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

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ABSTRACT

Extensive research has been conducted on the relationship between capital structure and financial performance of firms, with the literature documenting the impact of this relationship. In Nigeria, there has been a growing trend of firms consolidating their equity capital as opposed to debt, leading to a need for further investigation into this relationship. This study aims to address this gap by exploring the impact of equity and debt, two capital structure variables, on net profit margin, a measure of financial performance. The study focuses on ten Nigerian listed firms over a decade-long period (2010-2020) and uses published annual reports as the primary data source to ensure the findings are valid and reliable. The selected firms are representative of Nigerian listed firms on the Nigerian Stock Exchange (NSE). Regression analysis using ordinary least square methodology of secondary data indicates that capital structure has a significant positive relationship with the financial performance of Nigeria listed firms, suggesting that these firms have consistently used both debt and equity capital to improve their earnings. The study's results have several implications for managers and investors in Nigeria, including the importance of finding the optimal balance between debt and equity capital to enhance financial performance, the need for proper management of debt levels to avoid excessive leverage and financial distress, and providing insight into the factors that drive the performance of Nigerian listed firms, which can guide investment decisions and strategies. This study adds to the growing body of literature on capital structure and financial performance by analyzing the relationship between capital structure and net profit margin in Nigerian listed firms. The findings suggest that well-managed capital structure positively impacts financial performance and provides valuable insights for managers and investors in Nigeria.

Keywords: *Capital structure, debt and equity, financial performance, Equity financing, financial management, debt and equity capital, Nigerian Stock Exchange*

Introduction

Capital structure is a crucial aspect of financial management for businesses, including those operating in the oil and gas industry. The choice of capital structure can significantly impact a firm's financial performance and overall success, as noted by Akinlo and Egbetunde (2013). The Nigerian National Petroleum Corporation (2022) has reported that the oil and gas sector is a vital contributor to the country's economy, with many listed firms operating in the industry. However, these firms face various financial challenges, such as fluctuations in global oil prices, regulatory changes, and the need to balance debt and equity financing. The financial performance of listed oil and gas firms in Nigeria is a critical indicator of the industry's health and the broader economy. In recent years, the industry has encountered significant challenges due to a drop in oil prices, increased competition, and regulatory changes. To maintain their financial stability and profitability, firms in the industry have had to carefully manage their capital structure. This requires a balanced approach to debt and equity financing, taking into account the firm's specific circumstances and the external factors affecting the industry. Overall, effective capital structure management is essential for the long-term success of oil and gas firms in Nigeria.

The capital structure of a firm is a critical aspect that involves finding the right balance between debt and equity financing. Debt financing allows firms to raise funds by borrowing money through loans, bonds, or other means, while equity financing involves raising funds by selling shares of the company. The decision between debt and equity financing can have far-reaching implications for a firm's financial performance (Onyeka and Ahiakwo, 2017). Debt financing provides firms with access to capital without diluting ownership or control. However, it also increases the firm's financial risk by adding debt service obligations that must be fulfilled irrespective of business performance. In contrast, equity financing offers a more flexible and healthier balance sheet, but it can also dilute ownership and control. In Nigeria's oil and gas industry, debt financing has traditionally been the primary source of capital. This is driven by various factors, including the need to finance exploration and production activities, the unpredictable nature of oil prices, and the substantial capital requirements of the industry. Nevertheless, the industry's over-reliance on debt financing has exposed firms to significant financial risks, particularly during periods of low oil prices or unfavorable market conditions.

The oil and gas industry in Nigeria faces significant challenges due to its heavy reliance on debt financing. In response, firms have been exploring alternative financing options to mitigate these risks. Equity financing offers several benefits, including greater financial stability, reduced debt service obligations, and increased flexibility in financial management. Additionally, joint ventures and public-private partnerships can provide access to capital and other resources while sharing risks and rewards with partners.

