# The Effect of Financial Leverage on Financial Performance: Evidence of Quoted Pharmaceutical Companies in Nigeria.

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***Abstract:*** *A common phenomenon in the financial reports of Nigerian pharmaceutical companies is the volume of short-term and long-term liabilities that forms a considerable size of their capital structure. Explaining the role of financial leverage in companies' financial performance is one of the primary objectives of contemporary researches and this role remains a questionable subject which has continued to attract the attention of many researchers. The main objective of this study is to determine the effect of financial leverage on financial performance of the Nigeria pharmaceutical companies over a period of twelve (12) years (2001 – 2012) for the three (3) selected companies. This work employed three (3) financial leverage for the independent variables such as: debt ratio (DR); debt-equity ratio (DER) and interest coverage ratio (ICR) in determining their effect on financial performance for Return on Assets (ROA) as dependent variable. The ex-post facto research design was used for this study. The secondary data were obtained from the financial statement (Comprehensive income statement and Statement of financial position) of the selected pharmaceutical companies' quoted on the Nigerian Stock Exchange (NSE). Descriptive statistics, Pearson correlation and regressions were employed and used for this study. The results of the analysis showed that debt ratio (DR) and debt-equity ratio (DER) have negative relationship with Return on Assets (ROA) while interest coverage ratio (ICR) has a positive relationship with Return on Assets (ROA) in Nigeria pharmaceutical industry. The analysis also revealed that all the independent variables have no significant effect on financial performance of the sampled companies. The results further suggested that only 16.4% of the variations on the dependent variable are caused by the independent variables in our model suggesting that 83.6% of the variations in financial performance are caused by other factors outside our model. Based on the above findings, the researchers now recommend that companies' management should ensure that financial decisions made by them are in consonance with the shareholders' wealth maximization objectives which encompasses the profit maximization objective of the firm. The amount of debt finance in the financial mix of the firm should be at the optimal level so as to ensure adequate utilisation of the firms' assets. The management should also monitor the interest charged on debt financing to avoid liquidation of the company.*

***Keywords:*** *Financial performance, Financial leverage, Pharmaceutical industry, Descriptive research, Multiple regressions, Debt ratio, Debt-equity ratio, Interest coverage ratio, Return on Assets, SPSS and Financial Statement.*

## I. Introduction

Financial leverage is a measure of how much firms use equity and debt to finance its assets. A company can finance its investments by debt and equity. The company may also use preference capital. The rate of interest on debt is fixed irrespective of the company's rate of return on assets. The financial leverage employed by a company is intended to earn more on the fixed charges funds than their costs. As debt increases, financial leverage increases. It has been seen in different studies that financial leverage has effect on corporate performance of quoted pharmaceutical companies in Nigeria. The primary motive of a company in using financial leverage is to magnify the shareholders' return under favourable economic conditions. The role of financial leverage in magnifying the return of the shareholders' is based on the assumptions that the fixed-charges funds (such as the loan from financial institutions and other sources or debentures) can be obtained at a cost lower than the firm's rate of return on net assets (RONA or ROI). Damouri, et al (2013) states that leverage ratios contribute in measuring the risk of using equity costs. They adds that there are various measures known for the capital structure among which the most important are book value based measures, market value based measures and semi- market value based measures (adjusted market value). Financial leverage affects profit after tax or earnings per share. The combined effect of two leverages can be quite significant for the earnings available to ordinary shareholders (Pandey, 2010).

## II.    Objectives of the study

The main objective of the study is to investigate the effect offinancial leverage on financial performance of companies with particular reference to quoted pharmaceuticalcompanies in Nigeria.

**The specific objectives of this study are:**
➢ To examine the effect of debt ratio (DR) on Return on Assets(ROA) of quoted pharmaceutical companies in Nigeria.
➢ To determine whether debt- equity ratio (DER) have any effect on Return on Assets (ROA) of quoted pharmaceutical companies in Nigeria.
➢ To establish if there is any effect of interest coverage ratio (ICR) on Return on Assets (ROA) of quoted pharmaceutical companies in Nigeria.

