CAPITAL STRUCTURE AND FIRM FINANCIAL PERFORMANCE IN NIGERIA: EMPIRICAL EVIDENCE OF THE CAUSAL LINK

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Abstract: *The paper examines the link between capital structure and firm financial performance in Nigeria on basis of panel research design with secondary data spanning 2010-2014 financial year for seventy (75) sampled companies quoted in the Nigerian Stock Exchange was analysed. The data estimation technique was the 2SLS which is suitable in study perceived not be devoid of endogeneity. The result revealed that leverage as proxy by ratio of noncurrent liability to equity (NCLEQ) seems not to exhibit causality with financial performance (RETOA) vice-versa. However, there seems to be the presence of bidirectional causality between current liability expressed as a ratio to equity (CULEQ) and RETOA. Also, there is simultaneous causal link between Equity express as a ratio to overall assets (EQTTA) and RETOA. The study therefore concludes that capital structure (CULEQ and EQTTA) determines financial performance (RETOA) while simultaneously, financial performance determines capital structure in Nigeria. The study recommends that firms should have apposite capital structure mix, specifically ratio of NCLEQ to CULEQ and a good spread of both institutional and insider shareholdings.*

Keywords: *Leverage, equity, financial performance, bidirectional causality.*

1. Introduction

Corporate financing is an imperative decision made in financial management because it ultimately affects wealth of shareholders. One of the ways financial managers can maximize the financial performance of firms is by using lower cost of capital in its capital structure (Shah and Khan, 2007). Capital structure refers to the various sources of fund, debt or equity firms used in financing its operations. It is the proportion of debt and equity used by firms in financing their operations (Alfred, 2007).

A reasonable proportional use of both sources reflects sound financial fitness which enhances financial performance, thus having a ripple effect in the economy. Financial managers strive to find the optimal capital structure, both in the short and long run (Tong and Green, 2005). The task of maximizing the firm financial performance can be achieved to a large extent once financial mangers identify the determinants of its capital structure, i.e. the cost associated with each class of fund. Debt holders have contracts (bonds) that have fixed interest charge in the future in exchange for their cash invested while equity holders provide retained earnings (internal equity provided by existing shareholders) or procurement of new shares (external equity provided by new shareholders) in return for claims on the residual earnings of the firm in the future.

Each of these investors is faced with varying degree of risk and as such expect different rate of return on fund provided. Knowledge of cost of capital and how it influence some key variables like financial leverage is useful in designing the firm's debt policy/capital structure. An optimum capital structure mix enhances financial performance and shareholders wealth. For instance, a firm with high debt capital structure enjoys tax shield although with a fixed interest charge compared to capital structure with high equity base which does not enjoy tax shield.

Giving the argument that optimum capital structure drives financial performance, it follows therefore that financial performance could also drive capital structure mix. For instance, retained earnings from a huge profit base in successive boom period becomes a key internal source of fund for companies thus alleviating interest on debt financing and a

charge on earnings (external equity provided by new shareholders) that would ordinarily had occurred from an external source of fund.

To the best of our knowledge, few studies have attempted this simultaneous approach but however restricted to equity ownership, and some were developed nation based (AL Farooque et al., 2014; Loderer and Martin, 1997; Demsetz and Villalonga, 2001; Cho, 1998). Generally, prior researches do not take into account the possibility of financial performance impacting capital structure mix. If an optimal capital structure drives financial performance, failure to take the reverse causality into account may result in simultaneous-equations bias.

The study seeks to evaluate the nature of causal link between capital structure and firm financial performance in Nigeria. The specific objectives are to: examine the existence of causal link between financial leverage and financial performance in listed firms in Nigeria; and to investigate the existence of causal link between equity ownership and financial performance in listed firms in Nigeria. Hence, we hypothesized *absence of causal link between financial leverage and firm financial performance in listed companies in Nigeria and also absence of causal link between equity ownership and firm financial performance in listed companies in Nigeria.*

The paper proceed as follows: preceding the introduction is section 2 which is on literature review; Section 3 is on the methodology of the study, section 4 is on estimation of results, hypotheses testing and discussion of findings while section 5 concludes the study.

