

DEBT-EQUITY MIX AND PERFORMANCE OF QUOTED INDIGENOUS OIL AND GAS COMPANIES IN NIGERIA

Nwinee Anthony Bariyigah^{1*}, Emeka Obi²

Garden City Premier Business School, Plot 13 Herbert Macaulay Street, Old G.R.A, Port Harcourt, Rivers State, Nigeria.

Received: 08/03/2025

Accepted: 22/04/2026

Published: 11/05/2026

Abstract: This study examined the effect of debt-equity mix on the performance of quoted indigenous oil and gas companies in Nigeria, using panel data analysis over the period 2015–2024. The performance indicators employed were return on assets (ROA), return on equity (ROE), and Tobin's Q , while the explanatory variables comprised short-term debt ratio (STD), long-term debt ratio (LTD), equity-debt ratio (EDR), total debt ratio (TDR), and firm size (FSIZE). The empirical results revealed mixed outcomes across the performance measures. Specifically, short-term debt ratio exhibited a negative and significant effect on ROE and Tobin's Q but remained insignificant on ROA, suggesting that short-term financing undermines profitability and market value but exerts minimal influence on asset utilization. Long-term debt ratio showed a negative relationship with both ROA and ROE, but a positive and significant effect on Tobin's Q , implying that while long-term leverage erodes accounting-based profitability, it enhances firm valuation by investors. Similarly, total debt ratio negatively and significantly influenced ROA and ROE but had no significant effect on Tobin's Q , reflecting the risk associated with excessive leverage. Equity ratio displayed a negative and significant effect on ROA and ROE but a positive and significant influence on Tobin's Q , indicating that equity financing may dilute returns yet signal resilience and growth prospects to the market. Firm size had a positive but insignificant effect on ROA and ROE, while exerting a positive and significant impact on Tobin's Q , underscoring the market's preference for larger firms in the sector. Overall, the findings underscore the importance of adopting an optimal capital structure in the oil and gas industry to balance profitability, risk, and market value. The study recommends that managers minimize reliance on short-term financing, cautiously utilize long-term debt to align with value-creating projects, and strategically strengthen equity structures to attract investor confidence. Policy makers, regulators and financial managers should also design frameworks that promote sustainable financing while mitigating the risks of excessive leverage in Nigeria's quoted indigenous oil and gas sector.

Keywords: Debt Equity mix, Performance, Quoted Indigenous Oil and Gas Companies, Nigeria.

Introduction

The relative mix of debt and equity financing of firms, that is, the capital structure, is a central issue in corporate finance because it affects a firm's risk profile, cost of capital, investment capacity and ultimately its performance (Modigliani & Miller, 1958; Myers, 1984).

Nigeria's oil and gas industry occupies a uniquely pivotal position in the national economy. Despite ongoing diversification efforts, hydrocarbon activities continue to account for a substantial share of government revenues, foreign exchange earnings and export receipts (Nigerian National Petroleum Company and sectoral releases). Official statistics show that the oil sector's direct contribution to real GDP has been volatile but nonetheless material: sectoral contributions and growth recovered in 2023 after deep contractions in prior years, with the oil sector contributing in the region of roughly 4–5% of real GDP in late 2023, while overall macroeconomic dynamics remained influenced by oil export receipts and exchange-rate adjustments.

1.2 Statement of the Problem

Debt – Equity mix (Capital Structure) remains one of the most debated and unsettled issues in corporate finance. Despite more than six decades of scholarly engagement since the seminal works of Modigliani and Miller (1958) and Myers (1984), the appropriate debt–equity mix that maximizes firm value continues to generate mixed theoretical and empirical findings. Some studies suggest that higher leverage enhances firm performance by exploiting tax shields and disciplining managers through debt obligations (Jensen, 1986; Margaritis & Psillaki, 2010).

The Nigerian oil and gas industry, especially the indigenous segment, presents a peculiar and under explored context for examining capital structure and firm performance. The industry is highly capital-intensive, with exploration, drilling, transportation, and refining requiring billions of dollars in long-term financing. Yet, indigenous oil and gas firms — unlike international oil majors — face acute financing constraints.

Therefore, the key research problem is: given the capital intensity, financing constraints, macroeconomic volatility, and institutional

*Corresponding Author

Nwinee Anthony Bariyigah*

weaknesses of the Nigerian oil and gas sector, what is the impact of debt–equity mix on the performance of quoted indigenous oil and gas companies?

2.1 Theoretical Review

2.1.1 The Modigliani-Miller (M&M) Capital Structure Irrelevance Theory

Modigliani and Miller (1958) were pioneers in capital structure theory. They first argued that the financing mix of debt and equity in the capital structure does not affect the value of a firm under perfect market conditions. This theory is broadly known as “Capital Structure Irrelevance”. This theory states that in a perfect world, where there is no tax and transaction cost associated with issuing debt or going bankrupt, and there is no information asymmetry, capital structure does not affect the market value of a firm.

2.1.2 The Pecking Order Theory

The Pecking Order Theory, proposed by Myers and Majluf in 1984, describes the financing behavior of firms. It suggests that firms have a hierarchy of preferred financing sources, and they prefer to use internal funds first, then debt, and finally equity as a last resort. Pecking Order Theory provides insights into why firms choose certain financing methods and how these choices can impact financial performance. It emphasizes the importance of internal funds and debt while highlighting the potential costs and

signaling effects of equity issuance. This theory has implications for both capital structure decisions and financial performance.

2.1.3 The Resource-Based View Theory

The Resource-Based View (RBV) theory, developed by Penrose (1959) and further refined by scholars such as Wernerfelt (1984) and Barney (1991), focuses on how a company's unique resources and capabilities contribute to its competitive advantage and ultimately its financial performance.

2.1.4 The Trade – Off Theory

The trade-off theory of capital structure is a cornerstone framework in corporate finance for understanding how firms determine their debt–equity mix. Originating from Kraus and Litzenberger's (1973) model, the theory posits that firms strive for an optimal capital structure by balancing the benefits of debt financing, particularly tax shields, against the costs of financial distress and bankruptcy.