## III.    Statement of Hypotheses

Based on the objectives of the study, the following hypotheses were developed:

$H_1$: There is a significant effect ofDebt Ratio (DR) onReturn on Assets (ROA) of quoted pharmaceutical companies in Nigeria.

$H_2$: Debt to Equity Ratio (DER) has a significant effect on Return on Assets (ROA) of quoted pharmaceutical companies in Nigeria.

$H_3$: There is a significant effect of interest coverage ratio (ICR) on Return on Assets (ROA) of quoted pharmaceutical companies in Nigeria.

## IV.    Theoretical Framework

Akhtar, et al (2012) examines the relationship between financial leverage and financial performance, evidence from fuel and energy sector of Pakistan. The result shows that there is a general perception that a relationship exists between the financial leverage and the performance of the companies' i.e most of the financial performance indicators have positive relationship among leverage and the financial performance when compare with debt to equity ratio while the gearing ratio indicates negative relationships with the leverage indicators. The gearing ratio also takes into account the effect of capital with return numerator which not only accommodates the debt but also the outstanding shares of preferred stock. The result adds that gearing ratio may differ from that of debt to equity ratio while debt equity ratio takes into account the long term debt.Rehman (2013) studies the relationship between financial leverage and financial performance in listed sugar companies of Pakistan. The results shows positive relationship of debt equity ratio with return on asset and sales growth, and negative relationship of debt equity ratio with earning per share, net profit margin and return on equity. This negative relationship between debt equity ratio and earnings per share (EPS) support the fact that as debt increases, the interest payment will also rises, so EPS will decrease. Akinmulegun (2012) examines the effect of financial leverage on selected indicators of corporate performance in Nigeria. This shows that financial leverage significantly affects corporate performance in Nigeria. Rajin (2012) investigates the influence of financial leverage on shareholders return and market capitalization, evidence of telecommunication sector companies in India. He find out that the nature of relationship and the state of influence of the financial leverage on shareholder's return and market capitalization individually indicates positive relationship between financial leverage and shareholder return but negative relationship between financial leverage and market capitalization. Ujah and Brusa (2013) suggest that financial leverage and cash flow impact the degrees to which firms manage their earnings. They continue that it depends on economic group or industry a firm belongs to their degree and extent of managed earnings varies.

Obradovich and Gill (2013) indicates that larger board size negatively impacts the value of American firms and CEO duality, audit committee, financial leverage, firm size, return on assets and insider holdings positively impact the value of American firms. Pandey (2010) says that the variance and covariance and therefore beta depend on three fundamental factors such as; the nature of business, the operating leverage and financial leverage. Nasrollah et al (2013) studies effect of financial leverage and investment diversification on income- increasing earning management. The results show that financial leverage coefficient is meaningful at level of 95% of confidence, consequently, it can be concluded that financial leverage has an influence on income-increasing earnings management. Enuju and Soocheong (2005) examine the effect of financial leverage on profitability and risk of Restaurant firms. They find that financial leverage does not influence the restaurant firms' profitability. It is noteworthy that the sign of financial leverage is positive meaning that more leveraged firms had more profits on average even though it was not statistically significant. Nazir and Saita (2013) studies financial leverage and agency cost, an empirical evidence of Pakistan. The study found out that general and admin expense into to sales ratio is negatively related to all four leverage ratio. Taani (2012) investigates impact of working capital management policy and financial leverage on financial performance. The study shows that

firm's working capital management policy, financial leverage and firm size have significant relation to net income and also no significant impact on return on equity (ROE) and return on Assets (ROA).