2. Empirical Review of Literature

Several studies exists for both in the developed and developing economies in identifying optimum capital structure determinants (Amah and Ken-Nwachukwu, 2016; Ameen and Shahzadi, 2017; Banafa and Ngugi, 2015; Graham and Harvey, 2001; Khan, 2012; Khalaf, 2013; Lawal et al., 2014; Mazur, 2007; Mwangi and Birundu, 2015; Umar, Tanveer and Aslem, 2012; Shah and Khan, 2007; Tong and Green, 2005; Uwuigbe and Olusanmi, 2012; Wellalage and Locke, 2014; Zakaria and Purhannudin, 2014). These potential drivers of capital structure mix have a ripple effect on the firm financial performance, thus a nexus between capital structure and firm financial performance.

Capital Structure

Capital structure means the proportionate use of debt and equity in financing organization operation (Kennon, 2010). These sources of fund include equity and liabilities which are presented in the statement of financial position. Huang and Vu Thi (2003) classified these sources of fund into: retained earnings (internal equity); issuing new shares (external equity); and borrowing through debt instruments (debt capital). The proportion of each of these components has enormous impact on the success of the firm.

The impact of this capital structure mix on firm financial performance can be evaluated on the basis of the benefits and cost associated with each component of fund. Premised on this, managers are often saddled with a daunting task of designing appropriate capital structure mix which will maximize the firm financial performance. According to Myer and Majluf (1984), management often takes into consideration all means of financing available having in mind the least expensive source.

The relevance of an optimum capital mix was also emphasized by Chowdhury and Chowdhury (2010) when they opined that in order to maximize the firm value, profitability and shareholders wealth, suitable mix between debt and equity financing cannot be undermined. The findings of empirical research on the impact of these capital structure components on firm financial performance have been mixed, however each of these findings have implication for policy formulation.

Firm Financial Performance

A firm remains in operation because it is expected to make profit (financial performance). Thus, the excess of income generated over expenses incurred in a given period could be construed as financial performance (Banwo, 1997; Sanni 2006) as cited in Aremu, Ekpo, Mustapha (2013). The fundamental requirement is that the income and expenses must occur during the same period of time (matching concept) and such income must be a direct consequence of the expenses.

It is not immaterial whether or not the income has been received in cash nor is it compulsory that the expenses must have been paid in cash. For a profit-oriented organisation, profit is the ”soul” of a business. The importance of profitability therefore stems from its being the ”ralson d etre” (purpose) of business.

According to Aremu et al. (2013), Ongore and Kusa (2013), Alper and Anbar (2011), there are several indicators of profitability: return on asset (ROA), return on equity (ROE) and net interest margin (NIM) etc. However, there exist conflicting views among scholars on the acceptability of one indicator over the other as a good measure of profitability. For instance, Flamini, Mcdonald and Schumacher (2009) used only ROA while Sanni (2009) used Earnings per share (EPS).

Ogunleye (1995) did not believe that one performance indicator constitute a good measure of profitability, therefore used ROA and ROE. According to Akinola (2008), profitability measures include profit before tax (PBT), profit after tax (PAT), ROE, rate of return on capital (ROC) and ROA. Having given a list of profit indicators by previous researcher, it becomes clear that their choice of profitability measures could be determined by several factors.

For instance, ROA as defined by Golin (2001) cited in Ameur and Mhiri (2013) is the ratio of net profit to total assets and it measures the managerial ability of firms' management to generate income by utilizing company assets at their disposal, i. e. it shows how efficiently the resources of the company are used to generate income. It reflects how efficient the management of a company in generating net income from all the resources of the institutions (Khrawish 2011) as cited in Ongore and Kusa (2013).

Wen (2010) stated that a higher ROA shows that the company is more efficient in using its resources. However, many factors can influence ROA such as firm's degree of capitalization. ROA favours highly capitalized institutions because it treats equity capital as free funds-there is no cost associated with them. Premised on this limitation, ROA could be combined with other measures of financial performance.

Return on equity (ROE) is profit earned compared to the total value of shareholders equity (Ongore and Kusa, 2013). According to Ameur and Mhiri (2013), ROE is the ratio of net profit to total equity; it represents the rate of return earned on the funds invested in the firm by its shareholders. It reflects how effectively a firms' management is using shareholders fund; it is what the shareholders look in return for their investment.

A business that has a high return on equity is more likely to be one that is capable of generating cash internally. However, it should be noted that ROE is not flawless because a disproportionate amount of debt in a company's capital structure would translate into a smaller equity base. Thus, a small amount of PAT could still produce a high ROE off a modest equity base. Due to its inherent defect, this profit measure should be used in combination with other profit measure. Having enumerated the various profitability measures used in previous studies as mentioned above, this study will adopt three measures of financial performance: ROA, ROE and Tobin Q.

