Capital Structure and Financial Performance of Oil and Gas Companies Listed On Nigeria Exchange Group

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ABSTRACT
Most entity are unwilling to borrow to finance its economic activities due to the terms and conditions attached the loans. Therefore the study empirically and statistically evaluate the implication of capital structure which is represented by equity to capital ratio (ECR) and debt to equity ratio (DER) and the performance which is represent by return on equity (ROE) of oil and gas sector firms listed on Nigeria exchange group, eight (8) firms was used for the study such as: 11 Plc Formally Mobil Oil Nigeria Plc, Anino International Plc, Coinoil Plc, Eterna Plc, Ardova Plc Formally Fortoil, Japaul Oil and Maritime Service Plc, Seplat plc and Total Nigeria Plc. With data ranging from 2020 to 2013. The result showed that the companies experience a weak level of activities between the period of 2015 and 2014. ECR has a coefficient of -7.393806, and statistical value of 0.0405 while DER has a coefficient of -2.922808, and statistical value of 0.0247, the study also showed that Nigeria oil and gas sectors experienced a slow economic activities between 2016 and 2015 however the entities employed external sources of finance which was matched to the company's capital structure and also with the help of relevant stakeholders, the entities where revitalized financially. Therefore we conclude that capital structure has statistical significant impact on performance. We therefore recommended that: creditors should not hesitate to give loan to firms and most especially the oil and gas companies because they play a great role in the economy; managers should source for external sources of financing to boost its activities before internal sources, the findings also revealed that the external sources has helped revitalized the sector; the government should create an enabling environment for firms in this sector to operate effectively and efficiently; government should also make soft loans available to entity during a financial challenging periods; and manager should match its capital structure properly to avoid over matching and mismatching of financial resources, if this is not done it may affect company going concern. The study also contributed to existing literature by revealing that external finance has contributed to revitalizing the oil and gas companies during the nosedived of the oil price, production and export between 2016 and 2015. However if an entity want to borrow they should consider the cost and benefits, terms and conditions associated with such sources of external finance. In summary the study revealed that capital structure has a significant impact on performance therefore stakeholders such as creditors, government to mention but a few has crucial role to play in trying to revitalizing companies during slow economics activities, this can done by creating an enabling environment, giving grants and soft loans to help revitalized them.

I.   INTRODUCTION

1.0   Background of study

Nigeria is an oil dependent nation, this due to the fact that large proportion of her revenue is generated from this sector. Therefore if proper financing decision is not taken by this sector it will automatically affect Nigeria economy. Scholars has not been able to come to consensus on the topic capital structure with respect to performance however capital structure is inevitable for operation and survival of every firm, hence for a company to operate as a going concern it must evaluate its current financial structure. Just like man cannot do without its skeletal structure in the same vein an entity cannot do without its capital structure because this is the foundation upon which an entity is being built.

The combination of debt and equity is a very critical decision because any wrong combination will affect the performance and in the long run the going concern of the firm will be threaten i.e. it myth lead to bankruptcy. Before an entity should decide to employ debt to finance its operations those at the helm of affair should first consider the available sources, the risk attached to the available sources and the strategic approach put in place to manage this fund. If proper strategic is not design before this fund is sourced and gotten it may compel some firms to engage in improper matching of its fund, some myth even engage in an aggressive approach i.e. using current debt to finance non-current capital investment or assets. In the same vein, if the firm

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decides to employ equity it must consider how it will maximize the shareholders wealth and at the same time knowing when to distribute dividend to its shareholders or retain the fund for future investment however dividend should not be paid out of capital. If the firm decides to employ both equity and fund to finance its operation, it should be strategically spell out proportionately prior its incorporation because this will help guide against mismatching both debt and equity. Reason being that each of this element of capital structure has its own merits and demerits hence with a target capital structure already established the firm will go for the cheapest available sources.

Akpotohwo, Ayunku and Ogeibiri (2018) the size of a business is determine by its capital structure, the firms may have various sources and if proper matching is done it will result to a win-win for both shareholders and other stakeholders such as creditors this because while dividend or capital appreciation accrue to shareholders, the firm is also able to meet her other financial obligation to its stakeholders, therefore the value of the firm is maximized and cost is minimize with proper matching. The capitalization of the firm is a determinant of its capital structure the firm may decides to employ equity shares, preference shares, non-current debt, return on equity to mention but a few however the onus is proper matching. Most reader's term to mistake financial structure for capital structure of a firm, while the later deals with total liabilities of the firm's i.e. non-current debt and current debt, the formal only deals with non-current debts. In the same vein proper clarification must be made between capitalization and capital structure, capital structure is the combination of equity shares, preference shares, debentures and retained earnings, hence prior operations or the accounting year of a firm, the combination of equity share and non-current debt of the firm is the capital base or capitalization, if proper emphasized is not made and stated it may result to a wrong capital structure formation and computation.

Every financial manager is faced with three most critical decisions which are; what investment should the firm proposed resources be invested in, this must be strategically stated before he/she can move to the next critical decision; where can this fund/resources be gotten putting in mind risk minimization and the available cheapest sources; and the manager must also put in place strategic procedure on how to manage this fund so that firm can meet up to its financial obligation to all stakeholders. Ross, Westerfield and Jordan (2008) capital structure is the combination of equity and debt owned by a particular entity, at particular stage of firm life cycle it will need funds and the size and the life span of the firm will help determine whether to borrow, divest or engaged in both process, this decision in long run may lead to capital restructuring i.e. this occurs when the entity change one of its capital structure without affecting its total assets structure, therefore if a firm capital structure decision is not careful planned the value of the firm will be affected.

