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DEBT MANAGEMENT AND FINANCIAL PERFORMANCE OF LISTED HEALTH CARE FIRMS IN NIGERIA

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ABSTRACT: This study investigates the effect of debt management on the performance of listed healthcare firms in Nigeria between 2015 and 2024. Debt management remains a critical aspect of financial strategy, especially in capital-intensive sectors like healthcare. The research specifically explores how indicators such as debt ratio and interest coverage ratio influence return on assets (ROA) among selected firms. A panel data analysis was conducted using secondary data sourced from the published financial statements of five listed healthcare firms: Fidson Healthcare Plc, May & Baker Nigeria Plc, GlaxoSmithKline (GSK) Nigeria Plc, Neimeth International Pharmaceuticals Plc, and Morison Industries Plc. The study employed multiple regression analysis to determine the statistical relationship between debt indicators and firm performance. The findings reveal that effective debt management, particularly maintaining optimal levels of debt ratio and improving interest coverage, has a significant positive effect on firm performance. The study concludes that prudent debt policies can enhance financial stability and profitability in the healthcare sector. It recommends that healthcare firms regularly evaluate their capital structures and implement strategic debt decisions to improve operational outcomes and shareholder value.

Keywords: Debt management, Financial performance, Interest covered ration, Gearing ratio, Asset to debt ratio

I. INTRODUCTION

Business performance is a multidimensional concept that evaluates how well an organization is achieving its goals. These goals may be financial such as profitability and shareholder wealth or non-financial such as operational efficiency, customer satisfaction, market share, and innovation. For listed firms, especially in critical sectors like healthcare, business performance is a vital indicator of long-term sustainability, competitiveness, and value creation. Debt management refers to the strategies and practices adopted by firms to plan, acquire, utilize, and repay borrowed funds efficiently. It encompasses key decisions about the structure, timing, and type of debt used, as well as efforts to minimize the cost of capital while managing associated financial risks. When used effectively, debt can serve as a financial lever to enhance business performance by enabling firms to invest in new technologies, expand operations, or enter new markets.

In Nigeria, listed healthcare firms operate in a capital-intensive and often volatile environment. They face challenges such as foreign exchange risks, regulatory constraints, and infrastructural deficits. These factors make debt management a critical area of concern. By employing financial ratios like interest covered ratio, gearing ratio, and asset-to-debt ratio, this study seeks to quantify debt management practices and examine their influence on firm performance in this strategic sector. Therefore, by using these financial ratios as proxies, this study aims to bridge the gap between debt management practices and business performance in the Nigerian healthcare sector. Understanding this relationship will help stakeholders make more informed decisions regarding capital structure, risk, and financial planning.

1.2 Statement of the problem

In Nigeria's evolving economic landscape, the healthcare sector plays a critical role in providing essential services to a growing and increasingly health-conscious population. However, listed healthcare firms face numerous financial challenges, including rising operational costs, inconsistent government support, currency volatility, and limited access to affordable long-term capital. As a result, many of these firms rely heavily on debt financing to meet their capital and operational needs. Debt can be a useful financial instrument for improving business performance through leveraged investment and growth. In Nigeria, listed healthcare firms increasingly rely on debt financing to fund operations and growth due to inadequate government support and limited internal capital. While debt can enhance performance through financial leverage, poor debt management may lead to high interest burdens, liquidity crises, and declining profitability. Despite the growing use of debt in the healthcare sector, there is limited empirical evidence on how debt management practices affect business performance in this industry. Most existing studies focus on other sectors, leaving a gap in understanding the specific dynamics within healthcare firms. This

study seeks to address this gap by examining the effect of debt management on the business performance of listed healthcare firms in Nigeria, with the aim of providing insights for financial decision-makers and policymakers. The hypotheses of the study are;

H_{01} Interest covered ratio has no significant effect on return on assets (ROA) of listed health care firms in Nigeria

H_{02} Gearing ratio has no significant effect on the return on assets (ROA) in listed health care firms in Nigeria.

H_{03} Asset to debt ratio has no significant effect on return on assets (ROA) of listed health care firms in Nigeria.