Given the importance of the oil and gas industry to the Nigerian economy, (Ekezie and Okoye, 2021). the financial performance of listed firms in this sector is closely monitored by various stakeholders, including investors, regulators, and the public. These stakeholders use key financial indicators such as revenue, profitability, cash flow, and return on investment to evaluate the performance of these firms. However, these indicators can be influenced by several factors, including the firm's capital structure, operational efficiency, and market conditions. For instance, a firm with a high debt burden may struggle to generate positive cash flow during a period of low oil prices, while a firm with a more balanced capital structure may be better equipped to navigate

such challenges. To succeed in this industry, companies must carefully manage their finances and make strategic decisions about their capital structure to maintain financial stability and achieve long-term success.

The financial success of listed oil and gas firms in Nigeria is closely tied to their capital structure, which involves choosing between debt and equity financing. This decision can impact a firm's stability, profitability, and ability to navigate market conditions, according to Uwuigbe, Olaniyi, and Inyiama (2015). As the industry faces ongoing challenges and regulatory changes, companies must manage their capital structure carefully and consider alternative financing options to remain competitive. Investors, regulators, and the public will be monitoring these firms' financial performance, necessitating transparent and accountable financial management practices. Therefore, this study aims to explore the relationship between capital structure variables and corporate performance in publicly traded Nigerian companies. To achieve this, data on equity, debt, and net profit margin will be collected from relevant financial statements of selected firms, and an analysis will be conducted.

Statement of the Problem

Despite the significant contributions of the oil and gas sector to the Nigerian economy, there is limited research on the impact of capital structure on the financial performance of listed firms in this industry. This gap in knowledge is particularly important as firms in the oil and gas sector are faced with unique challenges, including high capital requirements, volatility in oil prices, and regulatory pressures. Therefore, the problem this study seeks to address is to examine the relationship between capital structure and financial performance of listed oil and gas firms in Nigeria, with the aim of providing insights into optimal capital structure strategies for these firms to enhance their financial performance.

Objectives of the Study

The research presented here seeks to investigate the potential link between various capital structure variables and corporate performance in Nigerian companies that are publicly traded.

Literature Review and Theoretical Framework

Conceptual Review

Capital structure refers to the combination of debt and equity used by a company to finance its operations. This decision is critical as it impacts the cost of capital, risk profile, and overall value of the organization. The traditional theory of capital structure, put forth by Modigliani and Miller (1958), suggests that a company's capital structure is irrelevant to its value. However, this theory assumes perfect capital markets, which do not exist in the real world. In reality, several factors influence a company's capital structure decision, such as the cost of capital and financial distress costs, which include bankruptcy costs, legal fees, and reputational damage. Companies must find an optimal balance between the benefits of debt financing, such as lower cost of capital, and the potential costs of financial distress.

Several theories, such as the trade-off theory and pecking order theory, have been proposed to explain the optimal capital structure. The former suggests that companies balance the tax benefits of debt financing with the costs of financial distress, while the latter posits that companies prefer

internal funds, followed by debt and equity financing. A company's capital structure also affects its ability to make strategic investments and acquisitions. A highly leveraged company may not have the financial flexibility to fund new investments or acquisitions. Therefore, the practical implications of capital structure decisions are significant as they impact a company's ability to raise capital, make strategic decisions, and ultimately its overall value.

Financial performance metrics are crucial for assessing the success of manufacturing companies. One of the most significant metrics is profitability, which measures a company's ability to generate profits from its operations. Net profit margin, return on assets (ROA), and return on equity (ROE) are common metrics used to evaluate profitability. For instance, a recent study by Adamu and Hassan (2021) revealed that the average net profit margin of manufacturing firms in Nigeria was 7.8%, indicating a moderate level of profitability. Another important metric used to assess the financial performance of manufacturing companies is liquidity. Liquidity refers to a company's ability to meet its short-term obligations and can be measured using metrics such as the current ratio and quick ratio. Ahmad and Akhter (2021) conducted a study on the financial performance of Pakistani manufacturing firms and found that the average current ratio for these firms was 1.32, indicating that they had sufficient liquidity to meet their short-term obligations. Leverage is also a significant factor that can impact the financial performance of manufacturing companies. Leverage refers to the amount of debt a company has relative to its equity and can be measured using metrics such as the debt-to-equity ratio and interest coverage ratio. Ullah et al. (2021) conducted a study on the financial performance of manufacturing firms in Pakistan and found that high leverage negatively impacted their profitability. This is because high-interest payments reduced their net income.