2.1.5 The Agency Cost Theory

The agency cost theory, articulated by Jensen and Meckling (1976), provides another critical framework for analyzing the relationship between debt–equity mix and firm performance. It is grounded in the broader agency theory, which highlights conflicts of interest between principals (shareholders) and agents (managers), as well as between shareholders and debt-holders.

2.2 Conceptual Review

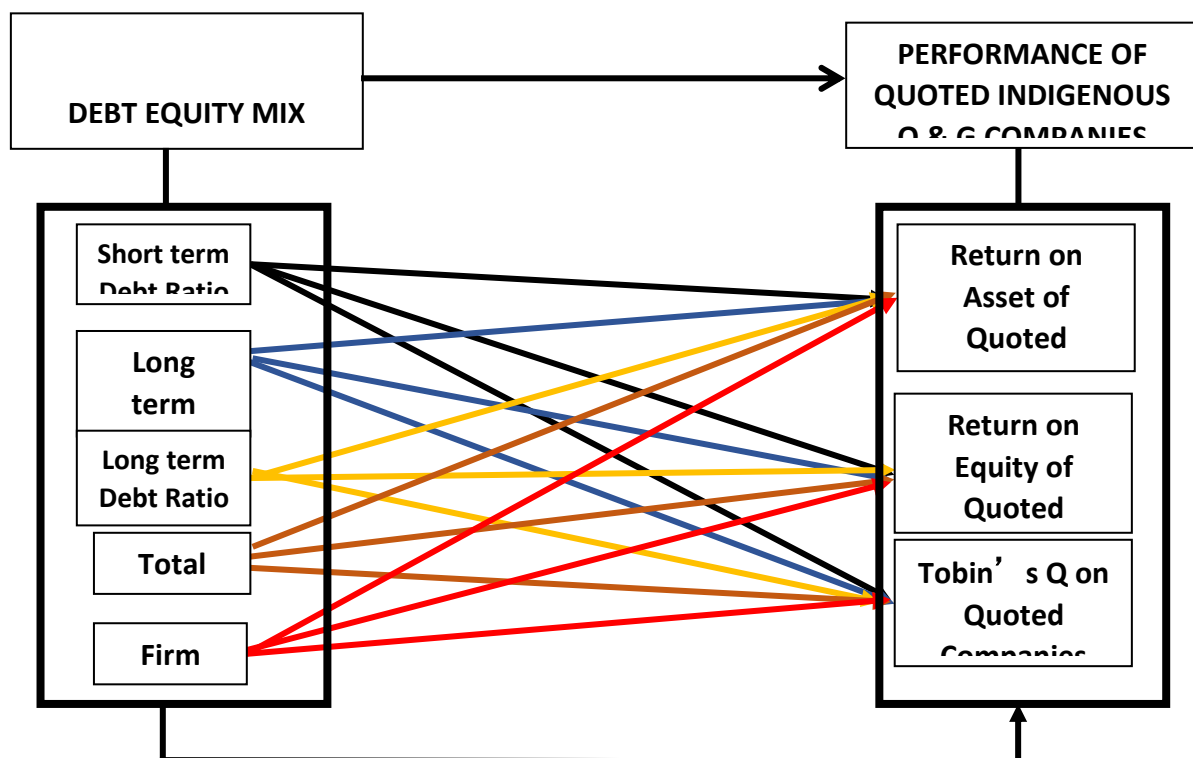


Figure 1.1: Conceptual Framework of the relationship between equity mix and performance of quoted indigenous oil and gas companies in Nigeria

Source: Conceptualised by Nwiece (2025), based on the proxies of technology adoption to be adapted from Lakhwani et al. (2020), the proxies of survival to be adapted from Ployhart et al. (2010), Pradhan et al. (2017) and Von Gerich et al. (2023), and leadership commitment as the moderator.

2.3 Review of Empirical Literature

Irene, Abusomwan & Jackson-Akhigbe (2025) investigated the impact of capital structure on the financial performance of quoted oil and gas companies listed on the Nigerian Exchange Group. Specifically, the study examined the effects of total debt ratio, long-term debt ratio, short-term debt ratio, and equity ratio on the market value of firms, measured by Tobin's Q, over the period from 2014 to 2023. The research utilized a longitudinal approach with a sample of eight publicly traded oil and gas companies, employing data obtained from annual reports. A random effects model, analyzed through panel least squares regression, was used to assess the relationships between the financial ratios and firm performance. The results revealed that total debt ratio positively influences firm performance, indicating that higher total debt is associated with increased firm market value. Conversely, long-term and short-term debt ratios exhibit negative impacts on firm performance as measured by Tobin's Q, suggesting that excessive long-term and short-term debt can reduce market value. The equity ratio shows a significant positive relationship with Tobin's Q, implying that a higher equity ratio enhances firm 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.

In their study, Anozie, Murtala, Ininm & Yisau (2023) examined the impact of capital structure on the financial performance of Nigerian oil and gas companies. Using an ex-post facto research methodology, the short-term debt to total asset, long-term debt to total asset, total debt to total equity, and return on asset variables were investigated as proxies for capital structure and financial

performance, respectively. Based on the data's availability at the time of the inquiry, the study used an easy sampling strategy to gather secondary data. These data covers the years 2011 through 2020 and were compiled from the annual financial reports of five Nigerian oil and gas companies. Descriptive statistics and panel regression analysis were used to analyze the data. The analysis' findings shows that while long-term debt to total assets has a negative significant influence on return on assets, short-term debt to total assets and total debt to total equity had positive insignificant impacts. According to the findings, managers of oil and gas companies should reduce the amount of long-term debt they have because doing so has a negative effect on their performance. They should also exercise caution when making capital structure decisions.

3.1 Research Design

The study adopts a longitudinal ex post facto research design to investigate the relationship between debt-equity mix and the performance of quoted indigenous oil and gas companies in Nigeria. A longitudinal design is suitable because the study covers multiple years, allowing for the examination of trends, variations, and the dynamic effects of financing structures on corporate performance over time.

3.2 Population of Study

The study adopts a longitudinal ex post facto research design to investigate the relationship between debt-equity mix and the performance of quoted indigenous oil and gas companies in Nigeria. A longitudinal design is suitable because the study covers multiple years, allowing for the examination of trends, variations, and the dynamic effects of financing structures on corporate performance over time.

