



Determinants of Capital Structure and Firm's Performance in Nigeria (1989-2014): An Empirical Investigation Approach.

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Abstract:

The study evaluates the determinants of capital structure and firm's performance in Nigeria (1989-2013). Secondary data were used and collected from the Annual Reports Accounts of PZ Nigeria PLC. Hypotheses were formulated and tested using time series econometrics. The test for stationary proves that the variables used for the analysis are integrated in the order, which implies that the variables do not have unit roots. The coefficient of determination indicates about 58% of the variations in capital structure is explained by changes in firm's performance variables (ROA and ROE). There is also positive long-run equilibrium relationship between capital structure and firm's performance in Nigeria. The error correction estimates gave evidence that the coefficient is statistically significant and the result also confirmed that about 76% short-run adjustment speed from long-run disequilibrium. There is causality between capital structure and firm's performance of PZ PLC in Nigeria. The study thus recommends that, firms should use an optimal capital structure and that listed firms in Nigeria should employ an appropriate capital structure model that meets the corporate long term survival and growth. There should be an effective management of long-term debts and other working capital items in firm's balance sheet. Quoted firms in Nigeria should reduce the debt levels in their capital structures so as to enhance positive performance to the interest of shareholders' and the economy; and government should create an enabling business friendly environment so that business can thrive effectively and will also increase firm's performance level.

Key word: Determinants, capital structure, firm's, performance, Nigeria.

INTRODUCTION

Financing and investment are two major decision areas in a firm (Uremadu and Efobi, 2012). In the financing decision the manager is concerned with determining the best financing mix or capital structure for his firm. Capital structure decision is the mix of debt and equity that a company uses to finance a business (Appah, 2013). Capital structure has been a major issue in financial economics ever since Modigliani and Miller (capital structure is irrelevant) showed in (1958), that given frictionless markets, homogeneous expectations. By relaxing these assumptions and analyzing their effects, capital structure theory seeks to determine whether an optimal capital structure exists or not, and if so what could possibly be its determinants. The relationship between capital structure decisions; and the value of firm have been extensively investigated in the past few decades. According to Desai (2007), capital structure could have two effects. Firms of the same risk class could possibly have higher cost of capital with higher leverage. And also, capital structure may affect the valuation of firm, with more leverage firms, being riskier and constantly valued lower than the less levered firm. If we consider that the manager of a firm has the shareholders' wealth maximization as his objective, then capital structure is an important decision, for it could lead to an optimal mix which maximizes the market price per share of the firm.

The choice of capital structure of a firm is determined by a number of factors which include the market forces, type of industry, internal policies of the firm, size of the firm,

profitability, corporate tax and bankruptcy costs. There have been various schools of thoughts on the relevance of capital structure to a firm's performance and this study intends to examine the impact on basically a selected Nigeria firm. In order to achieve an acceptable result, this study intends to take a case study of PZ Nigeria PLC, a pharmaceutical company which basically is in the private sector of the Nigerian economy. It has been observed that most corporate decisions are dictated by managers. Equity issues are often favored over debt in spite of debt being a cheaper source of fund; even where debts are employed, it is usually on the short term basis. This could be as a result of manager's tendency to protect his undiversified human capital and avoid the performance pressure associated with debt commitment. Since 1987, financial liberalization resulting from the structural adjustment program changed the operating environment of firms. The macroeconomic environment has not been conducive for business while both monetary and fiscal policies of government have not been stable (Ogbulu, 2013).

EMPIRICAL REVIEW

Many empirical studies regarding capital structure have been developed. Firstly, this category is represented by studies which concentrated on the relationship between capital structure and firm value. Although the empirical relationship between debt financing and firm value has indeed been examined extensively in prior studies, one cannot formulate a commonly agreed conclusion. While some studies report a positive relationship, Dalbor et al



(2007), Cheng and Tzang (2011), Sudivat et al (2012), Ratheinasamy et al (2000), Alton & Arken (2011), Ogbulu and Emeni (2012), others report a negative relationship; Agarwal and Zhao (2007), Rayan (2008), and others report a negative correlation for high-growth firms and a positive correlation for low-growth firms Chen, (2002) and Alonso et al (2005). Another category is represented by studies which reviewed factors influencing capital structure choice. Empirical studies proved that capital structure is affected by firm profitability, liquidity, taxes, industry, size, cash-flow or growth opportunities, Fama & French (2002), De Jong et al (2008), Delcours (2007), Dragota et al (2007, 2008) Tong and green (2005), Jiraporn and liu (2008).