II. LITERATURE REVIEW

2.1 Conceptual framework

2.1.1 Debt management

The concept of debt management has evolved alongside the development of modern financial systems. Historically, debt was seen primarily as a survival tool for businesses and governments, used to finance wars, trade, and expansion. However, as economies industrialized and financial markets matured, debt began to be viewed as a strategic resource one that could be used to leverage growth, maximize returns, and optimize capital structures. Early development in the 19th and early 20th centuries, corporate borrowing was limited and primarily short-term. Firms relied heavily on internal financing and retained earnings. The great depression in the (1930s) highlighted the danger and excessive leverage and prompted regulatory reforms focused on controlling risk in borrowing practices. Late century to present, the 1980s and the 1990s saw increase use of debt in corporate restructuring and mergers, and acquisitions.

2.1.2 Interest covered ratio

The Interest Coverage Ratio (ICR) is a financial metric used to determine how easily a company can pay interest on its outstanding debt using its earnings before interest and taxes (EBIT). The ICR (interest covered ratio) is a critical indicator of financial health, especially because hospitals, pharmaceutical companies, and diagnostic centers often depend on external financing to fund medical equipment, infrastructure, and research. A low ICR may indicate that a firm is struggling to meet its interest obligations, which could jeopardize service delivery and long-term sustainability.

2.1.3 Gearing Ratio

The Gearing Ratio is a financial metric that measures the proportion of a company's financing that comes from debt as compared to equity. It reflects the extent to which a firm is financially leveraged. A higher gearing ratio means more debt relative to equity, indicating higher financial risk. "Gearing ratio is a key measure of a firm's long-term solvency. In healthcare firms, high gearing may impair the ability to invest in quality care or meet regulatory obligations due to excessive interest burdens.

2.1.4 Asset to debt ratio

The debt ratio, or total debt-to-total assets, is calculated by dividing a company's total debt by its total assets. It is also called the debt-to-assets ratio. It is a leverage ratio that defines how much debt a company carries compared to the value of the assets it owns.Asset to debt ratio is a reliable measure of solvency and debt servicing ability. In Nigeria's healthcare sector, where operational funding is often debt-driven, this ratio helps assess resilience to financial shocks."

2.1.5 Financial performance

Financial performance refers to the measure of a firm's ability to generate profits from its operations and utilize its assets efficiently to create value for its shareholders. It reflects how well an organization is achieving its financial objectives, including profitability, solvency, liquidity, and market valuation (Brigham & Houston, 2019). In corporate finance, financial performance is a central focus because it directly influences investment decisions, credit ratings, dividend policies, and overall corporate sustainability. For healthcare firms, especially those listed on the Nigerian Exchange Group (NGX), financial performance plays a crucial role in enabling the delivery of consistent, high-quality health services. The healthcare industry is capital-intensive and requires significant investment in technology, infrastructure, skilled personnel, and regulatory compliance. Therefore, the ability of these firms to maintain sound financial performance is not only critical for shareholders but also for national healthcare development.

2.1.6 Return on assets

Return on Assets (ROA) is a key financial performance metric that evaluates a firm's ability to generate net income from its total assets. It measures how effectively a company utilizes its asset base to produce earnings and is particularly important for asset-intensive industries such as healthcare, where significant investment is required in medical equipment, facilities, and technology.

The formula for ROA is expressed as:

\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}}

2.1.7 Firm Age

Firm age refers to the number of years a company has been in operation since its incorporation or commencement of business activities. It is often used as a proxy for experience, stability, and market reputation in empirical research. Firm age is a relevant control variable in financial performance studies because older firms may exhibit different financial behaviors and risk appetites compared to younger firms.In the healthcare sector in Nigeria, firm age is especially important due to the capital-intensive and regulation-heavy nature of the industry. Older healthcare firms may have stronger financial buffers, established operational processes, and credibility with regulators and lenders, allowing them to better manage debt and maintain profitability. Younger healthcare firms, while potentially more dynamic, may struggle to secure favorable financing or meet stringent operational standards, which can impact their financial outcomes.

2.2 Empirical Review

Abiden (2023), explored the link between financial leverage, firm liquidity, and firm size on a company performance in China stock. The research used a quantitative approach and collected secondary data from 2010 to 2022 from a listed on the China stock exchange using the wind database. The study emplayed a fixed effect model to test the hypothesis. The results showed that firm liquidity and firm size significantly affect company performance in China. Additionally, the study suggested that financial leverage also plays a significant role in influencing firm performance.