Table 3.1: Indigenous Oil & Gas Companies in Nigeria

Category	Company / Entities
Quoted on NGX	Oando Plc, Seplat Energy, Conoil Plc, Eterna Plc, MRS Oil Nigeria Plc, Japaul Gold, Aradel
Key Indigenous Upstream Operators	Seplat Energy, Aiteo E&P, Heirs Energies, Midwestern Oil & Gas, Shoreline Natural Resources, Aiteo (again), others via IPPG
Members of IPPG (Upstream E&P)	Aiteo E&P; AMNI International; Dansaki; Elcrest; Energia; Eroton; First Hydrocarbon; First E&P; Frontier Oil; Green Energy; Heirs Oil & Gas; Lekoil; Midwestern Oil & Gas; ND Western; Network E&P; Newcross; NDPR; Oando; Oriental Energy Resources; Pillar Oil; Platform Petroleum; Seplat; Shoreline; Sunlink; Suntrust; Vertex; Waltersmith; Yinka Folawiyo Petroleum

Source: *Nigeria Exchange Group (31st December , 2024).*

3.3 Sample Size and Sampling Technique

The sample size for this study is drawn from the population of indigenous oil and gas companies operating in Nigeria. However, not all indigenous firms are suitable for inclusion in this research.

The sampling technique adopted is purposive sampling. This non-probability sampling method is considered appropriate because it

allows the researcher to deliberately select companies that meet specific inclusion criteria, namely: (i) the company must be an indigenous oil and gas firm, (ii) the company must be listed on the NGX during the study period, and (iii) the company must have published continuous annual reports for at least ten years within the study horizon (2010–2023).

Table 3.2: Sampled Quoted Indigenous Oil & Gas Companies in Nigeria

S/No	Listed Quoted Indigenous Oil and Gas Companies in Nigeria
1	Seplat Energy Plc – SEPLAT
2	Conoil Plc – CONOIL
3	Eterna Plc – ETERNA
4	Japaul Gold & Ventures Plc – JAPPAUL GOLD
5	Oando Plc – OANDO
6	MRS Oil Nigeria Plc – MRS
7	Aradel Holdings Plc – ARADEL
	Total number of Indigenous companies = 7

Source: Nigeria Exchange Group (31st December, 2024).

4.1 Data Presentation

The purpose of this study was to investigate the equity debt mix and financial performance of indigenous oil and gas companies in Nigeria. The study emphatically obtained secondary data. The data were sourced from the annual reports of listed industrial goods manufacturing companies from the Nigerian Exchange Group (NGX), covering the period 2015-2024 (appendix A). The NGX is believed to have in possession of such sensitive documents. Data was sourced from audited annual reports, financial statements, and

publications of the selected firms, as well as from the NGX Factbook and the Central Bank of Nigeria (CBN) Statistical Bulletin.

The study therefore used data from the financial statements (annual report) which is termed as pure secondary in nature. Thus, data was extracted and compiled from the seven indigenous oil and gas companies on the dimensions and measures of the independent variables (equity ratio, long-term debt, short-term debt, and total debt ratio) and dependent variables (Return on Asset, Return on Equity and Tobin's Q). Also, firm size data extracted and compiled from the seven indigenous oil and gas companies in Nigeria for the study.

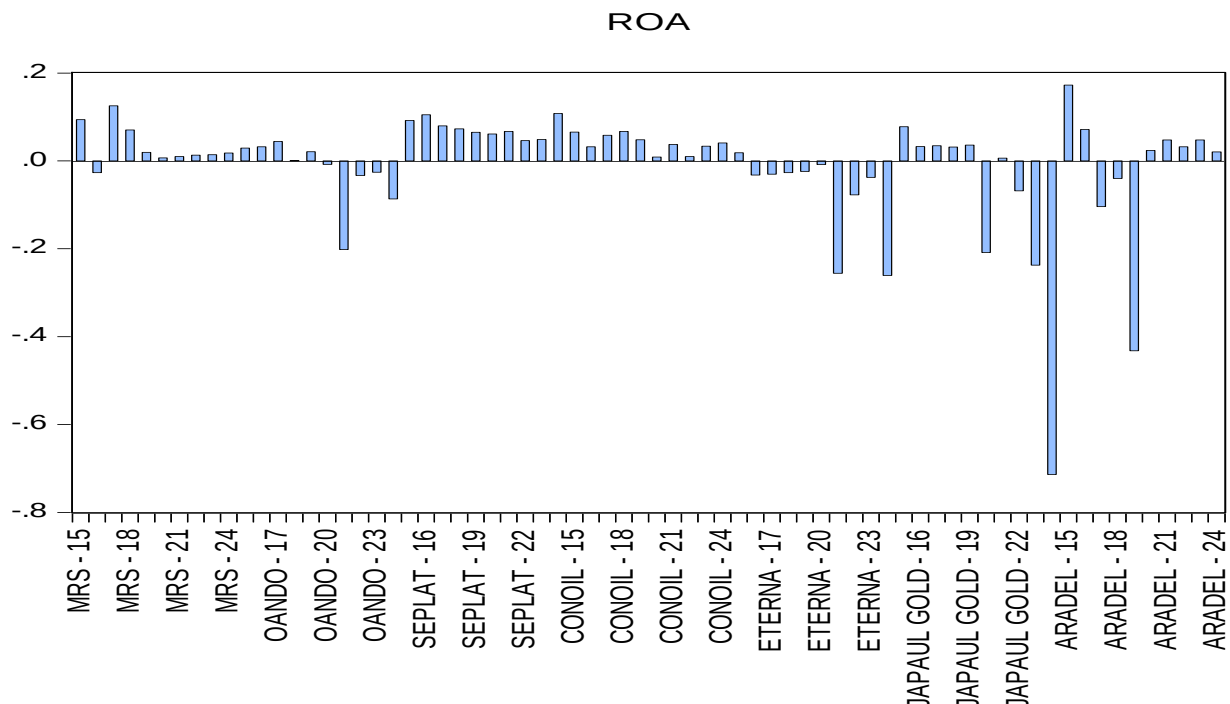


Fig.4.1: Trend in Return on Assets of indigenous oil and gas companies in Nigeria(2015 -2024)

Fig. 4.1 above is the plot of ROA for indigenous oil and gas companies in Nigeria (2015–2024) showing high volatility with mostly negative values, suggesting that many firms struggled to generate returns from their assets. While some companies like Seplat and Oando recorded periods of relatively stable or slightly positive ROA, others such as Japaul and Aradel experienced sharp

negative dips, especially around 2019–2021, likely reflecting the combined effects of oil price instability and the COVID-19 pandemic. Overall, the pattern highlights weak asset utilization, recurring financial stress, and sector-wide challenges that limit consistent profitability among indigenous operators.