1.1 Oil and gas sector

As at the time of carrying out this research there where twelve (12) firms listed on the Nigeria exchange group (NEG) and most of them engaged in both upstream and downstream activities they are: 11 Plc; Anino International Plc; Capital Oil Plc; Conoil Plc; Eterna Plc; Forte Oil Plc; Japaul Oil & Maritime Services Plc; Mrs Oil Nigeria Plc; Oando Plc; Rak Unity Pet. Comp. Plc; Seplat Petroleum Development Company Plc And Total Nigeria Plc this companies are engaged either in one of these activities: Coal extraction; coal and coal products distributors; crude oil and natural; gas extraction; petroleum refining; petroleum and petroleum products distributors; petroleum bulk stations and terminals; gasoline stations; energy equipment and services; field services; and integrated oil and gas services or the other. NSE (2020) the companies listed this sector are involved in operating, developing oil and gas field properties and, the mainly involved in discovering, recovering and production of liquid hydrocarbons from oil and gas fields. They are involved in exploration, production, refining, marketing and transportation of the oil and gas product to the needed users, the most capitalized and liquid companies as at the time of carry this research are: Conoil Plc; Ardova Plc; Mobil Plc; MRS Plc; Oando Plc; Total Plc; and Seplate with following capitalization ₦12,438,395,473.65; ₦16,992,583,868.74; ₦82,687,963,836.65; ₦4,459,949,671.47; ₦29,660,708,926.97; ₦31,924,397,613.44 and ₦204, 821,472,713.20, thus far Seplate Plc is most capitalized among the listed firms on the Nigeria exchange group as stated above.

Scholars have not be able to come to a consensus on issue of capital structure Etale and Uzakah (2019) opined that capital structure has no significant effect on firm performance however Kpolode; Edoumiekumo and Alfred (2020), Etale, Edoumiekumo, Kpolode, and Nkak (2020) opined that capital structure has a significant impact on a firm performance. The firms under study play a great role in Nigeria economy, this is due to the fact that a large proportion of her revenue comes from this sector, and over time the oil price has been fluctuating as presented in the table below:
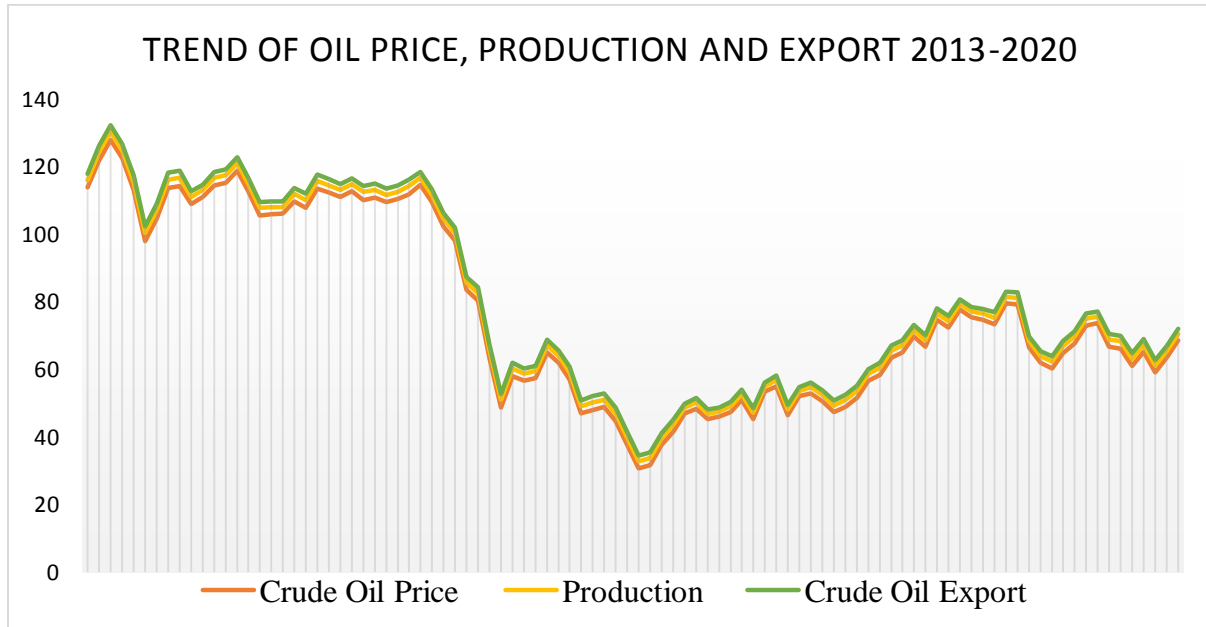
Sources: author's analysis via central bank of Nigeria.

The above fluctuation and the different scholars views thus far has drawn our attention to analyzed the implication of capital structure on performance of oil and gas sector listed on Nigeria exchange group.
The rest part of this paper is arranged as follows: section two provides theoretical, conceptual, empirical and theoretical literatures, section three discuss the methodology and the fourth section discusses the data analysis and discussion of findings. While in section five is the summary of the findings, conclusion and recommendations.

II. REVIEW OF LITERATURES
2.0 Review of related literature
In this chapter (two), the researchers will be discussing the theoretical literature, the empirical literature, the conceptual literature, the conceptual framework of financial performance, operationalizing ratios and the importance capital structure analysis.
Capital structure cannot to be analyzed on its own therefore the financial statements is an inevitable statement with respect to capital structure. Therefore the first and only the first step in assessing the capital structure and financial health of your business is through the financial statement of the entity, the process may also involve the comparison of different industry capital structure and performance with respect to other similar industry in other country and also with respect to industry standards over a period of time.

