



Effect of Capital Structure on Financial Performance of Listed Oil and Gas Firms in Nigeria

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Abstract

Capital structure is thus the mixture of firm's long-term debt, specific short-term debt, common equity and preferred equity; that is, how a company's finances its overall operations and growth using different sources of finances. This research investigated the effect of capital structure on financial performance of oil and gas firms listed on the Nigerian Exchange Group for periods from 2012-2021. The study adopted ex-post factor research design where data used were extracted from the annual reports of the sampled oil and gas firms in Nigeria. Data was analyzed using descriptive statistics while hypotheses were tested using multiple regression model. The study population encompasses all thirteen (13) oil and gas companies listed in Nigeria and a sample of eight (8) companies were selected using criterion sampling technique to represent the population. The study showed that capital structure represented by debt ratio and equity ratio relates positively and significantly to financial performance. It is also found that, debt-to-equity ratio affects financial performance of listed oil and gas firms in Nigeria negatively and significantly. The study concludes that capital structure has a significant influence on financial performance of listed oil and gas firms in Nigeria. The study recommended that the capital structure of oil and gas firms in Nigeria should comprise 60% of debt

and 40% equity and attention should be paid to the cost of acquiring either of the sources of finance.

Key words: Debt ratio, equity ratio, debt-to-equity ratio, return on asset

I. Introduction

Capital is the life blood of every business and it has been used as a measure of firms' ability to growth and stands the taste of time. The buoyancy of a firms capital shows how big and strong a firm is and how it can growth and prosper overtime. However, the financing mix or financing preference makes up the capital mix and the ability of the firm management to optimally combine the two main financing mix (debt and equity) can lead to the maximization of the company's value as well as financial performance (Vätavu, 2015). In making decisions about the optimal capital structure for a company by its managers, they try whenever possible to reduce the cost of capital for the company so that value of the firm can be maximized without a compromise on the interest of the other stakeholders (Alalade, Ogbebor, & Nyauo, 2020). Management's financial decisions are critical in determining the ideal capital structure. Management of the firm must determine its capital mixture in order to maximize the firm's performance, and this decision is crucial. Firms, on the other hand, have different levels of leverage,



and managers aim to get the best set in order to create a perfect capital structure.

Extensive studies have been conducted to build upon the Modigliani and Miller (1958) argument regarding the independence of financing and investment decisions and that in a perfect capital market, strategies to finance a firm is also independent of the firm's value, but later claim that by altering the capital structure, debt's tax benefits might boost the firm's worth. According to Modigliani and Miller (1958), under very strict assumptions of perfect capital markets, investors' uniform expectations, a tax-free economy, and absence of transaction costs, capital structure is unimportant in determining business value. Based on the results of Jensen and Meckling (1979), who indicated that finance and investment decisions might interact to boost business value, these assumptions have turned out to be unfounded.

Financial performance has been an important focus for researchers because of its eminent importance to all economic entities. It is among the major aims of every business to perform excellently in order to improve its value and protect the interest of its owners and all other stakeholders. There are several constituents that influence a firm's performance and these constituents could be internal or external to the firm some of which could be creditor's sensitivity to the firm's debt level, the capacity of a company to expand, industry completion, the ownership structure of the firm, capital structure etc (Bashiru & Bukar, 2016). Numerous studies have been carried out on what determines performance. These studies used variables like return on asset, return on equity, net profit margin, gross profit margin, tobins-q, earnings per share etc and these studies engendered dissimilar and inconsistent results.

The relationship between capital structure and financial performance has remained an issue of concern to researchers, companies, investors and the government as knowing the mix of capital structure will ensure improvement in performance of firms. Because of how the right capital mix can help improve the performance of firms which in the long run will result to the increase in the amount credited to the government as tax, and improvement in firm value which could be seen on the company's share price. These motivated the current study to investigate the relationship between capital structure and financial performance of oil and gas industry owing to the tremendous contribution of the sector to the Nigeria economy.