The choice of Tobin Q is that it is a forward looking market/hybrid measure of financial performance. The justification for the combination of three proxies is to avoid the pitfalls associated with only one financial performance indicator.

Leverage and firm financial performance

Financial leverage is level operating assets are financed with debt versus equity (Penman, 2001). Debt financing has a mandatory call on firm's cash by means of interest payment and principal repayment. The mandatory call on debt financing is represented by cost of borrowed fund which should be adequately covered by the firm earnings capacity.

The greater a firm's leverage, the greater the bankruptcy risk in down times thus the greater the profits in good time for equity provider. The findings of leverage on financial performance is mixed. Specifically, the study of Rehman (2013) indicated that as debt financing increases, there is a corresponding rise in fixed interest cost, thus undermining profit. In same vein, the study of Rajin (2012) corroborates the findings of both Rehman (2013) and Akhtar et al. (2012).

Using shareholders return and market capitalization as performance indices, the study revealed that leverage and shareholders return exhibit positive relations while leverage and market capitalization had a negative relationship. Other studies that corroborate positive relationship between leverage and financial performance are: Hadlock and James (2002), Ghosh and Jain (2000), Berger and Bonaccorsi (2006). The reason adduced to this unexpected result is that as debt level increases due to the introduction of new capital by borrowings, firms are able to utilize these borrowed funds to the extent that the gains exceed the expected cost of such fund (Hutchinson, 1995).

However, to Hadlock and James (2002), flexibility at which firms adjust its debt usage in down time also determines the impact it will have on earnings. For instance, when a capital structure is over burdened with long term borrowings, it may become difficult to adjust its debt usage within a relatively short time should there be decline in its earnings power, thus interest cost exhibiting a constrain on earnings.

Conversely, if there is moderate debt mix over a relatively short period, decline in earnings power during down time will only short-lived because most of these firms will fully come to terms with the need to properly position by adjusting its debt usage, thus restoring the balance between cost of debt and earnings power.

The study by Male and Mukra (2015) revealed that leveraged exhibits significant negative impact on both ROA and Tobin's Q while insignificant negative impact of ROE. Other studies that affirms this association are: Vito and Badu (2012); Zeitun and Tian (2007). From the review, it is well observed that most studies have not examined if a firm financial performance can as well determines its capital structure mix (financial leverage).

Equity and Firm Financial Performance

The effect of equity on financial performance could be likened to the effect of ownership structure on firm financial performance. Equity financing refers to share ownership which is atomistic in nature. It could be highly dispersed or concentrated i.e. in the former, there are many owners with few holding few unit of shares unlike the latter in which there are few shareholders with each having large unit of shareholdings (institutional shareholdings).

Gursory and Aydojan (2002) also gave two dimensions to this type of ownership: ownership concentration which refers to the share of the largest owner and it is influenced by absolute risk and minority cost (Pederson and Thomsen, 1999); and ownership mix which refers to the identity of major shareholder's. Irrespective of the nature of equity ownership, prior studies have linked firm financial performance to it though their findings seem not to be in tandem with one another.

Studies such as Loderer and Martin (1997), Demsetz and Villalonga (2001), Bohren and Odegaard (2000), Cho (1998) have examined ownership structure and financial performance from bidirectional approach. Specifically, the study of Loderer and Martin (1997) address the causality between firm value and managerial ownership and the result

from the two stage least square (2sls) regression revealed no significant evidence of managerial ownership on performance, in contrast performance exhibits a negative effect on executive stockholdings.

Demsetz and Villalonga (2001) also address this issue, financial performance and ownership relationship using the 2sls estimation technique. The result revealed no statistical association between managerial ownership and performance, on the other hand performance exhibit significant negative impact on managerial ownership. In same vein, Bohren and Odegaard (2000) lay claim to the findings of Loderer and Martin (1997) and Demsetz and Villalonga (2001).

The study employed secondary data sourced from the Norwegian Stock Exchange. The 2SLS result reveals that financial performance drives ownership structure but not vice versa. Other studies of similar result were Fernandez and Gomez (2002), Firth, Fung and Rui (2002), Agrawal and Knoeber (1996).