2.1 Theoretical literature
The study will employ the pecking order theory, trade-off theory and agency theory to mention but a few which will also serve as guide to the researchers.

2.1.1 Pecking order theory
Rose, Westerfield and Jordan (2008) opined that pecking order theory is one among many underpinning theories behind the capital structure of an entity, the proponent of this school of thought believed that whenever a firm is faced with financial needs, it's should first look inward hence internal fund should be used for any economic activities however if not enough the entities can then source outside (external sources), the ideology behind this school of thought is that is less expensive i.e. using internal sources to finance economic activities carry lower financial risk therefore this school of thought opined that economic activities should be financed in the following order internal sources, debts and equity financing respectively. This theory also opined that employees of the entities know more about the entity (information asymmetric) hence influences the cost and risk of financing economic activities and also influences the capital structure an entities, which can be presented in a diagrammatical form below:

COST AND RISK ASSOCIATED WITH CAPITAL STRUCTURE DECISION

INTERNAL FINANCING → → DEBT FINANCING → → EQUITY FINANCING →
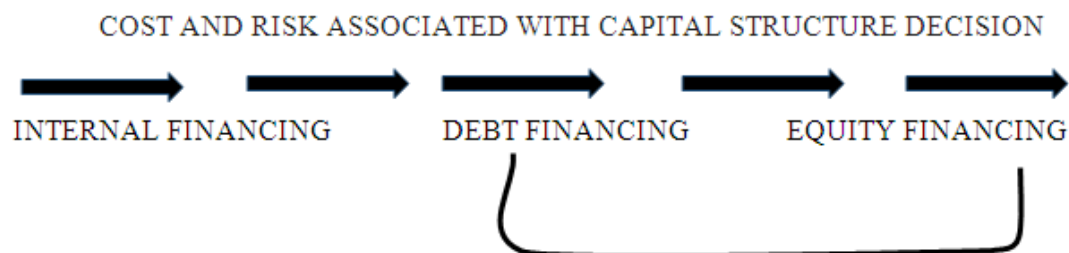
The above illustration also depict that the cost and risk that is associated with capital structure decision an entity will undertake, which is also illustrated by the arrows i. e., showing the progressive proportion of risk and cost associated with the three sources highlighted above (internal financing, debt financing and equity financing).

2.1.2   Trade-off theory
This one of the underpinning theory behind the capital structure of an entity, the decision on what sources of finance to adopt in financing the economic activities of the firm involves a critical economic and financial trade-off, the proportion of internal financing, debt of equity employed by the firm will affect the capital structure and invariably affect the performance of the entity, hence if all the sources are available to the entity, the pros and cons must be consider before taking any critical economic and financial decision. Some scholar's believed that it is better to finance an entity economic activities with debt rather than employ equity, the proponent and followers of this school of thought believed that debt financing give the entity tax shield unlike equity financing.

2.1.3   Agency theory
This theory demonstrate the nexus between the principal (mainly the shareholders) and the agent (usually the Managers and caretakers of shareholder funds). Both parties have interest in the entity, the agent have a fiduciary responsibility of maximizing shareholders wealth, although this comes with some associated cost. Lawal, Edwin, Monica and Adisa (2014) in their study of effects of capital structure on firm's performance opined that Berle and Means (1932) was the first proponent of this theory and found out that ownership and control of large corporation become more separated due to the ceaseless dilution of equity ownership. Hence because of the dispersed ownership managers are prone to likely pursue selfish interest instead of the interest of the owners, this moral hazard will lead to monitoring and bonding cost. Jensen and Meckling (1976) opined that in order to minimize the moral hazard (agency cost) an optimal debt level in capital structure should be maintained in order to avoid divergent interest of agents with principals and other stakeholders such as debt holders.

2.2   Empirical literature
Etale, Edoumiekumo, Kpolode, and Nkak (2020) investigated the nexus between capital structure and firm's performance of quoted industrial goods listed on Nigeria stock exchange by employing five secondary data ranging from 2014 to 2019 (six year) using the multiple regression model in testing their hypotheses of their and found out that capital structure has a statistical significant relationship with performance however one of the component of their capital structure has a negative relationship with performance, therefore recommended that long term financing should be consider first when deciding the capital structure component of an entity and also proper matching should be carried out between debt and equity.

Kpolode; Edoumiekumo and Alfred (2020) employed a paired t-test to examined capital structure with respect to performance of 11 plc formally Mobil oil Nigeria plc prior the change of its name and post the change of its name using secondary data from 2013 to 2019 and found out that, capital structure significantly and statistically influences the performance of the entity prior and post the change of its name therefore recommended that entities that intend to change its name should engage in more sensitization for a specific duration of time to keep stakeholders and the public at large abreast before it change its name.

Uremadu and Onyekachi (2019) collated data from consumer goods firm sector of Nigeria economy and investigated the effect of capital structure on corporate performance by employing the multiple regression of ordinary least square analytical technique and found out that capital structure has a negative and insignificant effect on corporate performance of the consumer goods firm sector of Nigeria therefore opined that capital structure is not a major determinant of firm performance, hence recommended that managers and stakeholders should finance its economic activities via internal sources such as retained earnings and   also managers need to be careful when using debt as a source of financing economic activities and debt should be consider as a last

option as this is negate the pecking order theory, therefore corporate firms should use more of equity than debt in financing their business activities.