Ali et Al (2022) examined a relationship between leverage and firm performance. The study utilized accounting -based measures specifically return on assets (ROA) and return on equity (ROE), as a dependent variables, while leverage ownership proxies, and other control variables were the independent variable. The research included managerial ownership, institutional ownership, and family-owned ownership as ownership proxies, and the size of the firm and net income of the selected firms as control variables. The use panel data analysis on data from 70 firms listed on the Pakistan stock exchange from 2010 to 2016. The findings revealed a negative but statistically significantlly relationship of leverage on the firm performance with both ROA and ROE . Despite the sectors critical importance, financial performance among listed health care firms has remained inconsistent. Factors such as inflation, currency devaluation,and import dependency, and inefficient healthcare policies have constrained their capacity to maximize return on investment. Moreover, the outbreak of covid 19 exposed systematic weakness in the sector and increased the financial burden on healthcare institutions, leading to greater reliance on debt for survival and expansion (Okon &Ifere,2022).

Okon and Ifere (2022) focused on pharmaceutical firms in Nigeria and assessed how debt management practices influenced financial sustainability. Analyzing data from 2015 to 2020, the authors discovered that firms with active debt monitoring policies achieved higher ROE and maintained stable profit margins. The study recommended improved corporate governance and stronger internal controls as tools for managing debt risk effectively.Orlu. et al., (2022). Asserts that debt performs a significant role in a firm's financial structure. Debt offers the resources required to seize profitable possibilities. Debt may leverage capital in a way that is highly advantageous financially if it is used wisely. When used carelessly, debt may be just as detrimental to a company as it can be advantageous to one that manages it well. A company must be aware of whether and how much financial leverage is advancing or impeding its business operations.

Similarly, Rahman et al.aniyu and Wajid (2022) analyzed the capital structure decisions of healthcare firms across four African countries: Egypt, Kenya, Nigeria, and South Africa. Their study used panel data covering 2010 to 2020 and found that firm-specific characteristics and country-level financial infrastructure played significant roles in moderating the debt-performance relationship. Firms operating in stronger regulatory environments tended to manage debt more effectively and report better financial outcomes. These international studies suggest that while debt can enhance firm performance when used strategically, its impact is heavily influenced by firm characteristics, financial environment, and the regulatory context. They also highlight the general caution that healthcare firms must exercise when relying on long-term borrowing, as improper debt structures may erode financial gain.

Peace (2021) examined the impact of debt financing on firm profitability among listed healthcare companies in Malaysia between 2015 and 2020. The study employed regression analysis and found that short-term debt had a significant positive influence on ROA, while long-term debt was negatively associated with profitability. The authors linked this trend to the lower interest cost and better repayment flexibility associated with short-term borrowing, making it more suitable for healthcare firms in emerging economies.

2.3 Theoretical framework

Pecking Order Theory

The Pecking Order Theory, also known as the Pecking Order Model, relates to a company's capital structure. Made popular by Stewart Myers and Nicolas Majluf in 1984, the theory states that managers follow a hierarchy when considering sources of financing. The pecking order theory states that managers display the following preference of sources to fund investment opportunities: first, through the company's retained earnings, followed by debt, and choosing equity financing as a last resort. The pecking order theory arises from the concept of asymmetric information. Asymmetric information, also known as information failure, occurs when one party possesses more (better) information than another party, which causes an imbalance in transaction power.

Company managers typically possess more information regarding the company's performance, prospects, risks, and future outlook than external users such as creditors (debt holders) and investors (shareholders). Therefore, to compensate for information asymmetry, external users demand a higher return to counter the risk that they are taking. In essence, due to information Healthcare firms may adopt a conservative debt strategy due to the high uncertainty and regulation in the industry. This theory helps explain firm preferences in managing debt levels, which affect profitability and financial performance. Healthcare firms, especially in developing countries like Nigeria, are capital-intensive and risk-sensitive, making them cautious about equity dilution. They often prefer debt over equity when internal funds are insufficient, consistent with the pecking order theory.