Theoretical Framework

Over the years, scholars and practitioners have proposed several theories to explain this relationship, and this review focuses on the most commonly cited ones. One of the earliest and most significant theories is the Modigliani-Miller (MM) theorem, which states that a firm's capital structure is irrelevant to its value and cost of capital in a perfect market (Modigliani & Miller, 1958). However, in the real world, several factors affect a firm's cost of capital and value, such as taxes and bankruptcy costs, which give rise to the trade-off theory of capital structure. This theory suggests that firms balance the tax advantages of debt financing against the costs of financial distress when choosing their capital structure. Another influential theory is the pecking order theory, which suggests that firms prefer to use internal funds before resorting to external financing. This is because external financing can be more costly and risky than internal funds and may signal negative information about a firm's prospects to investors. Overall, these theories provide valuable insights into how firms choose their capital structure, which in turn affects their financial performance.

Empirical Review

Empirical studies have provided conflicting evidence on the relationship between a firm's capital structure and its financial performance. Some studies have found a positive relationship between leverage, which refers to the proportion of debt in a firm's capital structure, and financial performance, suggesting that debt financing can increase a firm's profitability and efficiency (Frank & Goyal, 2009). However, other studies have found a negative relationship between

leverage and financial performance, indicating that high levels of debt can increase a firm's financial risk and decrease its profitability (Rajan & Zingales, 1995).

The relationship between capital structure and financial performance is complex and varies depending on different theories and factors, as well as the context in which a firm operates. Therefore, it is essential for firms to carefully consider their financial goals, risk tolerance, and market conditions when making capital structure decisions. Various studies have investigated the relationship between capital structure and financial performance in different industries. According to Modigliani and Miller's (1958) theory, in a perfect market, a firm's capital structure would not affect its value. However, in the real world, firms face market imperfections such as taxes, bankruptcy costs, and agency costs that can affect their value. Hence, a firm's optimal capital structure depends on the specific market imperfections it faces.

According to Myers (1984), the capital structure of a firm plays a significant role in its financial flexibility and ability to pursue investment opportunities. Firms with a high debt-to-equity ratio may face financial distress, which could limit their ability to invest in profitable projects. Conversely, firms with a low debt-to-equity ratio may miss out on potentially lucrative investment opportunities. Therefore, achieving an optimal capital structure is critical for a firm's financial performance.

Numerous studies have investigated the relationship between capital structure and financial performance in the oil and gas industry. For instance, Ologunde et al. (2016) found that the capital structure of oil and gas firms in Nigeria has a significant impact on their financial performance. They discovered that a higher debt-to-equity ratio is positively associated with return on assets (ROA) and return on equity (ROE). This suggests that debt financing can enhance the financial performance of oil and gas firms in Nigeria.

Similarly, Adaramola and Atanda (2015) reported that the debt-to-equity ratio has a positive impact on the financial performance of listed oil and gas firms in Nigeria. They argued that debt financing provides firms with the resources needed to invest in profitable projects and take advantage of investment opportunities, thus enhancing their financial performance. However, some studies have found a negative relationship between capital structure and financial performance in the oil and gas industry. For example, Fatile et al. (2018) discovered that a high debt-to-equity ratio has a negative impact on the financial performance of oil and gas firms in Nigeria. They asserted that excessive debt financing could lead to financial distress and bankruptcy, which would harm a firm's financial performance.

In a study by Lashgari and Zainuddin (2014) that analyzed the capital structure of oil and gas firms globally, it was found that their financial performance is significantly affected by the amount of debt and equity in their capital structure. The authors argued that a higher debt-to-equity ratio can increase the value of a firm by reducing the cost of capital, but excessive debt can lead to financial distress and negatively impact a firm's financial performance.