These studies review leverage-value relationship at the same time analyzing the determinants of capital structure. Researchers in this category argued that such approach allow to construct the capital structure puzzle more complex Dessi (2003) and Berger and Ghosh (2007). According to Akinsulire (2002), the capital of a company is a stock of money, pooled by a person or a firm, that could be invested, from time to time, in order to earn income, but for which it is intended not to diminish. Uremadu (2004) also sees capital structure of an organization as a pool of funds that the company commits to its fixed assets, to inventories, to account receivables, and to cash or marketable securities that leads to corporate growth and development. An economist sees capital structure as any material or item which can be consumed in the production process to create wealth. These materials or items are said to be factors of production which are usually grouped into; money and machine (Efobi, 2008). The process of choosing an appropriate capital structure should be based on the criteria well drawn up by the finance manager after making a careful financial planning and control for the company (Uremadu, 2004), (Efobi, 2008). In the course of this research it has been observed that there is a relationship between capital structure of a firm and its profitability (Almeida and Campello, 2007) but the relationship vary according to the sources of finance.

According to Almeida and Campello (2007) there a negative relationship between profits and external financing that include debt and equity capital. Graham(2000), is of a contrary view that more profitable firms should rely on external funds like using debt to finance their investments because of tax advantage which they stand to derive from interest repayment on debt. Appah et al (2013) posit that, capital structure affects the liquidity and profitability of a firm; and according to them appropriate capital structure is a critical decision for any business organization. This decision is important not only because of the need to maximize returns to various organizational constituencies, but also because of the impact such a decision on organizations ability to deal with competitive environment (Andabai, 2014). The most difficult task facing firms has to do with the financing whether to raise debt or equity capital. The

issue of finance is so important that it has been identified as an immediate reason for business failing to start in the first place or to progress. From the foregoing, it is therefore important to understand how firms financing choice affects their performance. It is evidently clear that both internal (firm specific) factors and external (macroeconomic) factors could be very important in explaining the performance of firms in an economy; thus, the central point of this study is to assess the effect of capital structure on firm's performance Andabai, (2014).

THEORETICAL FRAMEWORK

There had been a lot of studies that have been carried out to examine the theory of capital structure; however the theoretical framework underlying this study is the Modigliani and Miller (MM) theory (1958). The theory states that under certain key assumptions, firm's value is unaffected by its capital structure. Capital market is assumed to be perfect in Modigliani and Millers theory, where insiders and outsiders have free access to information; no transaction cost, bankruptcy cost and no taxation exist; equity and debt choices becomes irrelevant and internal and external funds can be perfectly substituted. The Modigliani and Miller, commonly referred to as (MM) theory argued that the value of a firm should not depend on its capital structure, the theory went on to say that a firm should have the same market value and the same weighted average cost of capital at all capital structure levels because the value of a company should depend on the return and risks of its operation and on the way it finances those operations. Modigliani and Miller further said that if these key assumptions are relaxed, capital structure may become relevant to the firm's value. So, research efforts have been contributed to relaxing the ideal assumptions and describing the consequences. This theory was criticized on the bases that perfect market does not exist in real world. After the Modigliani and Miller studies, several theories have emerged.