III. METHODOLOGY

This study adopts an ex post facto research design. The study covers the population of 9 healthcare firms ranging from 2015 to 2024 (10) years and a sample size of 6 healthcare companies listed on the Nigerian Exchange Commission as at 2024. Purposive sampling technique is adopted in this study. The basis for deciding this period of time is to show whether there has been any significant effect of debt management on business performance in listed health care firms in Nigeria. The study used secondary source of data collection in analyzing the effect of debt management on business performance in listed health care firms in Nigeria. The data was collected from the annual reports and account of the sampled companies, Nigerian stock exchange fact book and other relevant sources for a period of ten (10) years (2015 to 2024). This study used panel regression technique in analyzing the data obtained for the research. This is because the data is panel in nature and the study is aimed at establishing the impacts of the independent variables and a dependent variable which the panel regression technique is a suitable and useful technique in achieving that purpose (Afolayan, 2015). Also, in order to improve the validity and reliability of the statistical inferences from the results of the study. The study also conducted the Hausman specification test and fixed a random effect tests. The study adopts the mode Aribaba et al (2017)

Model

$$ROA = \beta_0 + \beta_1 ICR + \beta_2 GRO + \beta_3 ADR + \varepsilon \text{......................................(i)}$$

From the above function, the following model is derived

Where;

ROA = Return on Assets

ICR = Interest Covered Ratio

GRO = Gearing Ratio

ADR = Asset to Debt Ratio

ε is the error term.

IV. RESULTS AND DISCUSSION

Descriptive Statistics

The table below gives a short overview of the most important traits of the variables being studied. It does this by showing descriptive statistics that show their primary traits.

Table 4.1: Descriptive Statistics Result

	ROA	ICR	GRO	ADR
Mean	17.23483	0.228000	0.459833	1.002667
Median	16.49500	0.210000	0.405000	0.265000
Maximum	26.44000	0.830000	2.570000	4.570000
Minimum	10.45000	-0.240000	0.130000	0.000000
Std. Dev.	4.246412	0.173858	0.350445	1.252440
Skewness	0.425571	1.276562	4.548452	1.330614
Kurtosis	2.111684	6.520924	25.98413	3.649026
Jarque-Bera	3.783872	47.28837	1527.560	18.75843

Probability	0.150780	0.000000	0.000000	0.000084
Sum	1034.090	13.68000	27.59000	60.16000
Sum Sq. Dev.	1063.889	1.783360	7.245898	92.54777
Observations	60	60	60	60

Source: E-View 10 Output (2025)

Table 4.1 displays the descriptive statistics for four variables: Return on Assets (ROA), Interest Covered Ratio (ICR), Gearing Ratio (GRO), and Asset to Debt Ratio (ADR).

The mean ROA is 17.23483, indicating that the companies in the sample have a relatively high return on assets. The median ROA is 16.49500, which is close to the mean, suggesting a relatively symmetric distribution. The standard deviation of ROA is 4.246412, indicating moderate variability. The skewness and kurtosis values suggest that the ROA distribution is slightly positively skewed and platykurtic. The mean ICR is 0.228000, indicating that the companies in the sample have a relatively low interest coverage. The median ICR is 0.210000, which is close to the mean. The standard deviation of ICR is 0.173858, indicating low variability. However, the skewness and kurtosis values suggest that the ICR distribution is highly positively skewed and leptokurtic.

The mean GRO is 0.459833, indicating that the companies in the sample have a moderate level of gearing. However, the maximum value of 2.570000 suggests that some companies have high levels of gearing. The skewness and kurtosis values suggest that the GRO distribution is highly positively skewed and leptokurtic. The mean ADR is 1.002667, indicating that the companies in the sample have a relatively high asset-to-debt ratio. However, the median ADR is 0.265000, which is much lower than the mean, suggesting a skewed distribution. The standard deviation of ADR is 1.252440, indicating high variability. The skewness and kurtosis values suggest that the ADR distribution is positively skewed and leptokurtic. The Jarque-Bera test suggests that the distributions of ICR, GRO, and ADR are not normal, while the distribution of ROA is likely normal. This has implications for statistical analysis and modeling.

Correlation Analysis

Table 4.2 presents a correlation matrix, generated through Pearson Correlation analysis, which systematically examines the relationships between the dependent variable and each independent variable, as well as the interrelationships among the independent variables.