Akbarian (2013) examines the investigation effect of financial leverage and environment risk on performance firms of listed companies in Tehran stock exchange. The result shows that there is a negative relation between financial leverage and cash flow per share and between variables market risk and economic risk with free cash flow per share positive significant. It also indicates that financial leverage, market risk and economic risk with return of equity have positive significant relationship. Gleason, et al (2000) in their study of European countries, found a significant negative relationship between the financial leverage and return on assets and profit margin. Deesomsak (2004) in Malaysia also found a negative relationship between financial leverage and net profit margin. Huang and Song (2004) studies on Chinese companies found a negative relationship between long-term debt and return on assets, as well as between all the liability and return of assets. Berger and Bonaccorsi (2006) evidence that neither high level of financial leverage nor small capital of the company, are associate with higher efficiency of company's performance. Rao et al. (2007) also confirm the negative relationship between leverage and performance result. Jelinek (2007) examines the effect of financial leverage and free cash flow and firm growth on earnings management. The results indicate that firm experiencing an increase in financial leverage during a five year period gradually compared to those which had high leverage degree in the same period has performed less earnings management. Alcock, et al (2013) examines the role of financial leverage in the performance of private equity real Estate funds. The results indicates that funds overall are unable to deliver significant positive out performance on the basis of managerial skill that is unrelated to the exposure to the variation in the underlying market return. It also reveals that the impact of transaction costs, fees and other market frictions that are especially prevalent in the direct real estate investment industry, given the relatively low level of liquidity of the underlying assets. It further shows that excess fund return were approximately proportional to the excess market return, implying that these fund offers their investors effective exposure to the performance of the underlying property markets.

## V. Description of variables

### 5.1 Return on Assets (ROA):
Khalaf (2013) says that return on assets (ROA) is a dependent variable. It is the quotient of dividing profit after tax by total assets.

Emekekwue (2008) sees return on assets (ROA) as a ratio which seeks to measure the amount of profit generated from the entire assets of the firm. It is express as
$$\frac{\text{Profit before tax}}{\text{Total Assets}}$$

Ekwe and Duru (2012) opines that return on assets (ROA) was used as dependent variables, because it is an indicator of managerial efficacy. Lazaridis and Trynidis (2006), Delof (2003), Shin and Soenen(1998), Falope and Ajilore (2009), Singh and Pandy (2008) and Karaduman etal (2011) agrees that the formula for return on Assets (ROA) is express as
$$\frac{\text{Profit before tax}}{\text{Total Assets}}$$

### 5.2 Debt Ratio (DR):
Ekwe and Duru (2012) say it is assumed that when external funds are borrowed, example, from banks at a fixed rate, they can be invested in the company and gain a higher invested paid to the bank. This is measured by the total debt to total assets and is a proxy to leverage.
$$\text{Debt ratio} = \frac{\text{Total debt}}{\text{Total Assets}}$$

Ezeamama (2010) states that debt ratio (DR) measures the amount of the total funds provided by creditors in relation to the total assets of the firm. The formula is given below as
$$\frac{\text{Total debt}}{\text{Total Assets}}$$

Finally, the researcher concludes that the correct formula to be used in analysing this debt ratio is
$$\frac{\text{Total Liabilities}}{\text{Total Assets}}$$

### 5.3 Debt to Equity Ratio:
Nwude (2003) defines debt to equity ratio as a measure of the proportion of debt to shareholders funds (i.e Net Worth) in the total financing of a business. Items such as accumulated losses and deferred expenditures are eliminated from the shareholders' funds before using it as the denominator. The ratio indicates how much naira was raised as debt for N1 of equity. Enekwe (2012) continues that debt to equity ratio is a financial ratio indicating the relative proportion of equity and debt used to finance a company's assets which is an indicator of the financial leverage. It is equal to total debt divided by shareholders' equity. The two components are often