Ngwoke and Sergius (2019) investigated the impact of capital structure on financial performance of listed food and beverage companies in Nigeria with secondary data ranging from 2007 to 2016 by using the expost facto research design and multiple regression analysis was employed by using e-view statistical package and discovered that capital structure which was represented by current debt had a significant and positive effect on performance which was represented by return on equity however long term debt has no significant statistical relationship with performance therefore recommended that entities should consider equity first as a source of financing economic activities before any other sources.

Ganiyu, Adelopo, Rodionova and Samuel (2019) employed secondary data to investigate the effect and relationship of capital structure on entities performance in Nigeria by employing dynamic panel model on panel data of 115 listed non-financial entities in generalized method of moments estimation method in a regression model and found out that there was a significant statistical nexus exist between capital structure and entities performance when moderate debt was employed however a non-monotonic relationship exist between capital structure and entities performance when excessive debt was employed, and also discovered that most entities in Nigeria finance its economic activities through short term finances therefore concurred with the portability of the agency cost theory.

Ezenwakwelu, Onyeama, Osanebi, Emengini and Abugu (2019) investigated the capital structure determinants and performance of startup firms in developing economies like Nigeria via conceptual review by employing secondary data and found out that levered firms has more tax sheltered than unlevered firms, the more a firm is levered, the higher the rate of return to the equity holders however when the net operating income is weak unlevered firms will perform better than the levered firms also if the net operating income of an firm is strong and is also very levered it will propelled the rate of return to increase, therefore opined that the level of debt and equity in an entity has implication on the capital structure and associated risk on performance hence recommended that entities should keep an optimal capital structure.

Fredrick and Eboiyehi (2018) employed the panel corrected standard error (PCSE) technique to examined the impact of capital structure on corporate firms financial distress of manufacturing firms in Nigeria by employing variables such as corporate financial distress, capital structure, firm size, assets tangibility, revenue growth, profitability and age of firms and found out that capital structure, firm growth and firm size influences corporate financial distress negatively however variables such as age of firms, profitability and asset tangibility influences corporate financial distress positively, therefore recommended that the central bank of Nigeria should give preferential treatment to manufacturing sector by lower cost of borrowing, managers and stakeholders should be cautious when planning the entity capital structure, internal sources of fund should be used to finance economic activities rather than external source, and government should give preferential tax treatment to entity in the manufacturing sector.

Odusanya, Yinusa and Bamidele (2018) employed secondary data from Nigeria stock exchange to investigated the factors behind a firm profitability for 114 firms ranging from 1998 to 2012 by employing the system generalized method of moments, and found out that short-term leverage, inflation rate, interest rate and financial risk have significant negative impact on firm profitability however lagged profitability has a significant positive impact on contemporaneous firm profitability therefore recommended that the cost of borrowing to the real sector of the economy should be reduced in order to minimize costs of production, enhance productivity and profitability and also necessary macroeconomic policies should be put in place by the government to curb the rising inflation rate in the economy.

Ajibola, Wisdom and Qudus (2018) employed secondary data ranging from 2005 to 2014 to investigated the impact of capital structure on financial performance of quoted Nigeria manufacturing firms by employng the panel ordinary least square model and found out that there was a statistically significant nexus between non-current debt ratio which is an element of capital structure and the entity performance which was represented return on equity however a positive statistically insignificant nexus between performance and current debt ratio also a negative insignificant nexus between all other proxies of capital structure with respect to the other proxies of performance (return on asset) therefore opined that return on equity is the best performance measure with respect to that capital structure of an entity and entities should employ non-current debts in financing her economic activities hence recommended that all entities should make good capital structures decision to in order to improve its performance.

Oladele, Omotosho and Adeniyi (2017) employed secondary data ranging from 2004 to 2013 and examined the impact of capital structure on the performance of fifty eight Nigerian listed manufacturing firms by employing multiple regression model and found out that capital structure has no significant impact on performance which was represented by return on equity however a significant impact exist with respect to return on assets, earnings per share therefore recommended that Investors and stakeholders should consider the leverage level of an entity before committing their funds into an entity and management of Nigerian quoted

manufacturing firms should work very hard to optimize the capital structure of their quoted firms in order to increase the returns on equity, assets and earnings per share.

Birru (2016) examined commercial banks in Ethiopia with respect to capital structure and financial firm performance by employing selected for a period of five years with secondary data ranging from 2011 to 2015 by employing multiple regression models his founding revealed that capital structure has a negative nexus with performance and statistically significant.

Muchiri, Muturi and Ngumim (2016) examined the nexus between financial structure and financial performance of listed firms at the east Africa securities exchanges by employing secondary data ranging from 2006 to 2014 using the feasible generalized least squares approach based on Hausman specification test and discovered that when the variables are combined, financial structure had a significant positive and negative nexus with return on equity and return on assets respectively however in isolation short term debt, long term debt, retained earnings and external equity had insignificant negative relationship with financial performance which was represented by return on assets although an insignificant positive nexus with return on equity, therefore recommended that entities combine both debt and equity in their financial, governments should grow and maintain their upward gross domestic product flow because this influences financial structure and also firms' stakeholders and managers should study their financial market to understand the economy and the trend of the market.

Javed, Younas and Imran (2014) collated secondary data of 63 companies listed on Karachi Stock Exchange and examined the effect of capital structure on firm with data ranging from 2007 to 2011 by employing fixed effects model which served as the pooled regression model and found out that there is significant relationship between capital structure and entities performance however is a mixed relationship, therefore opined that capital structure has impact on firm performance hence recommended that managers and stakeholder should be careful in making decisions that will determine the capital structure of an entity.