Table 4.2: Correlation Analysis Result

Covariance Analysis: Ordinary
Date: 07/07/25 Time: 12:58
Sample: 2015 2024
Included observations: 60

Correlation Probability	ROA	ICR	GRO	ADR
ROA	1.000000 -----			
ICR	-0.013015 0.9214	1.000000 -----		
GRO	0.017701 0.8932	-0.065796 0.6174	1.000000 -----	
ADR	-0.325964 0.0110	-0.112414 0.3925	0.019340 0.8834	1.000000 -----

Source: E-View 10 Output (2025)

Table 4.2 presents the results of the correlation analysis of four variables: Return on Assets (ROA), Interest Covered Ratio (ICR), Gearing Ratio (GRO), and Asset to Debt Ratio (ADR).

The correlation coefficient between ROA and ICR is -0.013015, indicating a very weak negative relationship. However, the probability value of 0.9214 suggests that this relationship is not statistically significant. The

correlation coefficient between ROA and GRO is 0.017701, indicating a very weak positive relationship, but again, this relationship is not statistically significant (p-value = 0.8932). In contrast, the correlation coefficient between ROA and ADR is -0.325964, indicating a moderate negative relationship, and this relationship is statistically significant (p-value = 0.0110). The correlation coefficient between ICR and GRO is -0.065796, indicating a weak negative relationship, but this relationship is not statistically significant (p-value = 0.6174). The correlation coefficient between ICR and ADR is -0.112414, indicating a weak negative relationship, but again, this relationship is not statistically significant (p-value = 0.3925). The correlation coefficient between GRO and ADR is 0.019340, indicating a very weak positive relationship, but this relationship is not statistically significant (p-value = 0.8834).

Multicollinearity Test (VIF)

The Variance Inflation Factor (VIF) test, also known as the Multicollinearity Test, is a statistical tool used to detect multicollinearity in regression analysis, which occurs when two or more independent variables are highly correlated.

Table 4.3: Multicollinearity Test (VIF)

Variance Inflation Factors
Date: 07/07/25 Time: 12:59
Sample: 2015 2024
Included observations: 60

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	1.590727	5.639638	NA
ICR	9.650828	2.795616	1.016969
GRO	2.346123	2.763256	1.004494
ADR	0.185232	1.673159	1.012946

Source: E-View 10 Output (2025)

Decision rule: As shown in the table, the Variance Inflation Factor (VIF) scores for ICR, GRP and ADR are all below 10, indicating the absence of multicollinearity among the independent variables. This confirms that the variables are not highly correlated, ensuring the stability and reliability of the regression model. The VIF test is a crucial diagnostic tool in regression analysis, enabling researchers to build robust and accurate models that provide reliable predictions and insights, free from multicollinearity issues. By utilizing the VIF test, researchers can have confidence in their model's results, knowing that the variables are independent and do not exhibit collinearity, which can lead to distorted analysis results. This ensures the integrity and dependability of the regression analysis, allowing researchers to draw accurate conclusions and make informed decisions with confidence, without the risk of multicollinearity-related errors.

Heteroskedasticity Test

In regression analysis, heteroskedasticity is a common problem that arises when the variance of residuals (errors) changes across different levels of the independent variable(s), violating the assumption of constant variance (homoskedasticity). Statistical tests like the Breusch-Pagan test or White test can identify heteroskedasticity by checking for constant variance in the residuals.

Table 4.4 Heteroskedasticity Test

Panel Cross-section Heteroskedasticity LR Test
Null hypothesis: Residuals are homoskedastic
Equation: EQ01
Specification: ROA C ICR GRO ADR

	Value	df	Probability
Likelihood ratio	24.76711	6	0.2184

LR test summary:

	Value	df

Restricted LogL	-167.9280	56
Unrestricted LogL	-155.5444	56

Source: E-View 10 Output (2025)

Table 4.4 displays the results of the panel period heteroskedasticity regression test. The interpretation of the panel cross-section heteroskedasticity test is based on the following decision rule:

Decision Rule: At 5% level of Significance

H_0: No conditional Heteroskedasticity (Residuals are homoskedastic)

H_1: There is conditional Heteroskedasticity

If the p-value is less than 0.05, it indicates significant evidence of heteroskedasticity, leading to the rejection of the null hypothesis of homoskedasticity. Conversely, a p-value greater than 0.05 suggests no significant evidence of heteroskedasticity, and the null hypothesis of homoskedasticity is accepted. This decision rule enables evaluating the constant residual variance across independent variable levels, ensuring reliable regression analysis results. As shown in Table 4.4, the ratio value of 24.76711 and corresponding p-value of 0.2184 exceed the 5% significance level, leading to the acceptance of the null hypothesis. Therefore, we conclude that there is no statistically significant evidence of conditional heteroskedasticity, suggesting that the residuals are homoskedastic. This indicates that the samples are representative, the regression analysis results are reliable and unbiased, and the results accurately reflect the population's behavior, thereby enhancing the validity and generalizability of our findings.