Other studies such as Aburime (2010), Kiruri (2013), Raji (2012) appraised the link between equity ownership and financial performance from an exogenous perspective. For instance, Aburime (2010) investigated the impact ownership structure has on bank profitability in Nigeria. Data set of 478 observations consisting of 98 commercial and merchant banks spanning (1989-2000) were evaluated using the ordinary Least Square estimation technique. The finding revealed that the composition and spread of ownership has no significant impact on bank profitability in Nigeria.

Kiruri (2013) study revealed that both ownership concentration and state ownership had significant negative impact on bank profitability while both foreign ownership and domestic ownership had positive and significant effect on bank profitability. Raji (2012) investigated the impact of ownership structure on the performance of listed companies on the Ghana Stock Exchange and results indicate that ownership concentration exhibits significant negative association with firm performance while insider ownership exhibits positive relationship on performance.

3. Theoretical Framework

There are many theories that help explain the relationship between capital structure and financial performance such as the Modigliani-Miller (MM) proposition on capital structure in 1958, the trade-off theory by Myers (1984), the Pecking Order theory as first proposed by Donaldson (1961) and later modified by Myers and Majluf (1984). Arguments exist over the years as to the superiority of these theories; however, there is no universal theory of the debt-equity choice, and no reason to expect one reoriented research to the level of empirical analyses (Myers, 2001).

Modiglianni-Miller Theory

This theory holds that capital mix does not impact firm value under perfect capital market condition i.e. without taxes, transaction cost and information asymmetry (Modiglianni and Miller, 1958). However, to ignore these assumptions in reality is not flawless, hence with these assumptions, capital structure decision affect firm financial performance (Sheikh & Wang, 2010).

According to Danso and Adomako (2014), these assumptions are only theoretical and do not hold in reality. Premised on the above, Miller and Modiglianni (1963) and Miller (1977) further addressed this issue when they opined that under some conditions such as preferential treatment of debt to equity, an ideal capital structure can be achieved, hence their new stand is called the realist theories of capital structure. This realist theory led to the trade-off, pecking order and market timing theories.

The Trade-Off and Pecking Order Theories

To Trade-off theory an optimal capital structure is attained when the present value of tax shields from debt usage is more than the present value of cost of financial distress associated with debt usage, hence firm value is improved. According to Shahar, Shahar, Bahari, Ahmad, Fistal, Rafdi (2015), firm value is given thus: V(firm) = V+PV(interest tax shields)-PV(cost of financial distress). This position is supported by Chen (2011) who upholds that firm with more tax shields will issue more debt to finance its business operation and that they tend to be trade-off between the benefit from tax shields and the financial distress risk resulting from debt usage.

The pecking order theory states that companies prioritize their sources of financing (from internal financing to equity) according to the principle of least effort, or of least resistance, preferring to raise equity as a financing means of last resort (Danso and Adomako, 2014; Sheikh and Wang, 2010). With this theory, firm first choose to employ internal finance like reserves and retained earnings, debt, equity and that company maximize their value by choosing to finance new investment with cheapest available sources of fund (Sheikh and Wang, 2010).

To Myers and Majluf (1984), the choice of internal sources of financing is also to resolve the issue of information asymmetry. This position was supported by Mostafa and Boregowda (2014) that firm rely on internal sources because of likely absence of information asymmetry compared to debt and equity usage that has higher cost of information asymmetry.

Model Specification

The models for this study are based on the study of Al Farooque, Zijl, Dunstan and Karim (2007). The models for this present study are specified below:

Financial Performance Equation

RETOA/RETOE/Tobin's Q = f(financial leverage, equity, firm-size) (3.1)

Financial leverage is further decomposed into debt to equity ratio and was captured in two forms in line with Tong and Green (2005): noncurrent debt liabilities (NCLEQ) and current debt liabilities (CULEQ) both expressed as a ratio to total equity. Equity was taken as a ratio of total equity ownership to total assets (EQTTA).

RETOA/RETOE/Tobin's Q= f(NCLEQ, CULEQ, EQTTA, FIRM-SIZE) (3.2)

The Pooled econometric form of the model is stated thus:

$$RETOA_{it} / RETOE_{it} / Tobin's\ Q_{it} = \beta_1 + \beta_2 NCLEQ_{it} + \beta_3 CULEQ_{it} + \beta_4 EQTTA_{it} + \beta_5 FIRM\text{-}SIZE_{it} + \mu_{it} \quad (3.3)$$

Apriori signs: $\beta_2 > 0$; $\beta_3 > 0$; $\beta_4 > 0$; $\beta_5 > 0$. The justification for the apriori signs is based on the findings of prior empirics on capital structure and financial performance. Financial performance is proxy by RETOA, RETOE and Tobin's Q while capital structure is proxy by financial leverage and equity ownership while firm size is a control variable. Hence, RETOA/RETOE/Tobin's Q is RETOA means return on asset expressed as a ratio of net profit after tax to total asset while RETEO means return on shareholders' expressed as a ratio of net profit after tax to equity ownership (Ameur and Mhiri,2010).