Akinyomi and Olagunju (2013) obtained ten years secondary data and evaluated the factors behind of capital structure of selected manufacturing firms listed on Nigeria stock exchange using regression analysis and a descriptive research design via random sample with a culminating 240 firm-year observations and found out that capital structure has a negative relationship with firm size and tax on one hand and a positive relationship with tangibility of assets, profitability and growth on the other hand, however tangibility of assets and firm size has a significant relationship.

Chandrasekharan (2012) investigated the factor behind the capital structure of listed Nigerian firms employing secondary data employed from panel reviewed ranging from 2007 to 2011 (ten years) using multiple regression and found out that size, age, growth, profitability and tangibility are strong factors behind Nigerian firms leverage, therefore opined in order to have an optimum financing mix during debt financing decisions stakeholders most especially Nigeria listed entity should installed and accurately evaluate the age, size, growth, profitability and tangibility of the firms.

Salawu (2009) employed secondary data from 50 non-financial quoted companies and Nigeria stock exchange fact books ranging from 1990 to 2004 to examine the impact of the capital structure on the entities profitability using ordinary least squares model, fixed effect model and random effect model statistical analysis approach and found out that profitability which is a measure of performance has a positive relationship with current debt and equity which served as an element of capital structure however inverse relationship exist with non-current therefore opined that Nigeria entities rely so much on external financing, therefore recommended that entities should implement an efficient and effective credit policy that will improve the performance and growth of this entities and managers of the entities should also be keen about the capital structure of the entity because it influences the performance.

2.3   Conceptual literature
The operationalizing variables for this study are examined below:

Return on equity ratio: This is a proxy for measuring company's performance for the study, Ajibola, Wisdom and Qudus (2018) opined that the best measure to be used in evaluating a company performance is the return on equity, which is adopted for the study. Etale (2020) opined that the best way to measure or evaluate shareholder wealth maximization is by using return on equity. This can be mathematical expressed as the profit after tax for the respective companies divided by the equity share fund of the various entities, prospective investors will always prefer entities that pay or give more return entities.

Equity to capital employed ratio: This is an element of capital structure for the study, which is derived as equity fund for the various entities divided by capital employed by the various entities for the study, this also indicate the value of funds employed by the various entities to finance its economic activities with respect to her equity fund, the more the equity employed the better the chance of the entities to get more bargaining power and more incentives such as discount.

Debt to equity ratio: This is an element of capital structure for the study, this can be derived by non-current debt of the entities divided by equity fund of the various entities, this also show the financial

commitment of the entities to the external stakeholders such creditors, a higher debt to equity ratio indicate more available fund for the entities to carryout it economic activities however the higher risk and financial obligation associated with that entity.

III. METHODOLOGY

3.0 Research Methodology

In this chapter (three), the we (researchers) will be discussing the research design, the population of the study, sample and sampling techniques, method of data collection, ratio analysis, method of data analysis techniques, reasons for using regression analysis and model specification.

3.1 Research Design

This refers to structure, plan and strategy that we intend to use in order to obtain the reliable information and answers to the research questions stated in chapter one of the research above. The design of this research work involves the use of secondary data (descriptive analysis) also known as the ex post facto (after- the- fact) research design, with this approach the researcher does not possess the power in any way to influence or massage the study variables that will be used to determine the implication of capital structure on performance of oil and gas sector firms listed on Nigeria stock exchange

3.2 Population

As at the time of carrying out this research the feasible population of this study consists of twelve (12) firms listed on the Nigeria exchange group (NEG) oil and gas sector which are: 11 Plc; Anino International Plc; Capital Oil Plc; Conoil Plc; Eterna Plc; Forte Oil Plc; Japaul Oil & Maritime Services Plc; Mrs Oil Nigeria Plc; Oando Plc; Rak Unity Pet. Comp. Plc; Seplat Petroleum Development Company Plc And Total Nigeria Plc, on the average they engage both downstream and upstream activities.

3.3 Sampling and Sample Techniques

The sample for this study was selected base on the availability of data on Nigeria exchange group and companies website, this is the due to the fact that our research design is based on ex post facto therefore, eight (8) firms which are: 11 Plc Formally Mobil Oil Nigeria Plc, Anino International Plc, Coinoil Plc, Eterna Plc, Ardova Plc Formally Fortoil, Japaul Oil and Maritime Service Plc, Seplat Petroleum Development Company Plc and Total Nigeria Plc. The selected firms are equivalent 67% of the population for the study, therefore financial statement of the listed companies with data ranging from 2013 to 2020 were analyzed.

3.4 Method of Data Collection

The data were collected from the following source:

Secondary Source:-

The secondary source of data collection for this study includes; published data on the Nigerian Stock Exchange and the various companies web-site. i.e., using the financial statement of the various companies to analyzed the impact of capital structure on their performance from 2013 to 2020 (eight years period).

3.5 Data Analysis Techniques

The researcher choose to represent the data collected in tables of frequency, using simple percentage (ratios) method of analysis, thus the statistical method used for testing the hypotheses will be the regression analysis, which was also used by Etale, Edoumiekumo, Kpolode, and Nkak, (2020) Etale and Uzakah (2019) to mention but a few.

3.5.1. Reasons for using regression analysis

Regression analysis is a set of statistical model processes for estimating the relationships between an output, also known as the dependent and independent variables in order to achieve an outcome which will be used in making crucial decisions (Rawlings, Pantula & Dickey, 1989).