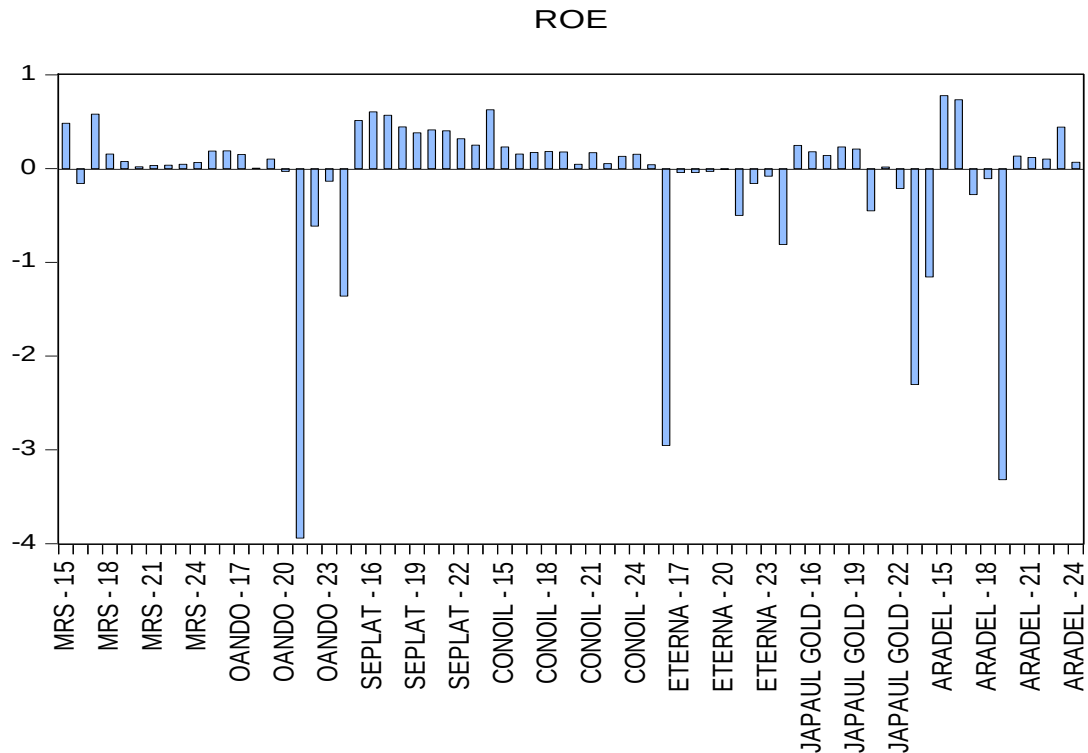


Fig. 4.2: Trend in Return on Equity of indigenous oil and gas companies in Nigeria from 2015 - 2024

The plot of Return on Equity (ROE) for indigenous oil and gas companies between 2015 and 2024 shows a cyclical pattern that mirrors both domestic and global oil market conditions. ROE appears weak in 2015–2016, reflecting the global oil price crash and Nigeria’s 2016 recession. A recovery is visible from 2017 to 2019, as oil prices stabilized and firms regained profitability. However, 2020 shows a sharp decline, consistent with the COVID-19 pandemic’s impact on oil demand and revenues. The post-

pandemic rebound in 2021–2022 indicates stronger profitability, driven by higher oil prices. In contrast, the fluctuations in 2023–2024 suggest persistent structural challenges such as crude oil theft, underinvestment, and policy changes in Nigeria’s energy sector. Overall, the trend highlights that indigenous oil and gas firms are profitable during boom cycles but remain highly vulnerable to external shocks and domestic inefficiencies.