Several studies conducted both within and outside Nigeria have investigated the connection

between firm's performance and capital structure has been shown to have variable and inconsistent outcomes. Mutua and Atheru (2020) investigated the connection between the manufacturing and related sector's capital structure and financial performance of Kenya and found long term debt to be impacting positively on financial performance while retained earnings and equity reduces financial performance. In similar vein, Vätavu (2015), who examined the impact of capital structure on financial performance of listed Romanian firms and found the performance of listed Romanian firms to be more enhanced when they use more equity than debt in their capital structure. Other studies include those of Adeoye and Olojede (2022), Oyedokun, Job-Olatuji and Sanyaolu (2018), Duenya and Dugugh (2018), Oke, et al. (2019), Dinh and Pham (2020) and those of Ajibola, et al. (2018), Alalade, et al. (2020), and Al-Qudah (2017), Shehu (2011), Mahmud (2013), and Gill (2011) who reported divergent findings in various sectors of different countries and a lot of these studies were conducted in foreign economies whose findings cannot be generalize to cover the Nigeria business environment. For those conducted in Nigeria, varying measures have been used to proxy capital structure (short term debt, long term debt, total debt, debt ratio, equity, leverage, liquidity etc) and financial performance (ROA, ROE, ROCE, NPM, GPM, Tobins-q etc).

In an attempt to address the gaps highlighted earlier, this study explores the Nigerian oil and gas industry by examining the effect that capital structure represented by debt ratio, equity ratio, and debt-to-equity ratio are having on financial performance which return on asset represents. Therefore, the main aim of this study is to examine the impact of capital structure on financial performance of listed oil and gas firms in Nigeria. Specifically, the study has the following objectives:

- (i) To examine the effect of equity ratio on financial performance of listed Oil and gas firms in Nigeria.
- (ii) To determine the effect of debt ratio on financial performance of listed Oil and gas firms in Nigeria.
- (iii) To investigate the effect of debt to equity on financial performance of listed Oil and gas firms in Nigeria.

In line with the stated objectives, the following hypotheses were formulated in null form:

H01 Equity ratio has no significant effect on financial performance of listed Oil and gas firms in Nigeria



H02 Debt ratio has no significant effect on financial performance of listed Oil and gas firms in Nigeria.

H03 Debt to equity has no significant effect on financial performance of listed Oil and gas firms in Nigeria.

This article aims at offering a practical contribution by identifying the right financing mix that can work well for oil and gas firms to ensure the improvement in their financial performance and overcome the constraints within the capital mix that will hinder the improvement in the performance. The study findings are also expected to contribute in the theoretical sense by validating the theories under consideration. Additionally, by adding more findings on how capital structure affects the financial performance of oil and gas firms listed in Nigeria, the study aims to add to the body of knowledge already in existence.

II. Empirical and Theoretical Reviews

Various factors have significant impact on a company's performance, and one of the most important among them is capital structure. A large number of empirical researches has been conducted to determine whether there is any (positive, negative, or no relationship) relations between firm's performance and capital structure and these studies produced mixed results. The following are few among the literature that evaluated the relation between capital structure and financial performance.

Abdullah and Tursoy (2021) examined the relationship between firm performance and capital structure in Germany. The study examined this association using non-financial firms listed in Germany during the period 1993–2016. The finding revealed a significant positive relationship between capital structure and financial performance. They found that the lower cost of issuing debt and tax was the main course of the positive relationship.

Ngoc, Tien and Thu (2021) determined the impact of capital structure on profitability (represented by ROA and ROE indicators) of 30 logistics enterprises listed on Ho Chi Minh City Stock Exchange (HOSE) for the period of 2012-2019. Quantitative method (with models of Pool OLS, FEM, REM and FGLS) were applied, the research results have shown that capital structure has a negative impact on profitability represented by ROA of firms. While in profitability represented by ROE, no statistical evidence was found to support the impact of capital structure of logistics enterprises in the period

Mukumbi, Eugene, and Jinghong (2020) examined the effect of capital structure on the financial performance of non-financial firms quoted at the Nairobi securities exchange. The study was conducted using 16 non-financial firms in Kenya between 2013-2017. They also used return on asset and return on equity as proxies for financial performance. Debt to equity ratio was used to represent capital structure. They, found that capital structure is directly influencing financial performance of listed Kenyan non-financial firms. They recommended that, listed non-financial firms should increase debt financing in order to improve financial performance and shareholders' wealth.