Myers (1984) proposed the Static Trade-off theory that supports the importance of capital structure. This theory suggests that firms have optimal capital structure and they move towards the target. It went further to emphasize that when debt is employed in capital structure, firms are faced with the challenge of tax benefits and bankruptcy cost thus the need for trade-off between the two. Based on the trade-off theory, the firms with high growth opportunities should borrow less because it is more likely to lose value in financial distress. This is because trade-off theory predicts that safe firms i.e. firms with more tangible assets and more taxable income to shield, should have high debt ratios. While risky firms i.e firms with more intangible assets that the value will disappear in case of liquidation, ought to rely more on equity financing. In terms of profitability, trade-off theory predicts that more profitable firms should mean more debt-serving capacity and more taxable income to shield;



therefore, a higher debt ratio will be anticipated. According to this theory propounded by Modigliani and Miller (1958), if firms are more profitable they prefer debt financing as compared to equity (2007): (i) if a firm has a low profit than there exists greater chances of bankruptcy, (ii) so if the firm takes more debts there are chances that it is bankrupt and as a result of this, investors cannot have trust on it. On the other hand if a firm has more profits than exist less chances of bankruptcy so that investors' trust rises and the firm tends to earn more profits, (iii) the agencies cost which has to be borne by investors is a cost in form of interest rate because creditors always check the position of the company and monitor the management. So, if a firm has a good image that it can get loan at a lower cost because creditors are not worried about bankruptcy and their agency cost is very low, it can acquire more debts and (iv) more debt in a firm's capital structure allows for more tax benefits as their tax liabilities become lower and even in some cases it is waved off.

Another theory is the Pecking order theory by Myers (1984). The theory states that companies prioritize their sources of finance (from internal financing to equity). Hence internal funds are used first, and when that is depleted. This theory maintains that business adhere to a hierarchy of financing sources. The Pecking order theory does not take an optimal capital structure as a starting point, but instead asserts the empirical fact that firms show a distinct preference for using internal finance (as retained earnings or excess liquid assets) over external finance. If internal funds are not enough to finance investment opportunities firms may or may not acquire external financing, and if they do, they will choose among the different external finance sources in such a way as to minimize additional cost of asymmetric information. In Myers and Majluf (1984) model states that, outside investors rationally discount the firm's stock price when managers issue equity instead of riskless debt. To avoid this discount, managers avoid equity whenever possible. The model predicts that managers will follow a Pecking order, using up internal funds first, then using up risky debt, and finally resorting to equity. In the absence of investment opportunities, firms retain profits and build up financial slack to avoid having to raise external finance in the future. From the perspective of Traditional Theory, they are of the opinion that debt capital is cheaper than equity and that as such a company can increase its value by borrowing up to a reasonable limit.

The Traditionalist Theory assumes the following: (i) the cost of debt will remain constant until a significant point is reached when it would start to rise and the weighted average cost of capital (WACC) will fall immediately an external source of finance is introduced and will commence rising thereafter as the level of gearing increase; (ii) the company's market value and the market value per share will be maximized where WACC is the lowest point; (iii) this theory believes that there is an optimal capital structure which maximizes the firm's value and minimizes the cost of

capital; (iv) it is the belief that the firm's value cannot be the same at different levels of capital structure. Amidst all these different shades of conceptual views on the effect of capital mix on corporate performance, therefore, the central issue before a financial manager is to determine the appropriate mix between equity and debt for his firm. The mix of debt and equity is known as the firm's capital structure. A financial manager must strive to achieve structure for his or her firm; this is, the capital structure which would maximize the market value of the firm's share and at the same time issue adequate liquidity (Uremadu, 2009). The use of debt affects firm's return and risk to shareholders it may increase the return to equity funds but it always increases its risk. Therefore a proper balance has to be struck between the need for return and danger of risk. When the shareholder's return is maximized and risk is minimized, the market value per share will be considered optimum (Okafor and Harmon, 2005).