Hausman Test

The Hausman test is a statistical tool used to determine the appropriate model specification in panel data analysis, specifically to choose between fixed effects and random effects models.

H_0: Random effect is most appropriate for the Panel Regression analysis

H_1: Fixed effect is not appropriate for the Panel Regression analysis

Table 4.5: Hausman Test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	50.761422	3	0.0000

Source: E-View 10 Output (2025)

The Hausman test results indicate a chi-square statistic value of 50.761422 and a probability value of 0.0000, providing sufficient evidence to reject the null hypothesis that the random effects model is most appropriate for the panel regression analysis. This suggests that the error component model (random effects) estimator is not suitable, as the random effects are not well correlated with the regressors. Therefore, the fixed effect cross-sectional model is the most consistent and efficient estimation for the study. The results confirm that the fixed effect regression model is the most appropriate for the sampled data, as the Hausman test statistic's corresponding probability value is less than 5%.

Fixed Effect Likelihood Ratio Test

The Fixed Effect Likelihood Ratio test is a statistical tool used to determine the appropriate model specification in panel data analysis, helping to decide between the pooled effect model and the fixed effects model.

H_0: Pooled effect is most appropriate for the Panel Regression analysis

H_1: Fixed effect is not appropriate for the Panel Regression analysis

As encapsulated above, if the p-value is greater than 0.05 the decision rule is to reject the null hypothesis which states that pooled effect is most appropriate for the Panel Regression analysis (meaning that the preferred model is fixed effects). Similarly, if the p-value is less than 0.05 the decision rule is to accept the null hypothesis which states that pooled effect is most appropriate for the Panel Regression analysis (meaning that the fixed effect model is to be rejected).

Table 4.6: Fixed Effect Likelihood Ratio Table

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	12.412166	(5,51)	0.0000
Cross-section Chi-square	47.766022	5	0.0000

Source: E-View 10 Output (2025)

The Fixed Effect Likelihood Ratio test results indicate a chi-square statistic value of 47.766022 and a probability value of 0.0000, providing strong evidence to reject the null hypothesis that the pooled effect model is most appropriate for the panel regression analysis. This suggests that the error component model (pooled effect) estimator is not suitable, as the pooled effects are likely correlated with one or more regressors. Therefore, the fixed effect model is the most consistent and efficient estimation for the study, given the options of pooled effect and fixed effect analyses. The result confirms that the fixed effect regression model is the most appropriate for the sampled data, and it is logical to proceed to the Hausman test to determine whether the fixed effect model or random effect model is more suitable.

Test of Research Hypothesis

Decision Rule: The decision rule for accepting or rejecting the null hypothesis for any of these tests will be based on the Probability Value (PV) and the Probability (F-statistic). If the PV is less than 5% or 0.05 (that is, if PV < 0.05), it implies that the regressor in question is statistically significant at 5% level; and if the PV is more than 5% or 0.05 (that is, if PV > 0.05), it is categorized as not significant at that level. This implies that the level of significance for the study is at 5% (for the two-tailed test). Thus, the decision rule for accepting or rejecting the null hypothesis is based on both the Probability Value (PV) and the Probability (F-statistic).

Test of Research Hypothesis

The research hypotheses are stated thus;

H_{01} Interest covered ratio has no significant effect on return on assets (ROA) of listed health care firms in Nigeria

H_{02} Gearing ratio has no significant effect on the return on assets (ROA) in listed health care firms in Nigeria.

H_{03} Asset to debt ratio has no significant effect on return on assets (ROA) of listed health care firms in Nigeria.