taken from the firm's statement of financial position (Balance Sheet). When used to calculate a company's financial leverage, the debt usually includes only the total debt. This is a useful measure as it helps the investor see the way management has financed operations. A high debt to equity ratio generally means that a company has been aggressive in financing its growth with debt. This can result volatile earnings as a result of the additional interest expenses as well as volatile cash flow as principal payments on debt come due. If a lot of debt is used to finance increased operations (high debt to equity), the company could potentially generate more earring per share than it would have without this outside financing. If this were to increase earning by a greater amount than the interest on debt, then the shareholders benefit as more earning are being spread among the same amount of stock. However, as stated increased interest and the need to repay the principal on borrowed fund can for outweigh the benefit, it is used to measure the net worth of the organization.

Debt to equity ratio = $\dfrac{\text{Total Liabilities}}{\text{Shareholder's Funds or Total equity}}$

This is one of the most important metrics to measure and manage as you create strategic plans.

### 5.4 Interest Coverage Ratio:

Ezeamama (2010) defines interest coverage ratio as a ratio similar to time interest earned ratio, but it is more inclusive in that it recognizes that many firms lease assets and incur long-term obligations under lease contracts for the payment of lease premium. Nowadays, leasing is becoming widespread in financing business; this ratio is preferable to the time interest earned ratio for making financial analysis.

Pandey (2010) indicates the ratio of net operating income (or EBIT) to interest charges i.e,

Interest coverage ratio= $\dfrac{\text{EBIT}}{\text{Interest charges}}$

He continues that these relationships indicate that both these measures of financial leverage will rank companies in the same order. However, the first measure (Total debt/Total Assets) is more specific as its value ranges between zeros to one. The value of the second measure (ie total debt/shareholder funds or total equity) may vary from zero to any large number. The debt-equity ratio, as a measure of financial leverage, is more popular in practice. There is usually an accepted industry standard to which the company's debt-equity ratio is compared. The company will be considered risky if its debt-equity ratio exceeds the industry standard. The first two measures of financial leverage (debt ratio and debt to equity ratio) are also measures of capital gearing. They are static in nature as they show the borrowing position of the company at a point of time. These measures, thus, fail to reflect the level of financial risk, which is inherent in the possible failure of the company to pay interest and repay debt. The third measure of financial leverage (interest coverage ratio) commonly known as coverage ratio, indicates that capacity of the company to meet fixed financial charge. The reciprocal of interest coverage, that is, interest divided by EBIT, is a measure of the firms' income gearing. Again by comparing the companies coverage ratio with an accepted industry standard, the investors, can get an idea of financial risk.

## VI.    Methodology

The research work focuses on the empirical analysis of the effect of financial leverage on financial performance in some selected quoted pharmaceutical companies in Nigeria. The ex-post factor research design was used. This is because it involves events that have already taken place in the past and cannot be manipulated (Onwumere, 2009). This research relied heavily on historic data as data used in the analysis were generated from annual financial reports of the selected quoted pharmaceutical companies in Nigeria from 2001 – 2012, a period of twelve (12) years. The variables that were tested in this study were Return on Assets (ROA), Debt ratio (DR), Debt-equity-ratio (DER) and Interest coverage ratio (ICR).In this study, Financial Performance proxy Return on Assets (ROA) is our dependent variable while Financial Leverage measured by DR, DER and ICR are our independent variables.

### 6.1 Method of Data Collection

The researcher used only secondary data that were extracted from the Annual Reports and Statements of Account (Statement of Comprehensive income and Statement of Financial Position) of the selected quoted pharmaceutical companies for this research work. The population of this research work was six (6) quoted pharmaceutical companies in Nigeria. They are as follows:

1. Evans Medical PLC
2. Fidson Healthcare PLC
3. Glaxo Smithkline Consumer Nigeria PLC
4. May & Baker Nigeria PLC
5. Neimeth International Pharmaceuticals PLC
6. Pharma- Deko PLC

Because of unavailability of data from Nigeria Stock Exchange (NSE) Onitsha Branch and internet, the researcher decides to use only three (3) out of six (6) quoted pharmaceutical companies in Nigeria and twelve (12) years' annual reports and financial statements from 2001 – 2012 financial years. The three (3) selected companies are Evans medical Plc, May & Baker Nigeria Plc and Neimeth international pharmaceutical Plc.