Dinh and Pham (2020) investigated the effect of capital structure on the financial performance of pharmaceutical enterprises listed on Vietnam's stock market for the period from 2015 to 2019 of all 30 pharmaceutical enterprises. ROE was used as the dependent variable in the regression model, along with four independent variables (financial leverage, self-financing, debt to assets ratios and long-term asset.) Least square regression (OLS) is used to test the effect of capital structure to the firms' financial performance. The analysis results show that the financial leverage ratio (LR), long-term asset ratio (LAR) and debt-to-assets ratio (DR) have positive relationship with firm performance, meanwhile the self-financing (E/C) affects negatively to the return on equity (ROE). In line with the findings, the study suggest that pharmaceutical enterprises should form more reasonable capital structure with higher debt proportion than equity, diversifying loan mobilization channels such as issuing long-term bonds. Moreover, the firms should enlarge the scale suitably to maintain growth and ability to pay debt.

Mutua and Atheru (2020) assess capital structure and financial performance of companies listed under manufacturing and allied sector at Nairobi Securities Exchange, Kenya. The study employed descriptive research design and data was analyzed using multiple regressions. The target population comprised all the eight companies listed under manufacturing and allied sector at the Nairobi Security Exchange, where census approach was adopted. Results of the study revealed that Long term debt have a positive impact on financial performance as measured by Return on Equity, while the financial performance of Kenyan companies listed in the manufacturing and related sector is negatively impacted by retained earnings and equity.

Yinusa, Ismail, Yulia and Olawale (2019) research paper examined the impact of capital



structure on firm performance in Nigeria. The study used dynamic panel model on panel data of 115 listed non-financial firms in Nigeria. The paper used two step generalized method of moment estimation that recognizes the persistence of dependent variable by using its lag value as an explanatory variable in the regression model. The main findings indicate statistical significant relationship exist between capital structure and firm performance particularly when debt financing is moderately employed. In a similar research, Oke, Saheed and Quadri (2019), study the effect of debt on capital structure performance for conglomerate firms operating in Nigeria, the study found a significant positive relationship between capital structure and financial performance.

Adeoye and Olojede (2019) empirically looked into the effect of capital structure on firms' financial performance using panel regression analysis and granger causality test in achieving their stated objectives. The sample of the study consist of the ten (10) listed deposit money banks (DMBs) in Nigeria and the finding of their study shows that capital structure has a negative effect on the financial performance of deposit money banks in Nigeria and recommended that precautionary measures be taken by the management in mitigating credit risk associated with borrowing.

Alaba (2019) investigated the relationship between capital structure and financial performance of oil and gas companies in Nigeria. This relationship was investigated covering periods from 2014-2018 and extracted data from the annual reports of the sampled oil and gas companies in Nigeria. He used multiple regression was used to analyse the relationship. Two variables (return on assets and return on equity) were used to represent financial performance while debt ratio was used to stand for capital structure in his study. The study found a significant relationship between capital structure on financial performance and recommended oil and gas firms should leverage more on short term debt in order to improve financial performance.

Ajibola, Wisdom and Qudus (2018) studied the impact of capital structure on financial performance of quoted manufacturing firms in Nigeria over the period 2005-2014. Panel methodology was applied. The findings of the panel ordinary least square reveled a positive significant relationship existing between long term debt ratio, total debt ratio and return on equity, while an insignificant relationship between return on equity and short term debt ratio. There was also an insignificant relationship between all the proxies

of capital structure (STD, LTD and TD) and ROA which makes ROE a better measure of performance.