Tobin;s Q' expressed as ratio of the sum of market value of equity, preference share and debt to total assets (Lindenberg and Ross,1981); β_1 is mean value of the intercept of the entire cross sections; NCLEQ is noncurrent liability as a ratio of equity ownership; CULEQ is current liabilities as a ratio of equity ownership; EQTTA is equity ownership as a ratio of total assets Ameen and Shahzadi, 2017); FIRM-SIZE is firm size proxy by total assets; i^{th} is cross section; t is time; μ_{it} is error time considering both cross section and time dimension.

Capital Structure Equation

NCLEQ /CULEQ /EQTTA=f(RETOA,RETOE, Tobin's Q, FIRM-SIZE) (3.4)

The Pooled econometric form of the model is stated thus:

$NCLEQ_{it}$ / $CULEQ_{it}$ /$EQTTA_{it}$ = β_1 + β_2 $RETOA_{it}$ + β_3 $RETOA_{it}$ + β_4 Tobin's Q_{it} + β_4 $FIRM\text{-}SIZE_{it}$ + μ_{it} (3.5)

Apriori signs: $\beta_2 > 0$; $\beta_3 > 0$; $\beta_4 > 0$

Research Methodology

The study made use of the panel research design. It is suitable for study of this nature because it has both cross section and time series research design properties. Secondary data spanning 5 years (2010-2014) for seventy five (75) sampled non-financial companies was sourced from the Nigerian Stock Exchange (NSE) as at December, 2014. The population consist of all one hundred and nine (109) nonfinancial quoted companies in the NSE as at December, 2014.

A sample size of eighty five (85) was derived using the Yamane (1967) formula as cited in Israel (1992). However, the sample sizes of eight five (85) companies were reduced to seventy five (75) companies due to accessibility annual report. The data set was analysed using two stage least square (2sls) estimation technique.

The 2SLS is best suited for this study because of the structural equation nature of the model i.e. existence of feedback loops in the model which could lead to the dependent variable's error term correlating with the independent variables making the OLS estimates biased. Premised on this, the 2sls is favoured ahead of the OLS estimation technique.

4. Estimation Results and Discussions

Table 1 shows the descriptive statistics for variables. In financial performance equation, three proxy Tobin Q, RETOA and RETOE were all used as the dependent variables. The descriptive indicators for each is as follow: Tobin Q mean is 2.133889, STD is 3.833206 which shows weak dispersions of some observations from the mean and less considerable variations reflecting the heterogeneity of our sample cutting across industrial groupings with max and min value of 50.37000 and 0.340000 respectively.

RETOE mean is 9.925667, STD is 90.27259 which shows strong dispersions of most of the observations from the mean and a considerable variations reflecting the heterogeneity of the sample data cutting across industrial groupings with max and min value of 905.4200 and -981.3700 respectively; and RETOA mean is 4.629333, STD is 13.46295 which shows weak dispersions of some observations from the mean and less considerable variations reflecting the heterogeneity of the sample data cutting across industrial groupings with max and min value of 89.54000 and -101.4200 respectively.

Table no. 1 Descriptive Statistics

Variables	TOBIN	RETOE	RETOA	NCLEQ	CULEQ	EQTTA	FISIZE
Mean	2.133889	9.925667	4.629333	49.95081	144.7880	42.50678	4.058000
Std. Dev	3.833206	90.27259	13.46295	108.6256	413.1178	29.35900	0.736622
Maximum	50.37000	905.4200	89.54000	1021.300	3908.300	353.1500	5.990000
Minimum	0.340000	-981.3700	-101.4200	-542.0600	-4024.570	-124.110	2.64000
Jarque-Bera	165865.1	98325.07	5256.159	12626.45	58799.13	21096.32	10.48963
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.005275
Observations	360	360	360	360	360	360	360

Source: Authors' Results from E-view 7

In capital structure equation, three proxy were used (NCLEQ, CULEQ and EQTTA), the descriptive measurements for each as presented above is explained thus: NCLEQ mean is 49.95081, STD is 108.6256 which shows strong dispersions of some

observations from the mean and a considerable variations reflecting the heterogeneity of the sample data cutting across industrial groupings with max and min value of 1021.300 and -542.0600 respectively.