Similarly, a study by Dang, Vo, and Nguyen (2019) focused on oil and gas firms in Vietnam and found that the capital structure significantly affects their financial performance. They discovered that a higher debt-to-equity ratio positively affects the profitability of firms, but negatively affects their risk. In Nigeria, Adelegan and Ajayi (2019) investigated the impact of liquidity on the relationship between capital structure and financial performance of oil and gas firms. Their study

found that liquidity moderates the relationship between capital structure and financial performance, such that a higher debt-to-equity ratio has a positive impact on financial performance only when firms have adequate liquidity. These studies highlight the importance of carefully managing the capital structure of oil and gas firms to maximize their financial performance. While a higher debt-to-equity ratio can reduce the cost of capital and improve profitability, it must be balanced with adequate liquidity and a level of debt that does not lead to financial distress.

Several studies have investigated the impact of different firm characteristics on the relationship between capital structure and financial performance in the oil and gas industry. For instance, Oloyede and Adeleke (2017) examined the influence of firm size on this relationship in Nigeria and found that the positive impact of debt financing on financial performance is more significant for smaller firms than larger firms. This finding suggests that smaller firms can benefit more from using debt to finance their operations than larger firms.

Moreover, the ownership structure of oil and gas firms has also been found to affect the relationship between capital structure and financial performance. Adusei and Opoku (2018) conducted a study on oil and gas firms in Ghana and found that firms with high foreign ownership tend to have a higher debt-to-equity ratio, which positively affects their financial performance. This finding implies that the ownership structure of a firm can impact its financing decisions and ultimately influence its financial performance. Based on the literature review, we can formulate a hypothesis that firm size and ownership structure have a moderating effect on the relationship between capital structure and financial performance in the oil and gas industry. Specifically, we can hypothesize that the positive impact of debt financing on financial performance is more significant for smaller firms than larger firms and that firms with high foreign ownership tend to have a higher debt-to-equity ratio, which positively affects their financial performance.

Ho: There exists no significant positive relationship between capital structure variables and corporate performances of quoted firms in Nigeria.

Hi: There exists a positive significant relationship between capital structure variables and corporate performances of quoted firms in Nigeria.

METHODOLOGY

Research Design

This research aims to examine how the way oil and gas companies in Nigeria finance their operations affects their financial performance. The study will use a quasi-experimental design, specifically an ex post facto approach, since the variables of interest cannot be directly controlled by the researcher. This design is commonly used in social science research because of the intricate relationships between non-manipulated variables. The study will use multiple regression models, including pooled ordinary least squares and panel regression models, to analyze the correlation between the variables. Furthermore, the research will use descriptive statistical analyses such as mean, mode, median, and standard deviation. The research is primarily quantitative in nature.

Population for the study

To conduct the research, the population was defined as all oil and gas companies listed on the Nigerian Stock Exchange as of December 2020, as obtained from data provided by the Port Harcourt office of the Nigerian Stock Exchange. Additionally, all oil and gas companies listed from 2011 to 2020 were also included in the study population as they constituted the entire group of quoted companies in the sector during the study period. To avoid plagiarism, it is essential to rephrase the original text and cite the sources accurately

Sample and Sample Size Technique-

The study conducted a purposive sampling technique to select ten oil and gas companies for analysis. The selection criteria were based on the availability of composite data from 2011 onwards, which included more indigenous companies added to the list of the quoted companies in Nigeria. The purposive sampling technique is a non-probability sampling method used when the sample is chosen purely on the basis of convenience (Baridam, 2006). This means that the variables selected for the study were accessible and easy to measure. The study focused on the analysis of debt structure and financial performance variables for the last ten years. The financial performance variables considered were Return on Capital Employed (ROCE) and Net Profit Margin (NPM), while the debt structure variables included Short-term Debt and Long-term Debt. The ten selected companies for the analysis were Oando Plc, MRS Plc, Conoil Plc, Forte Oil Plc, Total Plc, Mobil Plc, Eterna Oil & Gas Plc, Capital oil Plc, RAK Unity Petroleum Plc, and Ja Paul Oil and Maritime Plc. The use of purposive sampling allowed for the selection of companies that met the specific criteria for the study, which increased the relevance and accuracy of the analysis. Additionally, the focus on the last ten years allowed for an in-depth analysis of the trends and patterns in debt structure and financial performance for the selected companies.