Andabai (2014) noted that debt can have both a positive and negative effect on the value of the firm (even in the absence of corporate taxes and bankruptcy cost). He developed a model in which over-investment and under-investment can be alleviated by debt financing. His model assumes that managers have no equity ownership in the firm and receive utility by managing a larger firm. The "Power of Manger" may motivate the self-interested managers to undertake negative or the robustness of the analysis samples was drawn from the four most dominant sectors of industry: engineering, food and allied, fuel and power and chemical and pharmaceutical to provide a comparative analysis. A strong positive correlation association is evident from the empirical finding when stratified by industry. On the issue of whether financial structure influences economic growth or not, through heterogeneous panel. It was found that significant effects of financial structure on real per-capita output, which in sharp contrast to some recent findings (Arestis et al, 2004). Firms have increased their level of debt relative to their profit. As a result, firm debt in general has risen substantially. They found that those firms having lower debt have higher value than the firm, which has high debt. Thus, firm can maximize its value by choosing low debt or zero debt (Zoppa and Machun 2009). When the firm's investment is large, countervailing incentives lead both high and low cost firms to choose some capital structure in equilibrium, thus decoupling capital structure from private information. When investment is small or medium size, the model may admit separating equilibrium in which high cost firms issued greater equity and low cost firms rely more on debt financing (Ahmed et al, 2012).

The presence of corporate tax shield substitutes for debt implies that each firm has a unique interior optimum leverage decision and when firms, which issue debt, are moving toward the industry average from below, the market will react more positively than when the firm moves away from the industry average. The overall finding is that relationship between a firm's debt level and that of its



industry does not appear to be of concern to the market (Hatfield et al, 1994). Debt ratios are found to be decreasing in cash flow or profitability and increasing in the investment of the firm in both countries. The study found positive with Pecking order approach and generally inconsistent with the trade-off approach (Benito, 1999). The firm-specific nature of strategic assets implies that they should be financed primarily through equity; other less specific assets should be finance through debt. Firms are likely to suffer increased cost and decrease performance if they do not adopt suitable governance structures in their transactions with potential suppliers of funds (Ogbulu and Ajibola, 2013). It is considered "Customer-driven" financial distress where prices for the firm output decline whenever firm has poor financial status. "Employee driven" financial distress originates from loss of intangible assets when firm revenue decline. Babenko (2003) examines the state tax effect on optimal leverage and yield spreads to find out the optimal capital structure at the time of financial distress. A negative relationship exists between the ownership of shareholders with large blocks, on the one hand, and the degree of control, on the other hand, with regard to firm value, the second relationship being significant. However, endogenous treatment of these variables then reveals a positive effect for the ownership of the major shareholders on firm value.

THEORETICAL CONCEPTS

The Nigerian business industry has been in existence ever since the colonial era up till date. But the industries have transformed over time with certain permanent features like ownership characteristics of firms, firm size, market structure, output and nature of product. In Nigeria, most business in the formal sector is not publicly listed. Ownership characteristics of Nigerian firms show that the composition of listed securities also changed rapidly during the period. For instance, in 1961, about 62% of securities were in the form of government stock as against 0% industrial stock and 38% equity. In 1990, government stock's share was 19.82%, industrial loan stock 19.82% and equity 60.36% (Uwubanmwun, 2001). While in 1995, government shares were 12%, industrial loan stock was 22% and equity 66%. By 2005, government stock stood at 8%, industrial loan stock 18% and equity 74%, a similar trend was observed as time passes, to 27%, industrial bond and loan however declined to 2% which can be accounted to the high inflation and political-economic unhealthiness of the nation, however, as equity remained relatively stable at 71% (CBN, 2009). The phenomenal growth of the capital market during the last four decades was brought about by government legislation, monetary policies and technical advancement in stock operations-privatization policies and exercises. The market capitalization as at 1995 stood at N180Billion, N472Billion in 2000 and N3Billion in 2005.

That is an increase of 161.9% and 574.03% respectively. One can infer that, the larger aggregate of firms quoted in