### 6.2. Method of data Analysis

Descriptive analysis was firstly applied todescribe relevant aspects of financial leverage and provided detailed information about each relevant variable. Correlation models, specifically Pearson correlation were applied to measure the degree of association between different variables under consideration while regression analysis was applied to examine the relationship of independent variables with dependent variable and to know the effect of selected independent variableson financial performance. By using this method, researchers will be able to identify the significant of each explanatory variable to the model and also the significance of the overall model.The model used was multiple regressions (more than one independent variables). The researcher also used Ordinary Least Squares (OLS) method for analysis of hypotheses stated in a multiple form. For this purpose of analysis the MS Excel Software was used to analyse financial data and SSPS Software used to run the regression.

The variables chosen were calculated thus:

| No | Variables | Method used for Calculation |
|----|-----------|------------------------------|
| 1 | Debt Ratio (DR) | Total Liabilities/ Total Assets |
| 2 | Debt – Equity – Ratio (DER) | Total Liabilities/ Shareholders' Funds or Total Equity |
| 3 | Interest Coverage Ratio (ICR) | Earnings before interest and tax / Interest |
| 4 | Return on Assets (ROA) | Profit before tax / Total Asset |

## VII. Model Specifications:

The choice of ordinary least squares (OLS) for this research work is guided by the fact that its computational procedure is simple and the estimates obtained from this procedure have optimal properties which include: linearity, Unbiasedness, Minivariance and Mean square error estimation (Koutsoyianis, 2003). In carrying out this research paper on the effect of financial leverage on financial performance, we developed a compact form of our model as follows:

$Y = b_o + b_1x_1 + b_2x_2 + b_3x_3 + \ldots + \varepsilon_i$

Where:

$Y$ = Dependent variable of company

$X$ = Independent variable of company

$b_0$ = Intercept for X variable of i company

$b_1 – b_3$ = Coefficient for the independent variables X of companies, denoting the nature of the relationship with dependent variable Y (or parameters)

$\varepsilon_i$ = The error term

Specially, when researcher converts the above general least squares model into our specified variables, it becomes:

$(ROA)_{yt} = b_o + b_1(DR)_{yt} + b_2(DER)_{yt} + b_3(ICR)_{yt} + \varepsilon_i$

Where: ROA = Return on Assets

DR = Debt Ratio

DER = Debt-Equity-Ratio

ICR = Interest Coverage Ratio

$\varepsilon i$ = Error term

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## VIII. Results and Discussions of Findings

The pharmaceuticals in the Nigerian industry involve pharmaceutics with very different sizes and business mixes as evidenced by the descriptive statistics below.

**<Insert Table 1>**

The descriptive statistics shows that over the period under study, the financial leverage measured by Debt ratio (DR); Debt-equity ratio (DER) and Interest coverage ratio (ICR) have positive mean value which ranges from 0.5844 for Debt ratio (DR) to 2.7576 in interest coverage ratio (ICR). The interest coverage ratio (ICR) and Debt-equity ratio (DER) have the highest standard deviation of 5.24713 and 2.00272 respectively. This indicates that the observations in the data set are widely dispersed from the mean. This table above also shows that Debt ratio (DR) has the lowest value of mean and standard deviation of 0.0320 and 0.6063 respectively. Relationships among the study variables were tested using Pearson Correlation and the outcomes are presented in the table 2 below. Model Specification involves the effect of dependent and explanatory

variable which were included in the model and the expectation about the sign and the size of the parameters of the function, Koutsoyiannis (2003) and Onwumere (2008).