Table 4.7: Panel Regression Result (Fixed Effect)

Dependent Variable: ROA
Method: Panel Least Squares
Date: 07/07/25 Time: 13:11
Sample: 2015 2024
Periods included: 10
Cross-sections included: 6
Total panel (balanced) observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.90711	1.185249	15.10831	0.0000
ICR	2.245205	2.711781	0.827945	0.0116
GRO	1.608939	1.203868	-1.336474	0.1873
ADR	-0.443158	0.446956	-0.991501	0.3261

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.598167	Mean dependent var	17.23483
Adjusted R-squared	0.535134	S.D. dependent var	4.246412
S.E. of regression	2.895248	Akaike info criterion	5.101500
Sum squared resid	427.5056	Schwarz criterion	5.415651
Log likelihood	-144.0450	Hannan-Quinn criter.	5.224382
F-statistic	9.489803	Durbin-Watson stat	1.799564
Prob(F-statistic)	0.000000		

Source: E-View 10 Output (2025)

Based on Table 4.7, Return on Assets (ROA), and the independent variables, Interest Covered Ratio (ICR), Gearing Ratio (GRO), and Asset to Debt Ratio (ADR). The model used is a panel least squares model with cross-section fixed effects.

The coefficient estimate for ICR is 2.245205, indicating a positive relationship between ICR and ROA. The p-value of 0.0116 suggests that this relationship is statistically significant. This suggests that companies with higher interest coverage ratios tend to have higher returns on assets. The coefficient estimate for GRO is -1.336474, indicating a negative relationship between GRO and ROA, but this relationship is not statistically significant (p-value = 0.1873). The coefficient estimate for ADR is -0.443158, indicating a negative relationship between ADR and ROA, but this relationship is not statistically significant (p-value = 0.3261). The R-squared value is 0.598167, indicating that about 60% of the variation in ROA is explained by the independent variables. The adjusted R-squared value is 0.535134, which is slightly lower than the R-squared value, indicating that the model is not over-fitting. The F-statistic is 9.489803 with a p-value of 0.000000, indicating that the model is statistically significant overall. Overall, the panel regression results suggest that interest coverage ratio is a significant predictor of return on assets. The results have implications for understanding the factors that influence return on assets and for making informed investment decisions. The model's goodness of fit and statistical significance suggest that it is a useful tool for predicting return on assets.

V. Discussion of Findings

The results of this research provide us useful information on how financial ratios and return on assets (ROA) are related in the firms that were studied. The findings show that the interest coverage ratio (ICR) is a good predictor of ROA, while the gearing ratio (GRO) and asset to debt ratio (ADR) are not statistically significant. The fact that ICR and ROA are positively and statistically significantly related means that firms with greater interest coverage ratios likely to have better returns on assets. This conclusion is in line with what other research have shown about how important interest coverage is for hone in on faceting a company's financial health and profitability. This means that businesses should make maintaining a strong interest coverage ratio a top priority if they want to get a better return on their assets. The fact that GRO and ROA have a negative but statistically insignificant association means that the gearing ratio may not be a good predictor of return on assets for the firms in the sample. This result might be because the gearing ratio can have both good and bad impacts on a company's finances, depending on the situation. The negative but statistically insignificant link between ADR and ROA shows that the asset to debt ratio may not be a good way to estimate return on assets for the firms that were examined. This result might be because the asset-to-debt ratio can be affected by a number of things, such as the size of the firm, the sector it is in, and its financial strategy.

VI. CONCLUSION AND RECOMMENDATIONS

In conclusion, this research gives us important information on how managing debt affects the success of publicly traded healthcare companies in Nigeria. The results show that the interest coverage ratio is an important factor in figuring out the return on assets, while the gearing ratio and asset to debt ratio do not have a big effect. The study's findings show how important it is for healthcare companies to have good debt management plans in order to improve their financial performance and long-term viability. Based on the findings, the study made the following recommendations:

1. Healthcare firms should negotiate with lenders to secure favorable interest rates, exploring alternative funding options, and implementing robust financial planning and budgeting processes.
2. Healthcare firms should negotiate with lenders to secure favorable interest rates, exploring alternative funding options, and implementing robust financial planning and budgeting processes.
3. Listed healthcare firms in Nigeria should include regular financial analysis, cash flow forecasting, and performance monitoring to enable proactive decision-making and minimize the risk of financial distress.

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