Data Collection Method

The study extensively utilized secondary data obtained from the fact book, i.e., the Annual Reports, of oil and gas companies listed on the Nigerian Stock Exchange (NSE) for the period spanning from 2011 to 2020. While it is widely acknowledged that the NSE possesses confidential documents, including the annual reports of companies, social science research frequently relies on the annual reports of NSE-listed firms as they present a wealth of information with complex variables (Guthric & Abeysekera, 2006). Additionally, organizations often utilize their reporting mechanisms to communicate what they consider significant, making annual reports a valuable source of information (Gibson & Guthric, 1996). To ensure a comprehensive and accurate analysis of the data, the study exclusively employed pure secondary data from financial statements, i.e., the Annual Reports. This approach is common in research that seeks to analyze financial performance (Ely & Waymire, 1999) and provides a reliable source of data for analysis (Beattie & Smith, 2013). Furthermore, using financial statements as secondary data ensures that the research is based on objective and reliable data, as companies are required by law to present a true and fair view of their financial performance (Amat et al., 2018). Therefore, the exclusive use of secondary data from the Annual Reports of NSE-listed oil and gas companies provides a robust basis for the study's analysis.

Method of Data Analysis Techniques

The research conducted utilized two common analytical techniques, namely descriptive statistics and panel data regression modeling. Descriptive statistics such as mean, median, maximum, and minimum values were utilized to assess the variables used in the study. Moreover, measures of descriptive statistical estimates like standard deviation and variance were used to examine the extent of variability of the estimate. To determine the most appropriate regression model with the highest explanatory power, a Pooled Ordinary Least Square (OLS) model was utilized in the study. This model was considered the most appropriate for the balance panel data used, as per (Greene, 2003; Chen, 2004, Salawu, 2007). Regression is a widely used statistical technique in social science research, as it enables researchers to ascertain the relationship between dependent and independent variables that can help explain social phenomena, as per (Scarbrough & Tanenbaum, 1998). Furthermore, regression techniques are useful in making predictions based on multiple sources of information, as per (Hutcheson & Safroniou, 1999). The study analyzed data using Ordinary Least Square (OLS) to determine the nature of the relationship between a firm's capital structure and the financial performance of listed oil and gas firms. The study employed appropriate analytical techniques to obtain meaningful insights into the relationship between firm's capital structure and financial performance in the oil and gas industry.

$FP = a + \beta 1FQ + \beta 2DF + \mu i$---------- 1)

Where: FP = firms Performance as measure by NPM

FQ= Firm Equity finance

DF= Firm Debt finance

μi = random or stochastic term (error term) is used in this study as similar studies Fosu (2013) in South Africa, Abor (2007) in Ghana used it in similar studies.

ANALYSIS AND FINDINGS

Table 4.1 is a descriptive analysis of the variables that were used in this study. It presents statistical information such as the mean, maximum, minimum, and standard deviation values of each variable. These statistical values can provide a deeper understanding of the variables' characteristics and distribution.

By examining the mean, maximum, minimum, and standard deviation, researchers can gain a general understanding of each variable's central tendency, range, and variability. This type of analysis is particularly useful for exploratory purposes, as it can offer insights into the data before further analysis is conducted.

It is important to note that the data used in this study was collected up until September 2021. Researchers should consider this temporal aspect when interpreting the results and drawing conclusions from the analysis.

Table 4.1: Descriptive Values of Variables

Variables	Minimum	Maximum	Mean	Standard deviation
FP	-5,581.1	39,968.3	16,779.3	16,669.5
EQ	55,542.6	258,396.8	136,683.2	73,040.4
DF	0	76,674.9	27,981.9	21,889.8

Upon analyzing the provided data, it is evident that the financial performance of firms, as measured by net profit margin, has a wide range of values. The range of values for net profit margin goes from a negative figure of N5,581.1m to a positive value of N39,968.3m before tax. This means that some firms are doing much better financially than others. The average net profit margin across all firms is N16,779.3m, and the standard deviation is N16,669.5m. This high degree of variability suggests that the financial performance of these firms is not consistent across the board.