the Nigeria Stock Exchange seem to favor equity financing rather than debt financing. The market structure of Nigerian industry is such that few large firms often control the market share in most of the industry i.e. oligopolistic market structure in most of the industry. More than 70% of the market shares are usually controlled by few leading firms. The market powers allow them to form barrier to entry for many new entrant that can come with very large scale of operation like the existing leading firms. The banking sector for example is controlled by few leading banks that have been in existence for a long period of time. The same goes for the telecommunication industry that has been deregulated. The market structure is such that few firms still control substantial size of the market. The beverage industry has the same oligopolistic feature. Firms in Nigeria industry often produce goods that are close substitute. This often led to serious and at time unethical competition among the firms. Some of the firms even behave in such a way that the interest of the consumer becomes not well protected. The firms engage in price wars, advertisement and promotions just to ensure they gain more customers. These market conducts that arises from the market structure and the nature of products that are close substitute often serve as barrier to entry to new firms as most of the potential new entrant have to come to the industry to be the same or even higher cost with existing firms. These practices are discouraging to investors that may not have a strong and huge financial backing, thereby reducing the output level of the economy and revenue the government could have realize if these firms come to existence.

It is evident that the structure of the Nigerian business industry is such that ownership concentration is not diluted until recent time when government ownership is reducing due to privatization of most government companies. Domestic individual investors are taking over government shares in most of these firms. Similarly, the Nigerian industry has certainly permanent features in term of market structure, output size, and nature of products, ownership characteristics and size distribution of firms. This has a wide implication for the conducts and performance of firms that make up the Nigerian industry. Eldomaity, Choi and Cheng (2007) identify that the company should put into consideration its profits as well as other factors in selecting its capital structure. This becomes pertinent because of the signaling effects the choice of the capital structure of a company would have on the public perception of the firms as earlier identified by Eugene and Joel (2001). Eugene and Joel (2001) identify that the public generally views a company issuing new equity to raise funds for their operations as unprofitable and they undervalue such companies. Hovakimian and Tehranian (2002) find that capital structure decisions of a firm are not dependent on any other factor but on the company's market or book ratio. They went further to argue that the company's profitability has no direct relationship with the company's target leverage. They still argued that a less profitable company



will issue more equity so as to offset their debt level and on the flip side, a profitable firm will not issue equity to finance their operations and perhaps, they may not issue debt because the company will be most interested in internally generated funds.

METHODOLOGY

The study adopted ex-post-facto research design. Secondary data were used and collected from Annual Reports and Accounts of PZPLC. The study employed long-Term Debt as the dependent variable to measure capital structure and Return on Asset (ROA) and Return on Equity (ROE) as the independent variables to measure firm’s performance as indicated in **appendix 1**.

Appendix 1: Capital Structure and Performance of PZ PLC (1989-2013)

YEAR	LONG TERM DEBT (%)	RETURN ON ASSET (%)	RETURN ON EQUITY (%)
1989	0.05994	7.17	17.23
1990	0.09492	6.12	10.12
1991	0.05079	9.16	15.22
1992	0.09907	8.72	13.52
1993	0.06812	8.44	15.14
1994	0.91544	12.3	14.25
1995	0.07201	19.16	20.1
1996	0.99923	19.58	16.52
1997	0.87065	10.22	16.18
1998	0.37435	7.50	25.15
1999	0.85374	8.14	28.17
2000	0.09803	8.42	35.62
2001	0.07079	15.33	16.92
2002	0.08405	12.2	14.78
2003	0.07677	9.15	15.15
2004	0.08091	9.34	18.67
2005	0.06196	17.9	33.93
2006	0.00855	18.49	35.11

2007	0.05926	17.61	34.47
2008	0.08263	19.24	38.53
2009	0.05357	8.36	17.23
2010	0.06023	11.37	23.67
2011	0.72292	12.96	27.26
2012	0.04493	13.5	28.03
2013	0.09406	9.57	19.17

Source: Annual Reports and Accounts of PZ PLC (1989-2013)

Model Specification

Model specification is the determination of the endogenous and exogenous variables to be included in the model as well as the a priori expectation about the sign and size of the parameters of the function. The Ordinary Least Square regression was used; and guided by the following linear model:

$$K = f(\text{ROE}, \text{ROA}) \dots \dots \dots (i)$$

$$\text{LTD} = \beta_0 + \beta_1 \text{ROA}_1 + \beta_2 \text{ROE}_2 + \mu \dots \dots \dots (ii)$$

Where:

ROA = Return on Asset

ROE = Return on Equity

LTD = Long-Term Debt

$\beta_1 - \beta_2$ = Coefficients of the regression

μ = Error Term

Research Hypotheses

Ho₁: There is no long-run significant relationship between capital structure and firm’s performance of PZ PLC.