CULEQ mean is 144.7880, STD is 413.1178 which shows strong dispersions of most of the observations from the mean and a considerable variations reflecting the heterogeneity of the sample data cutting across industrial groupings with max and min value of 3908.300 and -4024.570 respectively; and EQTTA mean is 42.50678, STD is 29.35900 which shows weak dispersions of some observations from the mean and less considerable variations reflecting the heterogeneity of our sample data cutting across industrial groupings with max and min value of 353.1500 and -124.1100 respectively.

Firm size (FISIZE) and the descriptive statistic shows: FISIZE mean is 4.058000, STD is 0.736622 which shows weak dispersions of some observations from the mean and less considerable variations reflecting the heterogeneity of our sample cutting across industrial groupings with max and min value of 5.990000 and 2.640000 respectively. The variables were normally distributed as reflected in the Jackque-Bera statistical probability values being less than 0.05.

Table no. 2. Correlation Matrix

Pearson Moment

Correlation t-Statistic	TOBIN	RETOE	RETOA	NCLEQ	CULEQ	EQTTA	FISIZE
TOBIN	1.000000						

RETOE	-0.057435	1.000000					
	-1.088521	-----					
RETOA	0.042474	0.444990	1.000000				
	0.804376	9.401753	-----				
NCLEQ	-0.065550	-0.218214	-0.051507	1.000000			
	-1.242930	-4.230762	-0.975857	-----			
CULEQ	0.008113	-0.583119	-0.054316	0.310000	1.000000		
	0.153512	-13.58111	-1.029218	6.169397	-----		
EQTTA	0.028174	0.015515	0.498515	-0.219509	-0.148529	1.000000	
	0.533287	0.293595	10.88077	-4.257136	-2.841815	-----	
FISIZE	0.080425	0.018733	0.139553	0.239680	0.073184	-0.116288	1.000000
	1.526660	0.354509	2.666554	4.671120	1.388422	-2.215306	-----

Source: Authors' Results from E-view7

Table no. 2 is the correlation matrix of the dependent and explanatory variables in the two equations. Included observations are 360 after adjustments with a balanced sample. In both equations, proxies correlate with each other as follows: NCLEQ (Tobin=-0.066; RETOE=-0.218; RETOA= -0.052); CULEQ (Tobin=0.008; RETOE= -0.583; RETOA=-0.054); and EQTTA (Tobin= 0.028; RETOE= 0.016; RETOA=0.499).

However, the direction of correlation were not the same for all as some exhibit positive while others negative. A careful observation of the correlation among these set of proxy seems not to be high (less than 0.8) which implies that the problem of multicollinearity seems to be unlikely. The study now proceeds to estimate the 2sls regression.

Analysis of Regression Result

Result of estimation from the 2sls for both financial performance equation and capital structure equation is presented below:

Table no. 3. Results of Financial Performance Equation

	ROA	Comment	ROE	Comment	Tobin Q	Comment
NCLEQ	-0.001836 (0.7633)	Absence of causality	-0.043852 (0.2587)	Unidirectional causality	-0.001901 (0.3401)	Absence of causality
CULEQ	-0.00545* (0.0007)	Bidirectional causality	-0.114441* (0.0000)	Bidirectional causality	0.000401 (0.4334)	Absence of causality
EQTTA	0.250633* (0.0000)	Bidirectional causality	-0.239855 (0.0672)	Unidirectional causality	0.008413 (0.2207)	Absence of Causality
R-squared	0.427142		0.356421		0.013831	
Adjusted R-squared	0.418911		0.347175		0.228208	
Durbin-Watson stat	2.146559		1.999317		1.784805	
Instrument Rank	12		12		12	
J-statistic	166.1625* (0.000000)		189.3257* (0.000000)		7.098632 (0.311822)	
*sig at 5% level of significance						

Source: Authors' Results from E-view 7

Table no. 3 above shows the result of financial performance equation. Specifically, it shows the impact of capital structure on firm financial performance. Three proxy of financial performance were used and the result revealed: the R-squared (RETOA= 0.43; RETOE=0.36; Tobin Q=0.014) which indicate the extent of variation in the dependent variable due to changes in the independent variable. However the Adjusted R-squared values differ slightly (RETOA=0.419; RETOE= 0.347; Tobin Q= 0.228).