In contrast, the equity capital of these firms ranges from a minimum of N55,542.6m to a maximum of N258,396.8m, with a mean of N136,683.2m and a standard deviation of N73,040.4m. The equity capital values show that there is much more variation in the equity capital than in the financial performance of these firms. This could be due to factors such as varying levels of investment or differing ownership structures.

The debt capital of these firms ranges from a minimum of N0.0m to a maximum of N76,674.9m, with a mean of N27,981.87m and a standard deviation of N21,889.8m. The relatively lower values of debt capital compared to equity capital indicate that these firms are using less debt to finance their operations. The moderate level of variation in the debt capital of these firms suggests that there is some diversity in their financing strategies.

The analysis reveals that the financial performance of these firms has a high degree of variability, while their equity capital has a much wider range of values, indicating a higher level of variation. This information can be useful for investors and stakeholders in assessing the financial health and stability of these firms. It is important to consider both financial performance and equity and debt capital when evaluating a company's overall financial status.

Table 4.2: Correlations

		BP	EQ	DB
Pearson Correlation	FP	1.000	.894	.638
	EQ	.894	1.000	.437
	DF	.638	.437	1.000
Sig. (1-tailed)	FP	.	.000	.023
	EQ	.000	.	.103
	DF	.023	.103	.
N				
FP	10	10	10	
	EQ	10	10	10
	DF	10	10	10

According to the data provided, there appears to be a significant and positive correlation between the financial performance of oil and gas companies and both their equity and debt.

The correlation coefficient between financial performance and equity is particularly strong, with a value of 0.894, indicating a high degree of association between these variables.

Similarly, the correlation coefficient between financial performance and debt is also significant, albeit to a slightly lesser extent, with a coefficient of 0.638.

Table 3: Regression Coefficients

	Unstandardized Coefficient		Standardized Coefficient	t	Sig
Mode	B	Std.Error	Beta		a
(Constant)	-13461.217	4807.618		-2.800	.027
EQ	.173	.034	.760	5.120	.001
DB	.253	.113	.306	2.064	.078

After performing the ordinary least squares model on average data from a sample of banks, a regression equation was derived to describe the relationship between equity, debt, and profit before tax. The regression equation can be used to predict the expected values of profit before tax based on the values of equity and debt.

It is important to note that the accuracy and reliability of the regression equation will depend on the quality of the data used to develop it, as well as the assumptions and limitations of the model. Additionally, the regression equation should be interpreted with caution, as it represents a statistical relationship and does not necessarily imply causation.

FP = -13461.217 + 0.173EQ + 0.233DF (table 3)

Table 4 R2 Analysis

Model	R	R Squareb	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.936a	.875	.840	6678.20244	2.535

REGRESSION ANALYSIS

The regression equation from the analysis is:

FP = -13461.217 + 0.173EQ + 0.233DF

Based on the regression analysis conducted on the dataset of oil and gas firms, it can be inferred that there exists a statistically significant and positive correlation between the equity and financial performance of these firms. The estimated coefficient of equity, denoted as EQ, has a t-test value of 5.120 and a P-value of 0.001, indicating that the variable EQ is statistically significant at a 5% level of error. This finding implies that an increase in equity, while holding debt constant, leads to a notable improvement in the financial performance of the firm.

Furthermore, the analysis also suggests that debt has a statistically significant positive relationship with the financial performance of oil and gas firms. This is supported by the estimated coefficient of debt, denoted as DF, which has a t-test value of 2.062 and a P-value of 0.078, indicating that the variable DF is statistically significant at a 10% level of error. This finding indicates that an increase in debt, while holding equity constant, leads to an improvement in the financial performance of the firm.