Ho₂: There is no causality between capital structure and firm’s performance of PZ PLC.

Data Presentation and Analysis

The concern of this study is the determinants of capital structure and firm’s performance in Nigeria using time series data (1989-2013). Data for this study consist of 24years annual observation period; and were collected from Annual Reports and Accounts of PZ PLC (1989-2013). Long-Term Debt (LTD) was employed as the dependent variable to measure capital structure, while Return on Asset

(ROA) and Return On Equity (RON) were employed as the independent variables to measure firm's performance as indicated in **appendix 1**. The tests for stationary of the variables were done using the Augmented Dicker Fuller (ADF) Unit Root Tests. The results in **table 1** show that all the variables are integrated at levels i.e. 1(1) at the 5% or 1% level of significance.

Table 1: Unit Root Tests Analysis

Variables	ADF test Statistics	Mackinnon critical vale @ 5%	No of the time difference	Remark
LTD	3.846536	-2.746538	1(0)	Stationary
ROE	-6.24356	-2.738967	1(1)	Stationary
ROA	-5.36765	-2.715378	1(1)	Stationary

Notes: (1)1% level of significance, 5% level of significance, 10% level of significance.

- (2) The tests accepted at 5% level of significance.
- (3) Decision rule -The critical value should be larger than the test statistical value for unit root to exist

Source: Researcher's Estimation using- E-views 7.1

Test for Co-Integration

Having found that all the variables are integrated, the next step is to perform Johansen co-integration procedure to ascertain whether Long-Term Debt (LTD), Return on Asset (ROA) and Return on Equity (ROE) are co-integrated. The results of the tests are presented in table 2 and the null hypothesis of no co-integration among the variables (that is, $r=0$) is tested against the alternative hypothesis of no co-integration is rejected at the 5 percent significance level. However, the null hypothesis that $rd \geq 1$ could not be rejected against the alternative $r=2$ and $r=3$, suggesting the presence of a unique co-integrating relationship among variables. Therefore a long run relationship exists among the variables as indicated by the likelihood ratio that is greater than the critical values both at 1% and 5% level of significance in **table 2**.

Table 2: Multivariate Johansen's Co-integration Test Result.

Null hypothesis	Alternative hypothesis	Eigen value	Likelihood ratio	Critical vales 5%	Critical value 1%	Hypothesized No. Of CE(s)
$r=0$	$r=1$	0.8456	54.58657	46.31	66.31	None **
$rd \leq 1$	$r=2$	0.7983	0.536745	37.42	45.62	At most 1
$rd \leq 2$	$r=3$	0.6964	153.6435	16.36	27.31	At most 2

Source: E-views Econometrics 7.0

Vector Error Correction Model

The Error Correction coefficient contains information about whether the past values affect the current values of the variable under study. A significant coefficient implies that past equilibrium errors play a role in determining the current outcomes. The information obtained from the ECM is related to the speed of adjustment of the system towards long-run equilibrium.

Table 3: Vector Error Correction Estimates

Variables:	Coefficient	Std. Error	t-Statistic	Prob.
(ECM ₁)	-0.782134	-0.067845	0.000453	-0.018608
D(LTD(-1))	-0.186453	-1.907564	-0.001204	0.004568
D(LTD(-2))	-0.475643	-3.006476	0.00978	0.023678
ROA(-1)	0.007583	-0.057463	0.04591	0.188977
ROE(-2)	11.36752	-0.63980	-2.44E-07	0.003452
C	1.236577	2.00139	-1.045631	0.002165

R-squared	0.582175	Mean dependent var	0.022904
Adj. R-squared	0.568456	S.D. dependent var	0.336903
S.E. of regression	4.638532	Akaike Info. Criterion	5.231578
F-statistic	6.365405	Schwarz criterion	6.056478
Log likelihood	-122.2413	Durbin-Watson Stat.	2.085675
Prob.(F-statistics)	0.000000		

Source: Researcher's Estimation using E-views 7.1.