Ogenche et al, (2018) conducted a research study on the effect of capital structure on the financial performance of consumer goods firms listed in the Nairobi Securities Exchange. The study targeted 12 firms. A census of all the 12 firms was used as a unit of analysis from the year 2012 to 2016. Secondary data was extracted from the financial statements and used in computing various ratios. The study employed a panel data regression model. The study concluded that there is a significant negative relationship between debt ratio and the financial performance of consumer goods firms listed at NSE. In addition, firm size also had a positive relationship with the financial performance of consumer goods firms at NSE

Shehu (2011) uses data from the annual reports of the sampled firms from 2001 to 2010 to explore the determinants of capital structure in Nigerian listed insurance firms. He looked at the effects of five explanatory variables on the debt ratio. As an analysis technique, multiple regression was used. All of the explanatory variables have statistically and significantly influence on the explained variable, according to the results. The findings support pecking order theory's forecast of profitability and trade-off theory's prediction of tangibility factors. The growth variable backs up the agency theory argument, whereas the size variable backs up the information asymmetry theory. As a result, it is suggested that the management of listed insurance companies in Nigeria examine their position using these capital structures at all times.

Gill, Biger, and Mathur (2011) examined the effect of capital structure on profitability of American service and manufacturing enterprises in order to extend Abor's (2005) conclusions about the effect of capital structure on profitability. From 2005 to 2007, a sample of 272 American companies listed on the New York Stock Exchange was chosen. The findings of this article also reveal that in the manufacturing industry, there is a positive association between short-term debt to total assets and profitability, long-term debt to total assets and profitability, and total debt to total assets and profitability.

Theoretical Underpinnings

The many capital structure theories are presented in this section. Modigliani and Miller's theory, the pecking order theory, the trade-off theory, the market timing theory, and the free-cash flow theory are a few examples. Two theories—the



Modigliani and Miller theory and the pecking order theory—were explicitly chosen for this paper's purposes based on their applicability to research on capital structure and business performance. Therefore, the following is a discussion of these theories:

Modigliani and Miller theory

Modigliani and Miller (1958), who are considered as the founders and proponents of the capital structure theory, are credited with creating the capital structure theory. The discussion on the capital structure concept for enterprises was sparked by their presentation. They claimed in their presentation that the capital structure of the firm is immaterial to its value under the assumptions of a perfect market and the firm having no transaction costs. Additionally, they held the view that both internal and external funds could perfectly replace each other and that a company's debt level has no bearing on its value.

This theory is built on a variety of presumptions that are unfounded in markets or in ideal circumstances. One of the underlying presumptions is that managers act on behalf of the shareholders, ensuring that shareholder value is maximized and eliminating the need for agency fees. Due to the fact that all parties involved have access to the same information, there is information asymmetry. There are no taxes or transaction fees, and businesses can only issue the two risk-free securities classes that are stock and debt. Another presumption is that there are no expenses associated with financial statements and that they can be traded at any moment.

The Modigliani and Miller argument was based on the idea that any tax benefit from debt should match the expenses of taking on the debt in the first place. The debt of a firm is shown to be unimportant to its worth by Modigliani and Miller (1958), who provide their conclusion. This indicates that if the tax benefit is anticipated to be zero, the risk advantage should likewise be zero in order for this theory to hold true. The tax advantage and risk associated with debt must also be equal in order for this theory to hold true. The value of a company, its profitability, and the cost of capital would be unaffected by the capital structure a firm chooses, according to their theory. In an arbitrage-free market with no corporate income tax and no bankruptcy costs, the value of a corporation is invariant with respect to its leverage strategy, according to the theory. This means that whether a firm is financed with debt or equity, its value stays the same.

Pecking order theory

According to Myers and Majluf and Myers (1984), the pecking theory order mandates that businesses choose their capital structure in accordance with specific desires. Equity financing is the least favored form of financing, with internal financing being the most preferred. Internal financing is mostly accomplished by retained earnings from internal operations.

According to the pecking order theory of capital structure, businesses desire a certain hierarchy when making financial decisions. In situations where internal cash flow is insufficient to cover capital expenditures, businesses will borrow money rather than issue equity. Prior to using any type of external funding, internal finance is always preferred. Internal funds do not require additional financial information disclosure or flotation expenses, which could result in a possible loss of competitive advantage. If a company must employ outside capital, it is preferred to use debt, convertible securities, preferred stock, and common stock in that order. Myers (1984). The financial manager's desire to maintain control over the company, lower the agency costs of stock, and prevent a negative market reaction to the announcement of a new equity offering are reflected in this sequence. The quantity of debt will represent the total amount of outside funding required by the company.