3.6 Model Specification

The above variables will tested using regression analysis with the help e-view 9.0 the model is stated as follows:

ROE = f (ECR, DER)

This can be expressed into an equation as follows:

$ROE = \beta_0 + \beta_1 ECR + \beta_2 DER + \mu$

Where:

ROE = Return on equity served as a measure of firms performance (the dependent variable).

ECR= Equity to capital employed ratio, serve as an independent variables and also a component of capital structure in the study.

DER = Debt to equity ratio, served as an independent variables and also a component of capital structure in the study.

β_0= server as intercept or constant term

β1, β2, β3= served as the parameters or coefficients of the independent variables to be estimated through the regression.

μ = is the error term of the regression equation (stochastic variable)

IV.   RESULTS AND DISCUSSION OF FINDINGS

In this chapter we will be presenting and analyzing the data of the study, and the chapter also tests the hypotheses, and presents the study's findings.

4.1 Data presentation

The data collected from Nigeria exchange group and the companies' web-site were presented and analyzed in this chapter. Therefore the analysis is based on secondary data of the following companies: : 11 Plc Formally Mobil Oil Nigeria Plc, Anino International Plc, Coinoil Plc, Eterna Plc, Ardova Plc Formally Fortoil, Japaul Oil and Maritime Service Plc, Seplat Petroleum Development Company Plc and Total Nigeria Plc.

Table 4.1.1:   Operationalizing values (Table one)

YEAR	PROFIT AFTER TAX (₦'000)	NON-CURRENT DEBT (₦'000)	CAPITAL EMPLOYED (₦'000)	EQUITY (₦'000)
2020	72,333,815	368,591,275	1,016,586,260	647,994,985
2019	43,287,945	154,474,348	340,062,946	185,588,598
2018	31,942,001	183,092,046	457,821,954	274,729,908
2017	13,491,928	436,620,865	899,496,973	462,876,108
2016	-35,522,432	326,481,498	656,614,635	330,133,137
2015	-122,954,507	383,871,063	704,832,672	320,961,609
2014	28,018,128	123,433,633	502,591,605	379,157,972
2013	9,855,640	143,718,810	415,381,528	271,662,718

Source: author's computations, from companies' financial statements.

Table one above showed the combined computed profit after tax for the respective eight firms listed on the oil and gas sector of Nigeria exchange groupfrom 2019 to 2012 which are: 72,333,815, 43,287,945, 31,942,001, 13,491,928, -35,522,432, -122,954,507, 28,018,128 and 9,855,640 all values are in thousands of naira respectively. From the reported profit calculated above, we can deduce that the firms reported its highest profit after tax in 2019 and lowest profit (negative figure) in 2014. The firms reported a negative profit between the periods of 2015 to 2014, this was due the nosedived of oil of price, output and export between the periods, this was also seconded by the graphical presentation in the statement of the problem of the study in chapter one.

Table one above showed the combined computed non-current debt for the respective eight firms listed on the oil and gas sector of Nigeria exchange group from 2020 to 2013 which are: 368,591,275, 154,474,348, 183,092,046, 436,620,865, 326,481,498, 383,871,063, 123,433,633 and 143,718,810 all values are in thousands of naira respectively. The values presented depicted that the firms highest non-current debt was reported in 2017 (₦436,620,865,000) while its lowest values was reported in 2014 (₦ 123,433,633,000).

Table one above showed the combined computed capital employed for the respective eight firms listed on the oil and gas sector of Nigeria exchange group from 2020 to 2013 which are: 1,016,586,260, 340,062,946, 457,821,954, 899,496,973, 656,614,635, 704,832,672, 502,591,605 and 415,381,528 all values are in thousands of naira respectively. From the reported profit calculated above, we can deduce that the firms reported its highest capital employed in 2020 (1,016,586,260,000) while its lowest values was reported in 2019 (340,062,946,000).

Table one above showed the combined computed equity for the respective eight firms listed on the oil and gas sector of Nigeria exchange group from 2020 to 2013 which are: ₦647,994,985, ₦185,588,598, ₦274,729,908, ₦462,876,108, ₦330,133,137, ₦320,961,609, ₦379,157,972 and ₦271,662,718 all values are in thousands of naira respectively. From the reported profit calculated above, we can deduce that the firms reported its highest capital employed in 2020 (647,994,985,000) while its lowest values was reported in 2019 (185,588,598,000).

4.2   Operationalizing ratios (Table two)

YEAR	ROE	ECR	DER
2020	0.1116	0.6374	0.5688
2019	0.2332	0.5457	0.8323
2018	0.1163	0.6001	0.6664

2017	0.0291	0.5146	0.9433
2016	-0.1076	0.5028	0.9889
2015	-0.3831	0.4554	1.1960
2014	0.0739	0.7544	0.3255
2013	0.0363	0.6540	0.5290

Source: author's computations, from companies' financial statements.

Table two above showed the computed return on equity ratio (ROE) for the respective eight firms listed on the oil and gas sector of Nigeria exchange group from 2020 to 2013 which are: 0.1116, 0.2332, 0.1163, 0.0291, -0.1076, -0.3831, 0.0739 and 0.0363 respectively, the presented also depicted that the return on equity has a negative ratios in 2015 and 2014, this was as a result of the negative profit (-35,522,432,000 and -122,954,507,000) reported in the two periods respectively, which is also as the result of the nosedived of the oil price, production and export. From the above (table two) we can deduce that the firms has its highest returns on equity in 2019 (0.2332) while its lowest return on equity ratio was in 2015 (-0.3831).