The Durbin-Watson statistic values indicate the presence or absence of autocorrelation in the model. According to Durbin and Watson (1951), DW statistic of approximately 2 indicate that the presence of autocorrelation in unlikely and result attest to this claim RETOA=2.14; RETOE=2.00; Tobin Q= 1.78).

The instrument rank is 12 while the J-statistical probability values for both RETOA and RETOE indicate significant relationship between the dependent variable and the independent variable, however for Tobin Q, it appears insignificant. On the specific performance of the explanatory variables, NCLEQ is negatively related to all the performance indices and also insignificant at 5% level of significance (RETOA=0.7633>0.05; RETOE=0.2587>0.05; Tobin Q=0.3401>0.05).

CULEQ is significantly related with RETOA and RETOE with negative relationship (RETOA=0.0007<0.05; RETOE=0.000<0.05) while it exhibit insignificant positive impact with Tobin Q (0.433>0.05). Finally, EQTTA a positive significant influence on RETOA (0.000<0.05) while insignificant impact with both RETOE and Tobin Q (RETOE=0.0672>0.05; Tobin Q=0.2207>0.05) with both negative and positive relationship respectively.

Table no. 4. Capital structure equation

	NCLEQ	Comment	CULEQ	Comment	EQTTA	Comment
ROA	0.013831 (0.9761)	Absence of causality	5.088557* (0.0000)	Bidirectional causality	1.559392* (0.0000)	Bidirectional causality
ROE	-0.30036* (0.0000)	Unidirectional causality	-2.66409* (0.0000)	Bidirectional causality	-0.07525* (0.0000)	Unidirectional causality
Tobin Q	-2.113346 (0.1501)	Absence of causality	-2.004752 (0.6058)	Absence of causality	0.276040 (0.4158)	Absence of causality
R-squared	0.300883		0.643774		0.479990	
Adjusted R-squared	0.290692		0.638581		0.472582	
Durbin-Watson stat	1.990474		1.921410		2.095145	
Instrument Rank	10		10		10	
J-statistic	7.047576 (0.133395)		3.474470 (0.481771)		7.386848 (0.116804)	
*sig at 5% level of significance						

Source: Authors' Results from E-view 7

Table no. 4 above shows the result of capital structure equation. Specifically, it shows the impact of financial performance on firm capital structure decision. Three proxy of capital structure were used and the result revealed: the R-squared (NCLEQ= 0.301; CULEQ=0.644; EQTTA=0.480) which indicate the extent of variation in the dependent variable due to changes in the independent variable. However the Adjusted R-squared values differ slightly (NCLEQ=0.291; CULEQ= 0.639; EQTTA= 0.473).

According to Durbin and Watson (1951), DW statistic of approximately 2 indicate that the presence of autocorrelation in unlikely and result attest to this claim NCLEQ=1.99; CULEQ=1.921; EQTTA= 2.095). The instrument rank is 10 while the J-statistical probability values for the three capital structure indices indicate absence of significant linear relationship between the dependent variable and the independent variables.

On the specific performance of the explanatory variables, RETOA is significantly and positively related to both CULEQ and EQTTA (CULEQ= 0.000<0.05; EQTTA=0.000<0.05) while insignificantly related to NCLEQ (0.9761>0.05). RETOE is significantly and negatively related to NCLEEQ, CULEQ and EQTTA (0.000<0.05) in all the three cases. Finally, Tobin Q does not have significant impact on NCLEQ, CULEQ and EQTTA (0.1501>0.05; 0.6058>0.05; 0.4158>0.05) respectively with differing nature of relationship.

Hypotheses Testing and Discussion of Findings

Measuring financial leverage was measured by two proxy: noncurrent liabilities and current liabilities, the results in both table 3 and 4 were used for the hypotheses testing and discussion of findings. Specifically, giving that the RETOA results seems better in both cases of equation, it form the basis of the hypotheses testing and discussion of findings. On the impact of capital structure on financial performance (RETOA), there appears to be the absence of causality between NCLEQ and financial performance in both directions. This is evidenced by the significant statistic value of 0.7633 and 0.9761 being greater than 0.05 for both cases of NCLEQ on RETOA and RETOA on NCLEQ in table no. 3 and no. 4 respectively.