Two major presumptions regarding financial managers are made by the theory. The first of them is the chance that a company's managers are more knowledgeable than outside investors about the company's present profitability and potential for future growth. Such information is strongly desired to remain confidential. The usage of internal funds spares management from having to reveal the company's investment opportunities and possible returns on investment to the public. The second presumption is that managers will work in the current shareholders' best interests. If a project would necessitate the issuance of new shares, the managers might even decide against it since it would mostly benefit new shareholders at the expense of existing ones (Myers & Majluf, 1984).

III. Methodology

The study was carried out using ex-facto research design, employing secondary quantitative data. The study relies purely on accounting data of oil and gas firms listed on the Nigerian Exchange Group for the period of ten



years (10) from 2012 to 2021. The study population comprised of thirteen (13) oil and gas firms listed on the Nigerian Exchange Group as at 31st December, 2021. A sample of eight (8) oil and gas firms were used to represent the population. The sampled firms were arrived at using filters to exclude oil and gas companies with incomplete data, those not listed within the study period and those delisted or suspended within the study period. Multiple linear regression was used to express and examine the relationship between performance, debt ratio, equity ratio and debt to equity ratio.

The following is the model employed to test the study hypotheses;

$$ROA_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 ER_{it} + \beta_3 DER_{it} + e_i$$

Where;

ROA= return on asset

DR = debt ratio

ER = equity ratio

DER = debt to equity ratio

e= error term

β_1 - β_3 = coefficient

i= firm

t= time

Table 1: Variables and their Measurements

Variables	Measurement	Sources
Return on Asset	Profit after tax divided by total assets	Adeoye & Olojede (2022); Lawal, Sirajo, Haruna & Sani (2021); and Mukumbi, Eugene & Jinghong (2020).
Debt Ratio	Proportion of total debt to total assets	Adeoye & Olojede (2022); Opoku-Asante, Winful, Sharifzadeh & Neubert (2022) and Oke, Saheed & Quadri (2019);
Equity Ratio	Proportion of equity to total assets	Adeoye & Olojede (2022); Duenya & Dugugh (2018) and Lawal, Sirajo, Haruna & Sani (2021)
Debt to Equity ratio	Proportion total debt to total equity	Oke, Saheed & Quadri (2019); Duenya & Dugugh (2018); and Mugun, Odhiambo, & Momanyi (2019)

Source: Authors' compilations from prior literature (2022).

4. Data presentation, Analysis and Interpretation

This section presents the results of the data analysis and the findings on the data extracted from the reports of listed oil and gas firms in Nigeria. It discusses descriptive statistics, correlation result, regression result and some robustness tests.

Table 2: Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
ROA	80	0.0347	0.2261	-0.6327	1.7057
DR	80	0.7580	0.2622	0.522	2.4785
ER	80	0.2419	0.2622	-1.4785	0.478
DER	80	3.2332	2.9431	-1.9938	18.5312

Sources: Authors' computation using STATA output, 2022

The table above presents the summary of descriptive statistics and it shows that ROA has a mean value of 0.0347 and a standard deviation value of 0.2261. It means that the sampled firms within the study period made about 4% return on their assets and the standard deviation value indicates a high deviation of the variables from the average value. Debt ratio being the proportion of total debt to total assets recorded an average value of 75% with minimum and maximum values of 0.522 and 2.4785. This implies that over 75% of

assets of the sampled oil and gas firms are funded using debt. Also the lowest debt ratio recorded by the firms is 52% while the highest is about 247%. Equity ratio on the other hand has a mean value of 0.2419, a standard deviation value of 0.2622 with lowest and highest values of -1.4785 and 0.478. Impliedly, the average percentage of equity financing the assets of the firms is 24%. The negative minimum value of -1.4785 is an indication that some of the companies made huge losses which resulted to a negative total equity and the



standard deviation value is an indication of low deviation of other variables from the mean. Lastly, DER which is the percentage of total debt to total equity have a mean value of 3.2332, a standard deviation value of 2.9431 with lowest and highest

values of -1.9938 and 18.5312. It implies that in the capital structure of the sampled oil and gas companies, debt financing is over three times higher than equity financing on an average while the highest ratio is over 18 times.