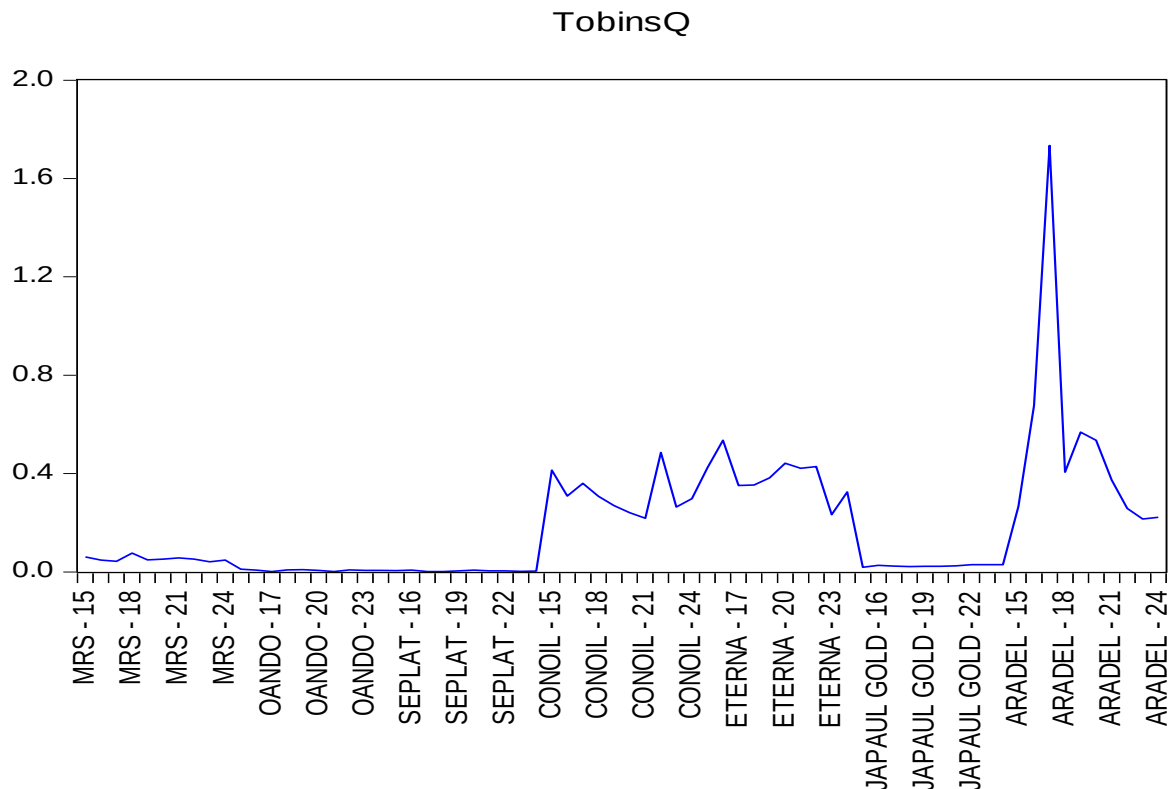


Fig. 4.3: Plot of Tobin's Q of indigenous oil and gas companies in Nigeria from 2015 - 2024

The Tobin's Q plot reflects how the market values indigenous oil and gas companies relative to their replacement cost. Values below 1 over much of the period suggest that the market generally undervalued these firms, indicating weak investor confidence and challenges in converting assets into higher market value. The ratio likely declined sharply around 2016 and 2020, coinciding with Nigeria's recession and the COVID-19 pandemic, when falling oil prices eroded market valuations. A moderate rebound in 2017–

2019 and again in 2021–2022 reflects improved investor sentiment during oil price recoveries. However, fluctuations in 2023–2024 point to persistent structural issues such as oil theft, exchange rate volatility, and policy uncertainty. Overall, the Tobin's Q trend shows that while indigenous firms benefitted during oil booms, their market valuation has remained fragile and below optimal levels, highlighting limited investor confidence and long-term sustainability concerns.

STD

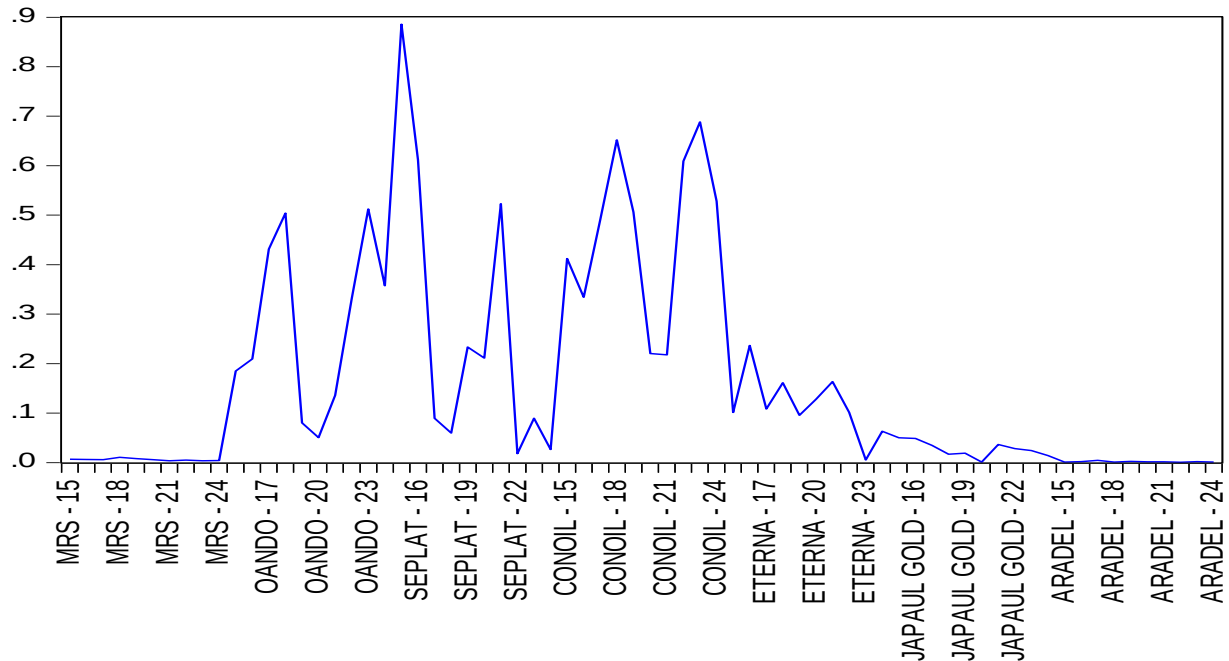


Fig. 4.4: Plot of Short-Term Debt of Nigeria Indigenous oil and gas companies between 2015 -2024

The plot of short-term debt for Nigeria's indigenous oil and gas companies between 2015 and 2024 as shown in fig.4.4 above shows changing patterns of reliance on short-term financing in response to market conditions. From 2015 to 2016, short-term debt appears elevated, reflecting increased borrowing needs during the oil price crash and economic recession, as firms struggled with cash flow shortages. A decline between 2017 and 2019 suggests reduced dependence on short-term financing as revenues improved with the recovery in oil prices. However, in 2020, short-term debt

likely rose again, coinciding with the COVID-19 pandemic and the sharp fall in oil revenues, which forced companies to rely more heavily on short-term credit. The partial correction in 2021–2022 aligns with stronger oil prices, while the fluctuations in 2023–2024 may be linked to ongoing industry challenges, including inflation, exchange rate pressures, and operational inefficiencies. Overall, the trend indicates that indigenous oil and gas firms resort to short-term debt as a survival strategy during downturns but struggle to maintain sustainable financing structures in the long run.