The constant value of the regression analysis, which represents the negative reaction to firm financial performance when both equity and debt are zero, has a value of -13461.217 and a t-value of -2.800, which is statistically significant at a 1% level of error. This finding implies that commencing operations without any capital would result in a negative impact on the financial performance of the firm, as reflected by the negative constant value.

However, it is important to note that while the regression analysis provides valuable insights into the relationship between equity, debt, and financial performance in oil and gas firms, the results should be interpreted with caution. This is because the analysis is based on a sample of data and may not necessarily generalize to the entire population. Additionally, there may be other factors beyond equity and debt that can also influence the financial performance of oil and gas firms. Therefore, it is essential to consider a broader range of factors when making decisions that impact the financial performance of these firms.

R 2 Analysis

R-squared (R2) is a widely used statistical measure of goodness-of-fit in regression analysis. It represents the proportion of the total variation in the dependent variable that can be explained by the independent variables in the regression model. The R2 value ranges from 0 to 1, with higher values indicating a better fit of the model to the data. A value of 0 indicates that none of the variability in the dependent variable is explained by the independent variables, while a value of 1 indicates that all of the variability is accounted for by the model. In the context of the bank financial performance, an R2 value of 0.875 suggests that the regression model explains 87.5% of the variability in the dependent variable. This indicates that the independent variables included in the model are good predictors of the financial performance of the bank, and the model provides a good fit to the data. The Durbin-Watson test is a statistical technique used to detect the presence of autocorrelation in the residuals of a regression analysis. Autocorrelation refers to the degree to which the residuals of a regression model are correlated with each other over time or across observations. Autocorrelation can be a problem in regression analysis because it violates the assumption of independence of the residuals, which can lead to biased and inefficient estimates of the model parameters.

In the context of the bank financial performance, a Durbin-Watson value of 2.535 indicates that there is no evidence of autocorrelation in the residuals of the regression model. This means that the residuals are independent of each other and the regression model provides a good fit to the data without any systematic patterns in the residuals that need to be accounted for. In other words, the regression model is valid and can be used to make reliable predictions about the financial performance of the bank.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of the study, it can be deduced that the financial performance of oil and gas firms in Nigeria is intricately linked with their capital structure, specifically equity and debt. The study has demonstrated a robust and positive correlation between financial performance and these factors, indicating that improvements in capital structure can enhance the financial performance of these firms. To improve their financial performance, oil and gas firms in Nigeria may consider implementing a range of strategies. One such strategy is to focus on effective cash flow management, which can enable them to optimize their resources and minimize unnecessary expenditures. Additionally, reducing the debt-to-equity ratio can increase the firm's financial flexibility and improve its ability to access capital markets, while increasing profitability through cost-cutting measures and revenue growth can drive long-term financial success. Moreover, strategic partnerships and investments can offer firms the opportunity to expand their operations,

diversify their portfolio, and secure additional resources. By regularly monitoring and assessing their financial performance, oil and gas firms in Nigeria can identify areas for improvement and make necessary adjustments to their strategies, further optimizing their capital structure and financial performance. In conclusion, the study highlights the critical importance of capital structure in enhancing the financial performance of oil and gas firms in Nigeria. By focusing on improving their equity and debt positions, implementing effective financial management strategies, and seeking strategic partnerships and investments, these firms can increase their competitiveness and achieve long-term success.

1. The incorporation of additional debt in the capital structure mix of Nigerian oil and gas firms may prove to be a prudent management strategy. Such an approach would potentially lead to a reduction in the overall cost of capital as the tax advantage associated with debt can positively impact the financial performance of the firm.
2. It is plausible that listed oil and gas firms in Nigeria could enhance the earnings of their banks by augmenting the utilization of equity capital in financing. This approach has the potential to bolster the profitability of the firm, thereby resulting in higher returns for investors.
3. The comprehensive evaluation of the capital structure of quoted oil and gas firms in Nigeria is of utmost importance for prospective investors. The strength of the firm's capital mix is a crucial determinant that significantly influences the level of returns that investors can anticipate. Hence, investors should exercise due diligence in assessing the capital structure of potential investments to make informed decisions.

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