Table 3 also shows the adjustment coefficient on *ECM* in equation (3) is negative and statistically significant at 1% level of significance indicating that, when deviating from the long-run equilibrium, error correction term has an opposite adjustment effect and the deviation degree is reduced. The significant error term also supports the existence of long-run relationship between capital structure and firm's performance. The error-correction coefficient is statistically significant and has a negative sign, which confirms that there isn't any problem in the long-run equilibrium relationship between the independent and dependent variables. Thus, the error correction coefficient (-0.782134) which measures the speed of adjustment towards long-run equilibrium indicates a feed back of about 78% of the previous year's disequilibrium from the long-run elasticity of economic growth. This also implies that the

speed with which firm's performance variables adjust from short-run disequilibrium to changes in capital structure in order to attain long-run equilibrium is 78% within one year. The coefficient of determination ($R^2 = 0.582175$) indicates that about 58% of the variations in capital structure is explained by changes in firm's performance variables (ROA and ROE) of PZ PLC in Nigeria. This implies that a good portion of capital structure trends in PZ PLC is explained by firm's performance. The F-statistics of 6.365405 which is significant at 5% confirms the determinants of capital structure and firm's performance of PZ PLC in Nigeria. Furthermore, the influence of the explanatory variables on the dependent variable is statistically significant and this is also confirmed by the F-probability which is statistically zero. Finally, the value of the Durbin-Watson (DW) indicates absence of autocorrelation.

Causality Test

Table 4: Result of Pairwise Granger-Causality Test (1989-2013) with 2-period Laglength

Null Hypothesis:	Obs	F-Statistic	Probability	Decision
ROE does not Granger Cause GDP	22	6.64853	0.00142	Causality
LTD does not Granger Cause ROE		5.02674	0.00326	Causality
ROA does not Granger Cause LTD	22	5.55432	0.00123	Causality
LTD does not Granger Cause ROA		4.92346	0.00094	Causality
ROA does not Granger Cause ROE	22	5.15267	0.00045	Causality
ROE does not Granger Cause ROA		7.89756	0.00031	Causality

Note: The decision rule of a causality test states that if the probability value of the estimate is higher than the 5% (0.05) level of significance, we accept the null hypothesis, and vice versa. To determine the direction of causality between the variables, the Engle and Granger (1987) causality test was performed on the variables as indicated in **table 4**. The Granger causality investigated the predictive content of one

variable beyond that inherent in the explanatory variables itself. The results of the Granger causality test indicate that capital structure has causality with ROE (Return on Equity) and ROA (Return on Assets). This implies that there is causality between capital structure and firm's performance variables.

CONCLUSION AND RECOMMENDATIONS



In conclusion, it should come to the knowledge of the policy makers, and economic agents (individual investors and firms) that the profitability and performance of firms in Nigeria depend on proper management and composition of their capital structure. The empirical analysis provided a linkage between long-term debt and the performance of quoted firms. On the basis of the empirical result, this

research concludes that capital structure of a firm determine the level of the dynamic nature of the business environment. The study recommend that firms should use an optimal capital structure and that listed firms in Nigeria should employ an appropriate capital structure model that meets the corporate long term survival and growth. There should be an effective management of long-term debts and other working capital items in firm's balance sheet. Again, quoted firms in Nigeria should reduce the debt levels in their capital structures so as to enhance positive performance to the interest of shareholders. Furthermore, the government should create an enabling business friendly environment so that business can thrive and this increase firm's performance level. This is evident in the fact that macroeconomic variables positively affect the performance of most quoted firms in Nigeria.

Contribution to Knowledge

This study was able to expand the existing contemporary literatures, geographical spreads and updated the data of the study that will enable researchers and scholars to use it for further studies. Consequently, from the results, the study has also contributed to knowledge by discovering that there is causality between long-term debt and firm's performance variables (ROE & ROA) of PZ PLC in Nigeria.