LTD

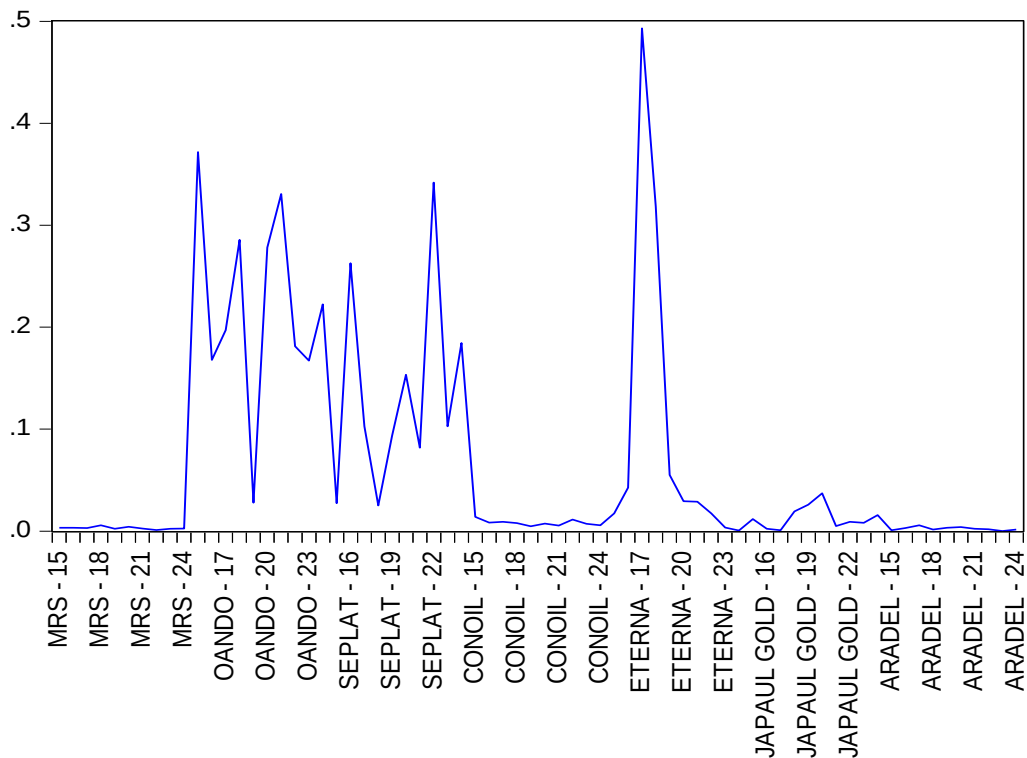


Fig. 4.5: Plot of Long-Term Debt of Nigeria Indigenous oil and gas companies between 2015 -2024

The plot of long-term debt for indigenous oil and gas companies in Nigeria between 2015 and 2024 highlights their financing structure and capital stability over time. Between 2015 and 2016, long-term debt levels were relatively modest, as the oil price crash and recession constrained firms' ability to secure long-term financing. A gradual increase from 2017 to 2019 suggests that companies gained better access to long-term credit as oil prices recovered and investor confidence improved. In 2020, long-term debt may have stabilized or dipped slightly due to the COVID-19 shock, when lenders became more cautious and firms prioritized liquidity. The

period of 2021–2022 likely shows renewed growth in long-term borrowing, reflecting efforts to finance expansion projects and restructure balance sheets during the oil price rebound. However, in 2023–2024, fluctuations in long-term debt may reflect persistent challenges such as foreign exchange scarcity, rising interest rates, and policy uncertainty in Nigeria's petroleum sector. Overall, the pattern indicates that while long-term debt provides stability, indigenous firms face constraints in consistently accessing and managing it compared to multinational operators.

TDR

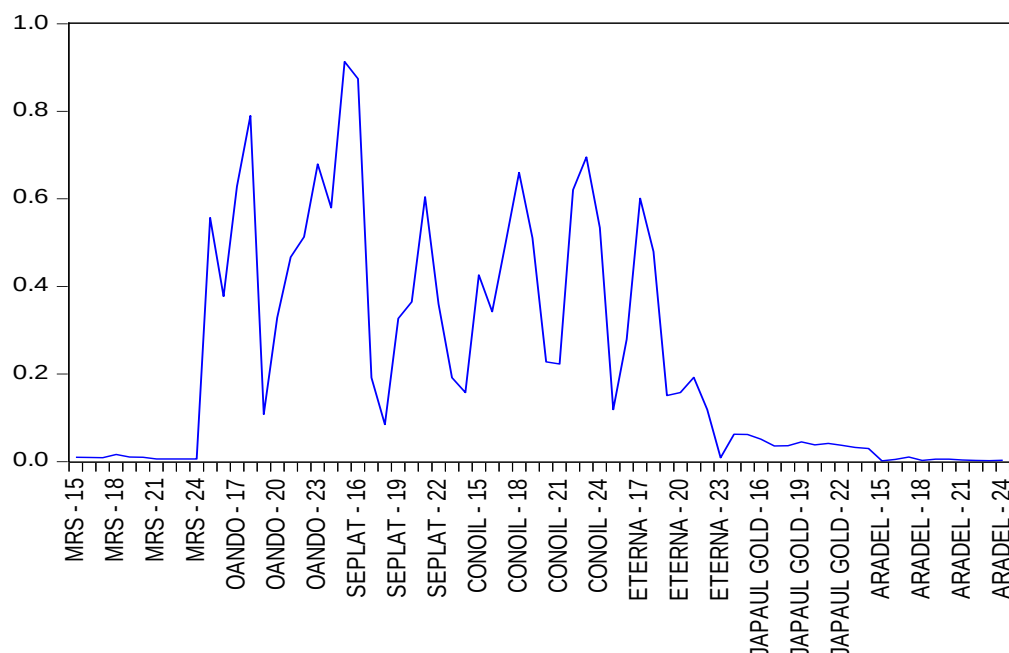


Fig. 4.6: Plot of Total Debt Ratio of Nigeria Indigenous oil and gas companies between 2015 -2024

The plot of the total debt ratio for indigenous oil and gas companies in Nigeria between 2015 and 2024 reflects how heavily these firms relied on debt financing relative to total assets. In 2015–2016, the ratio appears relatively high, indicating strong dependence on debt during the oil price slump and economic recession, when firms struggled with declining revenues. A moderate decline from 2017 to 2019 suggests some deleveraging, as improved oil prices allowed companies to reduce debt reliance and strengthen equity positions. In 2020, the ratio spikes again, reflecting increased borrowing needs to cushion the severe revenue

shock from the COVID-19 pandemic. The recovery in 2021–2022 is accompanied by a gradual easing in debt ratio, consistent with improved cash flows during the oil price rebound. However, the fluctuations in 2023–2024 point to persistent structural weaknesses, including exchange rate volatility, inflationary pressures, and limited access to stable long-term financing. Overall, the trend underscores the cyclical nature of debt dependence in Nigeria's indigenous oil and gas firms, showing that high debt exposure is often tied to external shocks and revenue instability.

