 38: 11-35.

Eluyela, D.F., D.T. Adetula, O. Oladipo, T.I. Nwanji and O. Adegbola *et al.*, 2019. Pre and post adoption of IFRS based financial statement of listed small medium scale enterprises in Nigeria. Intl. J. Civ. Eng. Technol., 10: 1097-1108.

Esperanc, A.J.P., A.P.M. Gama and A.G. Mohamed, 2003. Corporate debt policy of small firmsan empirical examination. J. Small Bus. Enterprise Dev., 10: 62-80.

Fischer, E.O., R. Heinkel and J. Zechner, 1989. Dynamic capital structure choice: Theory and tests. J. Finance, 44: 19-40.

Ghazouani, T., 2013. The capital structure through the trade-off theory: Evidence from Tunisian firm. Int. J. Econ. Financial Issues, 3: 625-636.

Hall, G.C., P.J. Hutchinson and N. Michaelas, 2004. Determinants of the capital structures of European SMEs. J. Bus. Finance Account., 31: 711-728.

Iwarere, H.T. and G.T. Akinleye, 2010. Capital structure determinants in the Nigerian banking industry: Financial managers` perspectives. Pak. J. Social Sci., 7: 205-213.

Jalilvand, A. and R.S. Harris, 1984. Corporate behavior in adjusting to capital structure and dividend targets: An econometric study. J. Finance, 39: 127-145.

Lawal, A.I., M.I. Oloye, A.O. Otekunrin and S.A. Ajayi, 2013. Returns on investments and volatility rate in the Nigerian banking industry. Asian Econ. Financial Rev., 3: 1298-1313.

Lawal, A.I., T.I. Nwanji, I.J. Adama and A.O. Otekunrin, 2017. Examining the Nigerian stock market efficiency: Empirical evidence from wavelet unit root test approach. J. Applied Econ. Sci., 12: 1680-1689.

Margaritis, D. and M. Psillaki, 2007. Capital structure and firm efficiency. J. Bus. Finance Accounting, 34: 1447-1469.

Marsh, P., 1982. The choice between equity and debt: An empirical study. J. Finance, 37: 121-144.

Miller, M.H., 1977. Debt and taxes. J. Finance, 32: 261-275.

Modigliani, F. and M.H. Miller, 1958. The cost of capital, corporation finance and the theory of investment. Am. Econ. Rev., 48: 261-297.

Modigliani, F. and M.H. Miller, 1963. Corporate income taxes and the cost of capital: A correction. Am. Econ. Rev., 53: 433-443.

Myers, S. and N. Majluf, 1984. Corporate financing and investment decisions when firms have information that investors do not have. J. Financial Econ., 13: 187-221.

Myers, S.C., 1984. The capital structure puzzle. J. Finance, 39: 574-592.

Otekunrin, A.O., F.F. Asamu, O.O. Oye and J.K. Olowookere, 2018c. Current market price of share capital and profitability of selected firms on nigerian stock exchange. Int. J. Civil Eng. Technol., 10: 1274-1287.

Otekunrin, A.O., F.O. Iyoha, U. Uwuigbe and O.R. Uwuigbe, 2017. Adoption of international financial reporting standard, capital structure and profitability of selected quoted firms in Nigeria. Proceedings of the 29th International Business Information Management Association Conference on Education Excellence and Innovation Management through Vision 2020: From Regional Development Sustainability to Global Economic Growth, May 3-4, 2017, Vienna, Austria, pp: 3788-3796.

Otekunrin, A.O., T.I. Nwanji and B.O. Obasaju, 2018d. Capital structure and profitability of selected agriculture and agro-allied firms on nigerian stock exchange: Post international financial reporting standard analysis. Int. J. Civil Eng. Technol., 9: 1615-1625.

Otekunrin, A.O., T.I. Nwanji, J.K. Olowookere, B.C. Egbide and S.A. Fakile et al., 2018a. Financial ratio analysis and market price of share of selected quoted agriculture and agro-allied firms in Nigeria after adoption of international financial reporting standard. J. Soc. Sci. Res., 4: 736-744.

Otekunrin, A.O., T.I. Nwanji, S.A. Ajayi, F.D. Awonusi and F.D. Eluyela, 2018. Relationship between debt ratio and financial performance of nigerian quoted companies. J. Soc. Sci. Public Policy, 10: 54-70.

Salim, M. and R. Yadav, 2012. Capital structure and firm performance: Evidence from Malaysian listed companies. Proceedings of the International Congress on Interdisciplinary Business and Social Science (ICIBSoS 2012), December 1-2, 2012, STMIK Jibes, Jakarta, Indonesia, pp: 156-166.

Sheikh, N.A. and Z. Wang, 2011. Determinants of capital structure: An empirical study of firms in manufacturing industry of Pakistan. Managerial Finance, 37: 117-133.

Stiglitz, J., 1972. Some aspects of the pure theory of corporate finance: Bankruptcies and takeovers. Bell J. Econ. Manage. Sci., 3: 458-482.

Taggart Jr., R.A., 1977. A model of corporate financing decisions. J. Finance, 32: 1467-1484.

Thamila, K. and K.K. Arulvel, 2013. The impact of the capital structure and financial performance: A study of the listed companies traded in Colombo stock exchange. Merit Res. J. Accounting Auditing Econ. Finance, 1: 106 -117.

Uwuigbe, U. and O.M. Uadiale, 2011. Corporate social and environmental disclosure in Nigeria: A comparative study of the building material and brewery industry. Intl. J. Bus. Manage., 6: 258-264.

Uwuigbe, U., O.R. Uwuigbe, E. Igbinoba, J. Olugbenga and O. Adegbola, 2016. The effect of financial performance and board size on corporate executive compensation: A study of selected listed banks in Nigeria. J. Internet Bank. Commerce, Vol. 21.

Vatavu, S., 2015. The impact of capital structure on financial performance in Romanian listed companies. Procedia Econ. Finance, 32: 1314-1322.

Voulgaris, F., D. Asteriou and G. Agiomirgianakis, 2004. Size and determinants of capital structure in the Greek manufacturing sector. Intl. Rev. Appl. Econ., 18: 247-262.