**<Insert Table 2>**

The correlation matrix table shows that Debt ratio (DR) and Debt-equity ratio (DER) have negative relationship with Return on Assets (ROA) while interest coverage ratio (ICR) has a positive relationship with Return on Assets (ROA). The strength of their relationship is indeed at -42.4%, -47% and 20% for Debt ratio (DR); Debt-equity ratio (DER) and Interest coverage ratio (ICR) respectively. It indicates that as Debt ratio (DR) and Debt-equity ratio (DER) increases, the Return on Assets (ROA) decreases and vice versa while when interest coverage ratio (ICR) increases, the Return on Assets (ROA) also increases and vice versa. The column of Significance level of the table above shows that Debt ratio (DR) and Debt-equity ratio (DER) for this study are statistically significant with their Return on Assets (ROA) except interest coverage ratio (ICR) that has statistically insignificant with their Return on Assets (ROA). The researcher also observed that Debt ratio (DR) has strong positive relationship with Debt-equity ratio (DER) at 85.1% and weak negative relationship with interest coverage ratio (ICR) at -17.7% while Debt-equity ratio (DER) has weak negative relationship with interest coverage ratio (ICR) at -18.6%. It means that an increase in Debt ratio (DR) will increase the Debt-equity ratio (DER) and decrease the interest coverage ratio (ICR) variable and vice versa while when Debt-equity ratio (DER) increases, the interest coverage ratio (ICR) will decrease and vice versa. The researcher further observed that Debt ratio (DR) is statistically significant with Debt-equity ratio (DER) at 1% level of significance (0.01) and statistically insignificant with interest coverage ratio (ICR) at 15.1% while Debt-equity ratio (DER) is statistically insignificant with interest coverage ratio (ICR) at 38%.

**<Insert Table 3>**

The table above shows that coefficient of multiple determinations R-Square which explains the extent to which the independent variables affect the dependent variable. In this Case, 0.235 or 23.5% of the variations in the dependent variable were explained by the independent variables while 0.765 or 76.5% were affected by other variables outside the independent variables. The adjusted R-Square, a more conservative way of looking at the coefficient of determination is also less than 50%. In this case, 0.164 or 16.4% of the variations in the dependent variable is not explained by the independent variable. So this indicates that debt ratio (DR); debt-equity ratio (DER) and interest coverage ratio (ICR) are not the major determining factors of Return on Assets (ROA) of the three (3) selected pharmaceutical companies in Nigeria. Only 0.836 or 83.6% of the variation are determinate by other factors. Moreover, this table also shows the results of F = 3.284 at Significance level of 0.033 with df (32, 3) and Durbin-Watson is 1.571.

**<Insert Table 4>**

The debt ratio (DR) has negative relationship with Return on Assets (ROA). The t- calculated of debt ratio (DR) shows -0.280 which indicates that DR has weak and negative relationship with Return on Assets (ROA). The significant negative relationship shows that the debt ratio (DR) of the quoted pharmaceutical companies in Nigeria could significantly affect the financial performance of the pharmaceutical industry negatively. However, its significance level of 0.781 shows that $t_c$ (DR) is statistically insignificant. Thus, the weight of the evidence suggests that we reject $H_i$ and accept $H_o$ that there is no significant effect of debt ratio (DR) on Return on Assets (ROA) of quoted pharmaceutical companies in Nigeria. This means that a change in debt ratio practically has no effect on Nigeria pharmaceutical companies financial performance. This is in consonance with the findings of Rashmi and Sinha (2004); Xing and Cheng (2005); Ukachi (2011); Napompech (2012) and Alcock, Baum, Colley and Steiner (2013). Also, Vural, Sokmen and Cetenak (2012); Raheman, Afza, Qayyum and Bodla (2010); Nasrollah' Mohammad and Seyed (2013) and Abbasali and Esfandiar (2012) found significant and positive relationship with performance while Akbarian (2013) found significant and negative relationship with performance.