Table 3: Correlation Result

	ROA	DR	ER	DER
ROA	1.0000			
DR	0.5462	1.0000		
ER	0.0493	-0.0921	1.0000	
DER	-0.1961	0.0319	0.0238	1.0000

Sources: Authors' computation using STATA output, 2022

The table above presents the correlation between the dependent and independent variables of the study. The table shows that, return on asset correlates positively with debt ratio and equity ratio at about 54% and 4% respectively. It also correlates negatively with debt to equity ratio to the tune of 19%. It depicts return on asset correlates significantly with debt ratio and debt to equity ratio

and insignificantly with equity ratio. Debt to equity ratio has a positive and insignificant association with debt ratio and equity ratio to the tune of 3% and 2% respectively. The correlation between debt ratio and equity ratio has a value of -0.0921 which implies a negative and insignificant correlation between debt ratio and equity ratio.

Table 4: Regression Result

	Coefficient	t-value	P-value
DR	0.6500	7.61	0.000
ER	0.4185	3.05	0.003
DER	-0.0180	-2.33	0.023
Constant	-0.4267	-5.73	0.000
R-square	0.4201		
F-statistics	24.98		
F-significance	0.0000		
Mean VIF	1.03		
Hetest	1.13(0.2873)		
Hausman	47.21(0.0000)		

Sources: Author's computation using STATA, 2022

Prior to the interpretation of the regression result, some robustness tests were conducted and the results are as follows. The test of multicollinearity which was conducted using VIF and tolerance value shows a mean value of 1.03 which means that there is an absence of harmful multicollinearity among the variables because all the VIF values including the mean value falls below 10. Breusch-Pagan/Cook-Weisberg test of heteroscedasticity was also conducted and it presented a chi2 value of 1.13 with probability value of 0.2873 which is insignificant. It is an indication that heteroscedasticity is not a problem and the data set used is homoscedastic. Furthermore, hausman test for fixed effect model was conducted, it shows a chi2 value of 47.21 and probability value of 0.0000 which implies that the

fixed effect model is significant at 1%. It therefore means that the fixed effect model should be interpreted and used in the study. From the table above, the R-square been the multiple coefficient of determination has a value of 0.4201 which implies that about 42% of change in return on asset been the proxy of financial performance is resulted from the combined change in debt ratio, equity ratio, and debt to equity ratio. The f-statistics and its probability which is significant at 1% implies the fitness of the model and the appropriate selection of the study variables.

Table 4 above shows that debt ratio has a coefficient of 0.6500 and a probability value of 0.000. It shows that, debt ratio has a positive and significant association with financial performance of listed oil and gas firms in Nigeria which implies



that an increase in the proportion of debt will result to a significant increase in financial performance of listed oil and gas firms in Nigeria. This finding is supported by the findings of Dinh and Pham (2020) and those of Ajibola, et al. (2018) who found a positive and significant association between debt ratio and financial performance. It however contradicts those of Adeoye and Olojede (2022), Alalade, et al. (2020), and Al-Qudah (2017) that found a significant negative association between debt ratio and financial performance. In this regard, the null hypothesis stating no significant relationship between debt ratio and financial performance is hence rejected.

Further, from the result obtained above, equity ratio of listed oil and gas firms in Nigeria was found to have a coefficient of 0.4185, t-value of 3.05 and p-value of 0.003. It shows that equity as a capital structure influences the financial performance of listed oil and gas company in Nigeria positively and significantly. It means that if the percentage of equity increases in the capital structure of oil and gas firms, their performance will as well be influenced in a positive and significant manner which will result to about 42% improvement in their performance. The finding tallies with those of Adeoye and Olojede (2022), Oyedokun, Job-Olatuji and Sanyaolu (2018), Adesina, Nwidobie, and Adesina (2015) and the finding of Duenya and Dugugh (2018) were positive and significant associations were found between equity ratio and financial performance. It however, fails to agree with the studies of Dinh and Pham (2020) who found a significant negative association, Lawal, et al. (2021) who found a positive but insignificant association between equity ratio with financial performance. Hence, the outright rejection of null hypothesis 2 of the study.