Table two above showed the computed equity to capital employed ratio (ECR) for the respective eight firms listed on the oil and gas sector of Nigeria exchange group from 2019 to 2012 which are: 0.6374, 0.5457, 0.6001, 0.5146, 0.5028, 0.4554, 0.7544 and 0.6540 respectively, from the calculated ECR above (table two) showed that the firms has its highest ratio in 2014 (0.7544) which is the prior the nosedived of oil price, production and export of oil, while its lowest ECR was in 2015 (0.4554) which in the period oil price, oil production and export nosedived.

Table two above showed the computed debt to equity ratio (DER) for the respective eight firms listed on the oil and gas sector of Nigeria exchange group from 2020 to 2013 which are: 0.5688, 0.8323, 0.6664, 0.9433, 0.9889, 1.1960, 0.3255 and 0.5290 respectively, from the calculated DER above (table two) showed that the firms has its highest ratio in 2015 (1.1960) this may likely be as a result of the nosedived of oil price, production and export, therefore more debt was obtained by them to keep the firm afloat and to meet up with other financial obligations, while its lowest DER was in 2014 (0.3255) prior the nosedived of oil price, production and export of oil.

4.3 Descriptive statistics (Table three)

	ROE	ECR	DER
Mean	0.013712	0.583050	0.756275
Median	0.055100	0.572900	0.749350
Maximum	0.233200	0.754400	1.196000
Minimum	-0.383100	0.455400	0.325500
Std. Dev.	0.187017	0.097434	0.285025
Skewness	-1.201105	0.426632	0.036945
Kurtosis	3.676599	2.222903	1.978437
Jarque-Bera	2.076131	0.443979	0.349684
Probability	0.354139	0.800924	0.839590
Sum	0.109700	4.664400	6.050200
Sum Sq. Dev.	0.244827	0.066454	0.568676
Observations	8	8	8

Source: author's computations, e-view 9.0.

Table three above showed the summary of the descriptive statistics of the study variables. The table showed that ROE (dependent variable), ECR (independent variable) and DER (independent variable) has the mean of: 0.013712, 0.583050 and 0.756275 respectively, DER has the highest value while ROE has the lowest value. The maximum values of ROE, ECR and DER as shown in table three above are: 0.233200, 0.754400 and 1.196000 respectively, DER has the highest value while ROE has the lowest value. The minimum values of ROE, ECR and DER as shown in table three above are: -0.383100, 0.455400 and 0.325500 respectively. Table three above also showed the standard deviation of ROE, ECR and DER are: 0.187017, 0.097434 and 0.285025, from the listed values DER is most dispersed while ECR is the least dispersed. Furthermore the Jarque-Bera statistics and the associated probability values showed that ROE, ECR and DER has a probability values of: 0.354139, 0.800924 and 0.839590respectively, from the above (table three) depicted that the variables are normally distributed, since the values are greater than the 5% significant level.

4.4   Correlation analysis (Table four)

	ROE	ECR	DER
ROE	1.0000		
ECR	0.5497	1.0000	
DER	-0.6480	-0.9882	1.0000

Source: author's computations, e-view 9.0.

Table four above show the relationship between the operationalizing variables in the study. The above (table four) depicted that ROE has positive relationship with ECR (0.5497) however the relation between ROE and DER is negative relationship (-0.6480). ECR has negative nexus with DER (-0.9882).

4.5   Multiple regression output (Table five)

Dependent Variable: ROE
Method: Least Squares
Date: 01/06/21   Time: 20:28
Sample: 2013 2020
Included observations: 8

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.535118	2.260659	2.890802	0.0342
ECR	-7.393806	2.692624	-2.745948	0.0405
DER	-2.922808	0.920460	-3.175377	0.0247

R-squared	0.768688	Mean dependent var	0.013712
Adjusted R-squared	0.676164	S.D. dependent var	0.187017
S.E. of regression	0.106425	Akaike info criterion	-1.362756
Sum squared resid	0.056631	Schwarz criterion	-1.332965
Log likelihood	8.451023	Hannan-Quinn criter.	-1.563681
F-statistic	8.307926	Durbin-Watson stat	2.680018
Prob(F-statistic)	0.025733		

Source: author's computations, e-view 9.0.

4.5.1   Discussion of findings
The regression output above (table five) showed that the coefficient of determination (R-squared) value of 0.77 approximately which indicates that 77% of changes in the dependent variable are accounted for by the combined effect of fluctuation in the independent variables. In the same vein the adjusted R- squared value of 0.68% approximately, indicates that the model used is appropriate and good fit to be used in testing our hypotheses for the study. This also indicate that there is high confidence level for acceptance of the goodness of fit for the model under study. Probability value of the F-statistic 0.025733 above showed that our model is statistically significant at 5% level with a Durbin- Watson statistics (2.68).

In summary, the regression output used in investigating the implication of capital structure (ECR and DER) on performance (ROE) of oil and gas sector firms listed on Nigeria exchange group indicated strong significant nexus between the explanatory variables and response variable, therefore the null hypotheses for the study are rejected. We can therefore confidently say base on the regression out that capital structure does significantly impact firm performance.

4.6   Hypothesis testing
In this section, our null hypotheses for the study is been tested against the alternative hypotheses.

4.6.1   Hypothesis one
H_{01} There is no significant implication of equity to capital ratios (ECR) on the performances of oil and gas sector firms listed on the Nigeria exchange group.
The decision is based on 5% significant level, which means the null hypothesis should be accepted if the calculated p-value is greater than 5%, otherwise reject. From table five above ECR (element of capital structure) has a coefficient of -7.393806, and statistical value of 0.0405 which is within the 5% significant level. Therefore we can conclude that capital structure has statistical significant impact on performance, therefore we reject our null hypothesis for our study.