This implies that noncurrent liabilities have no significant impact on RETOA likewise RETOA having no significant impact on noncurrent liability. Using the second proxy of capital structure (CULEQ), there appears to be bidirectional impact between CULEQ and RETOA. This is evidenced giving that the significant statistic values of

0.0007 and 0.0000 being less than 0.05 for both cases of CULEQ on RETOA and RETOA on CULEQ in tables no. 3 and no. 4 respectively.

In effect, that current liabilities have significant impact on RETOA likewise RETOA having significant impact on CULEQ. The result of the two proxy of financial leverage used in this study seems to be conflicting, however not unlikely. This could be explained against the backdrop that the flexibility of firms to adjust to its debt usage in downtime is very germane. For instance, a firm with high debt usage of noncurrent in nature will find it difficult to adjust in period of downtime thereby the interest fixed charge continues to exert pressure on the already deteriorating profit margin.

However, in case of current liability, there is relative short period for the firm to adjust its debt usage in downtime period thereby restoring the shock associated with poor profit. In essence, the nature of the debt usage is germane for management to act in response to downtime period. This corroborates Hadlock and James (2002) who opined that the flexibility at which firms adjust its debt usage in down time also determines the impact it will have on earnings.

Measuring equity ownership by the ratio of equity holdings to total assets and using EQTTA as proxy for capital structure, there is also the presence of bidirectional impact between equity ownership and financial performance. This is evidence by the significant statistic value of 0.000 and 0.000 being less than 0.05 for both cases of EQTTA on RETOA and RETOA on EQTTA on tables no. 3 and no. 4 respectively.

This infers that equity ownership have significant impact on financial performance likewise financial performance having significant impact on EQTTA, thus the stated null hypothesis cannot be accepted. This study seems to be contrary to prior findings of Loderer and Martin (1997), Demsetz and Villalonga (2001), Bohren and Odegaard (2000) of unidirectional causality. These prior studies opined that performance determines equity ownership; on the contrary, equity ownership does not determine performance. The result of this study points otherwise and it is not unlikely because robust financial performance of firms can have impact on whether firms need to raise additional fund by subscription or not.

A high profit margin of firms implies that there could be reasonable amount of internal source of fund (retained earnings) which could be used for any expansionary drive. This tends to mitigate the further charge on retained earnings if such funds were to be raise from new issues. In same vein, equity ownership drives performance because shareholders specifically institutional shareholders may have invested in the investee for the sole purpose of growth and expansion and as such may not be interested in dividend payment.

Similarly, a firm with reasonable number of insider ownership in the light of aligning the interest of shareholders and management may also crave for firm financial performance which could also account for the impact equity ownership has on performance as revealed by this study. In essence, the bidirectional impact between financial performance and equity ownership is not unlikely as opposed by findings of prior studies cited above.

5. Conclusion and Recommendations

The study evaluated the direction of causality between capital structure and financial performance in Nigeria using the 2 SLS. Financial leverage was proxy by ratio of noncurrent liability to overall assets (NCLEQ) and ratio of current liability to overall assets (CULEQ) while equity ownership was proxy as a ratio of equity shareholdings to total assets (EQTTA). Financial performance indices used in the study were RETOA, RETOA and Tobin Q. However, the study restricted its hypotheses testing to RETOA which

appears better. The result revealed that NCLEQ seems not have causality with RETOA likewise RETOA not having causality with NCLEQ.

Nevertheless, CULEQ exhibits causality with RETOA likewise RETOA having causal link with RETOA. In essence, there is simultaneous causal link between CULE and RETOA. EQTTA exhibits simultaneous causal link with RETOA, i.e. EQTTA determines RETOA and RETOA determine EQTTA. The reason for impact of CULEQ on RETOA hinge on the short time period for which firms can adjust its debt usage to restore deteriorating profit during downtime. Result of EQTTA on RETOA reveals a simultaneous causal link between both.

In the light of this, we recommends that firms should endeavour to have appropriate mixture of debt (noncurrent and current liabilities) usage in order not to have difficulty in adjusting during downtime period. In line with this, the study recommends that firms with high expansionary drive should have more of institutional shareholdings and insider shareholdings which further drive firm financial performance as opposed to heterogeneous equity ownership. Also, internal sources of fund from prior boom period should be plough back rather than holding them as idle fund which could eliminate the additional cost of new issues.

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