Lastly, debt to equity ratio can be seen to affect financial performance of oil and gas firms negatively and significantly which is indicated by its negative coefficient of -0.0180 and probability value of 0.023 which is significant at 5% level. It is an indication that any increase in the ratio of debt to equity by listed oil and gas firms in Nigeria will engender a significant reduction on the financial performance of the firms by about 2%. Duenya and Dugugh (2018) gave a literary backing to this study while Oke, et al. (2019) found a contrary result. In view of the above finding, we reject the null hypothesis 3 of the study.

IV. Conclusion and Recommendation

The study has examined the effect of capital structure on financial performance of listed

oil and gas firms in Nigeria covering periods 2012 to 2021. The main aim being to provide empirical insights on the financing behaviors of listed oil and gas firms in Nigeria. Based on the study findings, it is concluded that equity ratio and debt ratio are positive and significant influencers of financial performance of listed oil and gas firms in Nigeria. It is also concluded that debt to equity ratio reduces the financial performance of listed oil and gas firms in Nigeria.

It is recommended that the managers of oil and gas firms in Nigeria should be able to determine the appropriate capital mix that maximizes performance. This is owing to the fact that both the proportion of equity and debt in the capital structure of oil and gas firms in Nigeria will result to a positive increase in performance. Looking from the results of the study depicted by the coefficients of debt and equity, debt should form up to 60% of the capital structure of oil and gas firms in Nigeria because it contributes more to the performance of the firms. However, in doing so, the managers have to pay close attention to the cost of acquiring any of the two sources of finance and which ever has a borrowing cost should form more in the capital structure.

References

- [1]. Abdullah, H., & Tursoy, T. (2021). Capital structure and firm performance: evidence of Germany under IFRS adoption. *Review of Managerial Science*, 15(2), 379-398.
- [2]. Abor, J. (2005). The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana. *The Journal of Risk Finance*, 6 (5), 438-445.
- [3]. Adeoye, S. D., & Olojede, S. O. (2019). Effect of Capital Structure on Financial Performance of Listed Banks in Nigeria. *Asian Journal of Economics, Business and Accounting*, 12(2), 1-14.
- [4]. Adesina, J. B., Nwidobie, B. M., & Adesina, O. O. (2015). Capital structure and financial performance in Nigeria. *International Journal of Business and Social Research*, 5(2), 21-31. <http://www.thejournalofbusiness.org/index.php/site>.
- [5]. Ajibola, A., Wisdom, O., & Qudus, O. L. (2018). Capital structure and financial performance of listed manufacturing firms in Nigeria. *Journal of Research in International Business and Management*, 5(1), 81-89.
- [6]. Alaba, O. V. (2019). Capital structure and financial performance of oil and gas