EQR

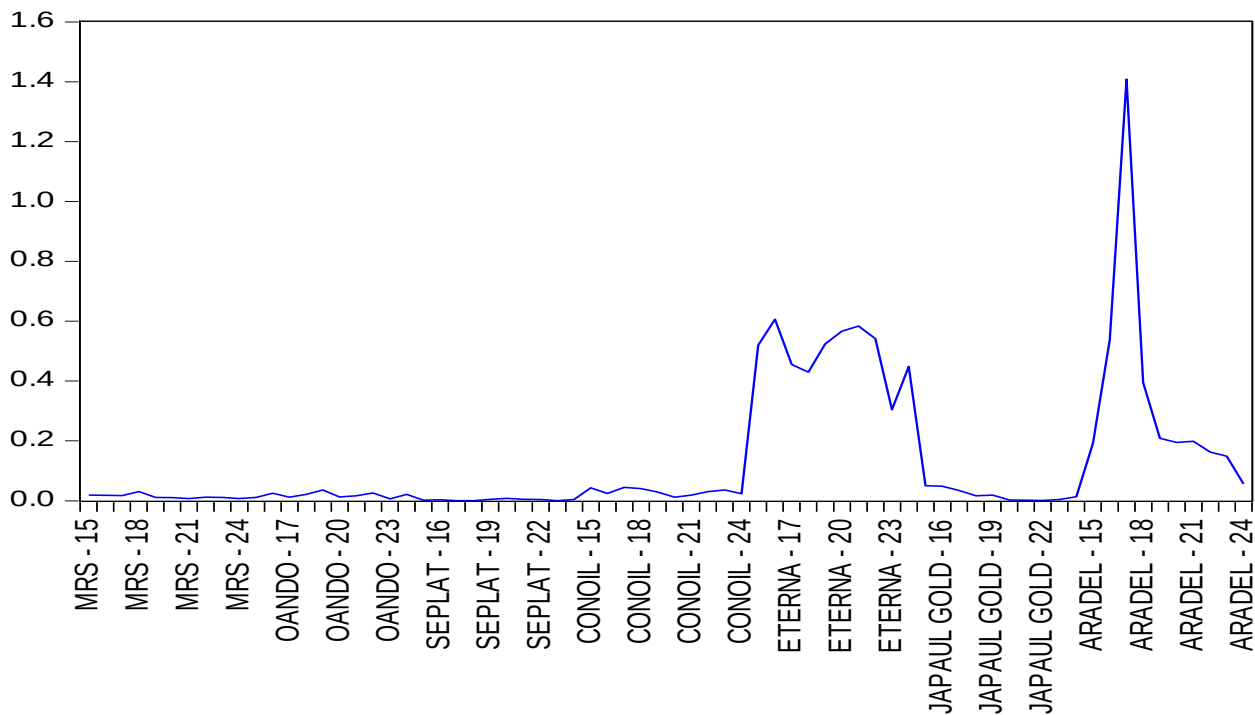


Fig. 4.7: Plot of Total Debt Ratio of Nigeria Indigenous oil and gas companies between 2015 -2024

The trend in the total debt ratio from 2015 to 2024 indicates fluctuations in the financial leverage of Nigeria's indigenous oil and gas companies. The ratio is relatively high in 2015–2016, reflecting heavy reliance on debt financing during the oil price crash and economic recession. A gradual decline between 2017 and 2019 suggests reduced leverage as oil prices recovered and firms strengthened equity positions. The sharp increase in 2020 aligns with the COVID-19 pandemic, when collapsing oil revenues

forced greater dependence on debt. A moderate correction in 2021–2022 points to improved cash flows from the oil price rebound, reducing pressure on leverage. However, fluctuations in 2023–2024 highlight ongoing structural constraints such as exchange rate volatility, inflation, and funding challenges. Overall, the pattern shows that total debt ratio among indigenous firms is highly sensitive to external shocks, underscoring the cyclical and fragile nature of their capital structure.

4.3: Test of Hypotheses

Table 4.9: Summary Computation of Hypotheses Results

Hypotheses	Coefficient	Std. Error	T-Stat	P-Value 0.05	Statistical Decision	Remark
H ₀₁	1.509123	2.503190	0.602880	0.5487	Insignificant	Accepted H ₀₁
H ₀₂	-1.423998	2.475487	3.575239	0.0071	Significant	Rejected H ₀₂
H ₀₃	-1.422903	2.485899	-4.572390	0.0190	Significant	Rejected H ₀₃
H ₀₄	-0.075188	0.083954	-3.895577	0.0338	Significant	Rejected H ₀₄
H ₀₅	0.128456	0.067230	1.910473	0.0627	Insignificant	Accepted H ₀₅

H0₆	-6.578703	1.825016	3.604737	0.0003	Significant	Rejected H ₀₆
H0₇	3.199243	1.558267	2.053077	0.0401	Significant	Rejected H ₀₇
H0₈	-4.802280	17.086240	-2.281061	0.0496	Significant	Rejected H ₀₈
H0₉	-2.112516	0.626663	6.562562	0.0050	Significant	Rejected H ₀₉
H0₁₀	0.298472	0.154839	1.927351	0.0587	Insignificant	Accepted H ₀₁₀
H0₁₁	-0.108305	1.178376	3.091910	0.0271	Significant	Rejected H ₀₁₁
H0₁₂	-0.130439	1.164479	5.112015	0.0112	Significant	Rejected H ₀₁₂
H0₁₃	-0.076776	1.166160	-0.065836	0.9477	Insignificant	Accepted H ₀₁₃
H0₁₄	1.091709	0.046900	23.277150	0.0000	Significant	Rejected H ₀₁₄
H0₁₅	0.052314	0.021583	2.422761	0.0189	Significant	Rejected H ₀₁₅