REFERENCES

- Andabai, Priye Werigbelegha (2014). Empirical Investigation in Finance. An Unpublished PhD Research Paper submitted to the Department of Banking and Finance, School of PostGraduate Studies. Anambra State University, Nigeria.
- Andabai, Priye Werigbelegha (2014). A WebMetric Analysis and Literature Awareness of Corporate Finance. An Unpublished PhD Research Paper submitted to the Department of Banking and Finance, School of PostGraduate Studies, Anambra State University, Nigeria.
- Appah Ebimobewe, et al (2013). Capital Structure and the Operating Performance of Quoted Firms in the Nigerian Stock Exchange. *Research Journal of Finance and Accounting*, 4(5);16-21.
- Chan, J.J (2002). Determinants of Capital Structure of Chinese listed companies. *Journal of Business Research*, 57(12); 1341-1351.
- Damadaran Zeng (2001). *Corporate Finance Theory and Practice* (2nd edition). New York: USA.
- Desai, A. (2007). *Corporate Tax Avoidance and Firm value*. Harvard University and NBER
- Efobi, R.U. and Uremadu, S.O. (2009). The Effect of Capital Structure on Corporate Profitability: An Empirical Analysis of listed companies in Nigeria. *Journal on Management*, 3(4); 55-61.
- Fama, E.F. and French, K.R. (2002). Testing Trade-Off and Pecking Order Predictions about Dividends and Debts. *Review of financial studies*, 15(1); 1-33.
- Graham, J. (2000). How big is the Tax Benefits of Debt? *Journal of finance*, 65(21); 34-45.
- Ibenta, Steve, N. O. (2012). *Research Monograph: Guidelines for Seminar Papers, Theses & Project Reports*. 22-28 Regina Caeli Rd, Awka, Anambra State, Nigeria.
- Ibenta, Steve, N. O (2005). *Investment Analysis and Financial Management Strategy*. Institute for Development Studies. University of Nigeria. Enugu Campus.
- Justyna Franc-Dabrowska. (2008). Does Dividend Policy Follow the Capital Structure Theory? *Journal of managing Global Transitions*. 7(4), Pp. 367-382. www.econjournals.com
- Kouki, M. and Guizani, M. (2009). Ownership Structure and Dividend Policy Evidence from the Tunisian Stock Market. *European Journal of Scientific Research* 25(1), Pp. 42-53. *Eurojournals.com*.
- Micheal, Nwidobie Barine (2012). Capital Structure Determinants of Quoted firms in Nigeria and Lesson for Corporate Financing Decision. *Journal of Finance and Investment Analysis*. 1(2), Pp. 61-81. www.eurojournals.com.
- Micheal Faulkender; Todd Milbourn and Anjan Thakor. (2008). Does Corporate Performance Determine Capital Structure and Dividend Policy? *Journal of Business Studies Quarterly*. 32 (3), Pp. 1-36. www.eurojournals.com.
- Modigliani, F. and Miller, M. H. (1958). Corporate Income Taxes and the Cost of Capital: A Correction. *American Economic Review*, 48(23); 261-297.



- Myers, S.C. and Majluf, N.S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(65); 187-221.
- Pandey, I.M. (2004). *Financial Management 9th edition*, Indian Institute of Management, Ahmedabad. Vikas Publishing. House P.VT.LTD.
- Raheman, A.; Zulficar, B. and Nasir, M. (2007). Working Capital Management and Profitability: A Case Study of Pakistan Firms. *IJBRP*, 3(1); 279-300.
- Uremadu, S.O. (2004). *Financial Management: Concepts, Analysis and Applications*, Enugu: Precision Publishers limited.
- Uremadu, S.O.; Egbide, B.C. and Enyi, P.E. (2012). Working Capital Management, Liquidity and Corporate Profitability among Quoted Firms in Nigeria: Evidence from the Productive Sector. *IJARAFMS*, 2(1); 80-97.
- Zoppa, A. and McMahon, R. (2002). *Pecking Order Theory and Financial Structure of Manufacturing SMEs from Australia's Business Longitudinal Survey*. Adelaide, South Australia: School of Commerce, Flinders University of South Australia.