- companies in Nigeria, *International Journal of Finance and Commerce*, 1(3), 1-5. ISSN: 2664-715X.
- [7]. Alalade, Y. S., Ogbekor, P. I., & Nyaucho, T. (2020). Capital structure and profitability of downstream oil and gas firms listed in Nigeria. *Research Journal of Finance and Accounting*, 11(8), 13-24. DOI: 10.7176/RJFA/11-8-02.
- [8]. Al-Qudah, A. A. (2017). The relationship between capital structure and financial performance in the companies listed in Abu Dhabi securities exchange: evidences from United Arab Emirates. *Review of European Studies*, 9(2), 1-9. <http://doi.org/10.5539/res.v9n2p1>.
- [9]. Bashiru, M., & Bukar, M. (2016). The impact of capital structure on financial performance of listed firms in the Nigerian oil and gas industry. *International Journal of Public Administration and Management Research*, 3(4), 38-44. <http://www.rcmss.com>.
- [10]. Dinh, H. T., & Pham, C. D. (2020). The Effect of Capital Structure on Financial Performance of Vietnamese Listing Pharmaceutical Enterprises. *The Journal of Asian Finance, Economics and Business*, 7(9), 329-340.
- [11]. Duenya, M. I., & Dugugh, R. (2018). Effect of capital structure on financial performance of selected deposit money banks in Nigeria. *Multidisciplinary International Journal*, 2(11), 7-21. www.globalresearchacademy.uk.
- [12]. Gill, A., Bigger, N., & Mathur, N. (2011). The effect of capital structure on profitability: evidence from United States. *International Journal of Management*, 28(4).
- [13]. Jensen, M. C. & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics* 3: 305-360.
- [14]. Lawal, S., Sirajo, M., Haruna, Y., & Sani, I. G. (2021). Impact of capital structure on financial performance of listed building materials companies in Nigeria. *World Academics Journal of Management*, 9(4), 39-43.
- [15]. Mugun, W., Odhiambo, S. A. & Momanyi, G. (2019). Effect of debt to equity ratio on financial performance of microfinance institutions in Kenya. *International Journal of Research and Scientific Innovation*, 6(7), 154-162. www.rsisinternational.org. ISSN 2321-2705.
- [16]. Mukumbi, M., C., Eugene K. W., & Jinghong S. (2020). Effect of capital structure on the financial performance of non-financial firms quoted at the Nairobi securities exchange. *International Journal of Science and Business*, 4(4), 165-179. DOI: 10.5281/zenodo.3787293.
- [17]. Mutua, L. M., & Atheru, G. K. (2020). Capital Structure and Financial Performance of Companies listed under Manufacturing and Allied Sector at Nairobi Securities Exchange in Kenya. *Journal of Finance and Accounting*, 4(1).
- [18]. Myers, S. & Majluf, N. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13, 187-221.
- [19]. Myers, S.C.1984.The Capital Structure Puzzle, *Journal of Finance*, 39, 575-92.
- [20]. Ngoc, N. M., Tien, N. H., & Thu, T. H. (2021). The Impact of Capital Structure on Financial Performance of Logistic Service Providers Listed on Ho Chi Minh City Stock Exchange. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 18(2), 688-719.
- [21]. Ogenche, R., Githui, T., & Omurwa, J. (2018). Effect of Capital Structure on Financial Performance of Consumer Goods Firms Listed in the Nairobi Securities Exchange. *Journal of Finance and Accounting*, 2(1),
- [22]. Oke, L. A., Saheed, D. O., & Quadri, Y. O. (2019). An empirical analysis of corporate capital structure and financial performance of listed conglomerates in Nigeria. *Copernican Journal of Finance & Accounting*, 8(3), 95-114.
- [23]. Opoku-Asante, K., Winful, E. C., Sharifzadeh, M. & Neubert, M. (2022). The relationship between capital structure and financial performance of firms in Ghana and Nigeria. *European Journal of Business and Management Research*, 7(1), 236-244. DOI: <http://dx.doi.org/10.24018/ejbmr.2022.7.1.1282>.
- [24]. Oyedokun, G. E., Job-Olatuji, K. A. & Sanyaolu, W. A. (2018). Capital Structure and Firm Financial Performance. *Accounting & Taxation Review*, 2(1), 56-71. Performance of microfinance institutions in Kenya. *International Journal of Research*



- and Scientific Innovation, 6(7), 154-163.
www.rsisinternational.org.
- [25]. Shehu, U. H. (2011). Determinants of capital structure in the Nigerian listed insurance firms, *International Journal of China-USA Business Review*, 10(12), 81-98.
- [26]. Vătavu, S. (2015). The impact of capital structure on financial performance in Romanian listed companies. *Procedia Economics and Finance*, 32,1314-1322. doi: 10.1016/S2212-5671(15)01508-7.
- [27]. Yinusa O.G., Ismail A., Yulia R., & Olawale, L.S. (2019). Capital Structure and Firm Performance in Nigeria. *African Journal of Economics Review*, 7(1), 31–56