4.6.2 Hypothesis two

H_{o2} There is no significant implication of debt to equity ratios (DER) on the performances of oil and gas sector firms listed on the Nigeria exchange group.

The decision is based on 5% significant level, which means the null hypothesis should be accepted if the calculated p-value is greater than 5%, otherwise reject. From table five above DER (element of capital structure) has a coefficient of -2.922808, and statistical value of 0.0247which is within the 5% significant level. Therefore we can conclude that capital structure has statistical significant impact on performance, therefore we reject our null hypothesis for our study.

V.   CONCLUSION AND RECOMMENDATIONS

In this chapter we will be summarizing the finding of this study, drawing conclusion and making recommendations.

5.1   Summary of finding

We analyzed the implication of capital structure (ECR and DER) on performance (ROE) of oil and gas sector firms listed on Nigeria exchange group with secondary data extracted from eight (8) companies' website and Nigeria exchange group with data ranging from 2020 to 2013 applied using regression with the help of e-view. The researchers were propelled to carry out the study due the different scholars view on capital structure with respect to performance such as Etale and Uzakah (2019) who opined that capital structure has no significant impact on performance however Kpolode, Edoumiekumo and Alfred (2020) Etale, Edoumiekumo, Kpolode, and Nkak (2020) opined that capital structure has a significant impact on a firm performance.

Another driven force behind the study is also due to the fact that Nigeria get a large proportion of her revenue from this sector, furthermore the fluctuation rate associated with this sector output has drawn the researcher's interest also to look into the impact of capital structure on the performance of the firms. Capital structure play a critical role in every entity and if proper matching is not made by an entity it can drastically affect the going concern principle and in turn affect Nigeria economic growth.

Therefore this study will be of significant values to key stakeholders such as internal (stakeholders and employees) and the same time it will also be of significant values to the external stakeholders such: the government, creditors, and prospective investors to mention but a few.

In view of the above the researchers hypothesized a significant nexus between capital structure of oil and gas sector firms listed on Nigeria exchange group using two variables such as equity to capital employed ratio (ECR) and debt to equity ratio (DER) to represent capital structure and performance is represent by return on equity. The study hypotheses were analyzed using the simple regression with the help of e-view statistical package.

Our findings revealed that:

Equity to capital employed ratio (ECR) which is an element of capital structure has a coefficient of -7.393806, and statistical value of 0.0405 which is within the 5% significant level. Therefore we can conclude that capital structure has statistical significant impact on performance, therefore we reject our null hypothesis for our study; and

Debt to equity ratio (DER) which is an element of capital structure has a coefficient of -2.922808, and statistical value of 0.0247which is within the 5% significant level. Therefore we can conclude that capital structure has statistical significant impact on performance, therefore we reject our null hypothesis for our study.

5.2   Conclusion

In view of the research findings, we concluded that:

The statistical and empirical evidence from the study thus far on the implication of capital structure (ECR and DER) and performance (ROE) of oil and gas sector firms listed on Nigeria exchange group showed that capital structure has a significant impact on performance. Eight (8) firms was used for the study such as: 11 Plc Formally Mobil Oil Nigeria Plc, Anino International Plc, Coinoil Plc, Eterna Plc, Ardova Plc Formally Fortoil, Japaul Oil and Maritime Service Plc, Seplat Petroleum Development Company Plc and Total Nigeria Plc. With data from 2020 to 2013, the result show that the companies experience a weak level of activities between the period of 2016 and 2015 however the company recovered in 2017 and recorded its highest return on equity in 2019 (0.2332).

In a nutshell the findings also revealed that a negative profit doesn't opined an extinction of an entity however if leverage is sorted and properly matched it can lead to an entity recovery, which was depicted in the study in table one and two above i.e. when the firms experienced financial downturn the resorted to borrowing more which helped them recovered in the short run.

5.3 Recommendations

Based on the research findings regarding the implication of capital structure (ECR and DER) and performance (ROE) of oil and gas sector firms listed on Nigeria exchange group showed that capital structure has a significant impact on performance, we therefore recommended that:

  i. The creditors should not hesitate to give loan to firms and most especially the oil and gas companies because they play a great role in the economy;
  ii. Managers should source for external sources of financing to boost its activities before internal sources, the findings above revealed that the external sources has helped revitalized the sector;
  iii. The government should create an enabling environment for firms in this sector to operate effectively and efficiently;
  iv. The government should also make soft loans available to entity during a financial challenging periods just like what happened in 2016 and 2015 of the study; and
  v. Manager should match its capital structure properly to avoid over matching and mismatching of financial resources, if this is not done it may affect company going concern negatively in the long run, which will result to employees lay off, shortfall of Nigeria revenue flows from this sectors.

5.3.1 Research contributions

Most entity are scared to borrow to finance its operation however the study has revealed external finance has contributed to revitalizing the oil and gas companies during the nosedived of the oil price, production and export between 2015 and 2014. However if a firm want to borrow they should consider the cost and benefits, terms and conditions associated with such sources of external finance.

The study has also revealed that capital structure has a significant impact on performance therefore stakeholders such as creditors, government to mention but a few has crucial role to play in trying to revitalizing companies during slow economics activities, this can done by creating an enabling environment, giving grants and loans to help revitalized them.

5.3.2 Future Research

The current study examined the implication of capital structure (ECR and DER) and performance (ROE) of oil and gas sector firms listed on Nigeria exchange group by employing eight (8) firms for the study. Future research could extend the research to cover more firms and also introduce more variables with more recent data.

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