Source: Researcher's Computation from E-Views 12, 2025

5. Summary of the Study

5.1 Summary of Findings

The major findings from the analysis are summarized as follows:

- Short-Term Debt Ratio (STD): The study revealed that STD has a negative and statistically significant effect on ROE and Tobin's Q, but its effect on ROA was insignificant. This indicates that short-term borrowing reduces shareholder returns and is negatively perceived by the market, though it does not significantly impair asset utilization.
- Long-Term Debt Ratio (LTD): The results showed that LTD exerts a negative and significant effect on ROA and ROE, but a positive and significant effect on Tobin's Q. While long-term debt undermines profitability due to high financing costs, investors view it positively as a signal of long-term growth prospects.
- Total Debt Ratio (TDR): Findings indicated that TDR has a negative and significant effect on ROA and ROE, but an insignificant effect on Tobin's Q. This suggests that high leverage reduces profitability, though the market does not necessarily punish firms for debt accumulation.
- Equity-Debt Ratio (EQR): The results demonstrated that EQR has a negative and significant effect on ROA and ROE, but a positive and significant effect on Tobin's Q. This implies that while equity-heavy structures erode profitability, they enhance investor confidence and boost firm valuation.
- Firm Size (FSIZE): The analysis showed that FSIZE has a positive but insignificant effect on ROA and ROE, while its effect on Tobin's Q was positive and significant. Thus, larger firms are valued more highly by investors even though size does not guarantee higher profitability.

Overall, the results highlight a divergence between accounting-based and market-based measures of performance, with profitability being more sensitive to debt burdens, while market valuation responds more favorably to equity structure and firm size.

5.2 Conclusion

This study concludes that capital structure decisions significantly influence the performance of oil and gas companies in Nigeria, with differing effects depending on the performance measure used. Excessive reliance on short-term and total debt financing negatively affects profitability and shareholder returns, highlighting the risks of high leverage in this sector. Long-term debt, although detrimental to profitability, is positively perceived by investors as an indicator of growth and sustainability. A higher equity-debt ratio weakens accounting profitability but enhances market valuation, showing the trade-off between internal efficiency and external investor perception. Firm size does not guarantee higher profitability but contributes positively to market valuation, as investors interpret larger size as a sign of resilience and stability. The findings validate theoretical perspectives from the trade-off theory, pecking order theory, and market signaling theory, demonstrating that capital structure impacts are multidimensional and context-dependent.

5.3 Recommendations

Based on the study findings, the following recommendations are proposed:

- Oil and gas companies should avoid over-reliance on short-term borrowing and excessive leverage. Managers should pursue an optimal mix of debt and equity that minimizes financing costs while preserving profitability.
- Long-term debt should be targeted towards productive, revenue-generating investments. Firms must ensure that debt-financed projects yield returns above financing costs to justify their positive impact on market valuation.
- Although equity-heavy financing may dilute profitability, it enhances investor confidence. Firms should strategically adopt equity financing to strengthen financial stability, particularly during volatile market conditions.
- Larger firms should use their size advantage to negotiate favorable financing terms and expand market presence. Smaller firms may consider mergers and partnerships to achieve scale and enhance investor confidence.

- v. Regulators should design policies that improve access to affordable long-term financing, reducing over-reliance on short-term debt that undermines profitability. This could include lowering interest rates on long-term credit and expanding capital market instruments tailored to the oil and gas industry.
- vi. Investors should be mindful of the mixed effects of debt and equity structures. While high leverage reduces profitability, firms with stronger equity bases and larger size often sustain better market valuations and long-term growth potential.

5.4 Contributions to Knowledge

This study contributes to the existing literature on capital structure and firm performance in several ways:

- i. It provides empirical evidence from Nigeria's oil and gas sector, a capital-intensive industry under-represented in prior studies.
- ii. It distinguishes between accounting-based and market-based measures of performance, demonstrating their divergent responses to debt and equity financing.
- iii. It highlights the role of firm size as a market signal of resilience and investor confidence, even in contexts where profitability does not improve.
- iv. It validates and extends the applicability of capital structure theories (trade-off, pecking order, signaling) within an emerging market setting.

5.5 Suggestions for Further Studies

Future research could:

- i. Extend the scope to cover other sectors in Nigeria or Sub-Saharan Africa to enable cross-sectoral comparisons.
- ii. Examine the moderating role of macroeconomic variables (e.g., exchange rate volatility, inflation, oil price shocks) on the capital structure–performance relationship.

- iii. Incorporate non-linear models and advanced econometric methods (such as quantile regression and dynamic panel estimation) to capture heterogeneous firm-level effects.
- iv. Investigate the role of corporate governance and institutional quality in shaping the impact of capital structure on firm performance.

References

1. Abbar, G. G.& Randjarau, R.U(2015). The market for lemons: quality uncertainty and the market mechanism. *The Quarterly Journal of Economics*, 84(3), 488-500.
2. Abor, J. (2005). The Effect of Capital Structure on Profitability: Empirical Analysis of Listed Firms in Ghana, *Journal of Risk Finance*, 6(5),438-451.
3. 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. <https://doi.org/10.1108/15265940510633505>
4. Abor, J. (2008). Determinants of the capital structure of Ghanaian firms. *African Economic Research Consortium Research Paper No. 176*.
5. Abubakar,U.M., Okunola,O.T., Sirajo, B. & Munir, A.S.(2024). Effect of Capital Structure on Financial Performance of listed oil and gas firms in Nigeria, *International Journal of Humanities, Social Science and Management*, Vol,4, Issue 3, pp.999 -1008. www.ijhssm.org
6. Abu-Rub, N. (2012). Capital Structure and Firm Performance: Evidence from Palestine Stock Exchange. *Journal of Money, Investment and Banking*, 23, 109-117.
7. Adelegan, O. (2009). The impact of capital market imperfections on corporate investment and financing decisions in Nigeria. *Journal of Money, Investment and Banking*, 11, 16–38.
8. Ahmad, Z., Abdullah, N. M. H., & Roslan, S. (2012). Capital Structure Effect on Firms Performance; Focusing on Consumers and Industrial Sectors on Malaysian Firms. *International Review of Business Research Papers*, 8(5), 137-155.