Moreover, it shows that the $t_c$ (DER) stands at -1.283 < t*2 confirming that it is statistically insignificant to quoted pharmaceutical companies financial performance. This indicator shows that debt-equity ratio (DER) has negative relationship and does not statistically affect the financial performance of the Nigeria pharmaceutical industry insignificantly. However, its significance level at 0.209 renders the $t_c$ (DER) statistically insignificant. The weight of evidence, therefore suggests that $H_o$ be accepted and $H_i$ be rejected. This means that debt-equity ratio (DER) has no effect on Return on Assets (ROA) of quoted pharmaceutical companies in Nigeria. This result is consistent with the study of Akinmulegun (2012) while Eunju and Soocheong (2005) found insignificant and positive relationship with performance.

Finally, the coefficient result presented above reveals that interest coverage ratio (ICR) has positive relationship and does not statistically affect the financial performance of Nigeria quoted pharmaceutical companies. Given that the t-calculated of 0.728 < t*2, we confirm the statistically insignificant effect of interest

coverage ratio (ICR). This confirmation is strengthened with the p-value of 0.472 > 0.05 level of significance value. Thus, the weight of the evidence suggests that null hypothesis ($H_o$) be accepted and the alternative hypothesis ($H_i$) be rejected. This implies that there is no significant effect of interest coverage ratio (ICR) on Return on Assets (ROA) of quoted pharmaceutical companies in Nigeria. So, the companies do not make use of interest coverage on the financing of their organisational growth. So, the test outputs described below provide considerable reliability to the results and the emerging multiple regression equation is as:

ROA = 0.070 – 0.032 (DR) – 0.011 (DER) + 0.001 (ICR) + $\varepsilon$i

## IX.    Conclusion and Recommendations

As we pass through the various economic cycles, from recession to stagnation, from stagnation to doom; hoping to enter in to an economic boom, the researcher delved into this research topic, the effect of financial leverage on financial performance in Nigerian pharmaceutical companies with a view to proffering suggestions on how our pharmaceutical companies can be turned from doom to boom in the maximization of their profit which is the aim of all organisations. The information or data collected were presented and analysed accordingly and from the analysis, the researcher now concludes as follows:

❖ The descriptive statistics shows the debt equity ratio (DER) and interest coverage ratio (ICR) have the highest mean of 2.0260 and 2.7576 while standard deviation of 2.00272 and 5.24713 respectively for the selected quoted pharmaceutical companies in Nigeria.

❖ That debt ratio (DR) and debt-equity ratio (DER) have negative relationship with Return on Assets (ROA) of quoted pharmaceutical companies in Nigeria.

❖ That debt equity ratio (DER) has positive relationship with debt ratio (DR) while interest coverage ratio (ICR) has negative relationship with debt ratio (DR) of quoted pharmaceutical companies in Nigeria.

❖ That interest coverage ratio (ICR) has negative relationship with debt-equity ratio (DER) of quoted pharmaceutical companies in Nigeria.

❖ That coefficient of multiple determinations ($R^2$) is 23.5% of the variations in the dependent variable are explained by the independent variables while 77.5% of the variations are affected by other factors outside our model. It also shows that independent variables are not the major determinant factors of financial performance of pharmaceutical companies in Nigeria.

❖ That debt ratio (DR) bears a negative relationship with the Return on Assets (ROA) at -0.280 but insignificant at 0.781 and it is not an important determinant of financial performance of Nigeria pharmaceutical companies. This negative relationship and insignificant of debt ratio (DR) on Return on Assets (ROA) of the sampled companies shows an increase in debts, leads to a reduction in the assets utilization potentials of the company. This means that Nigeria pharmaceutical companies do not assign much value to the debt financing for the growth of their company.

❖ That debt-equity ratio (DER) bears a negative relationship with the Return on Assets (ROA) at -1.283 but insignificant at 0.209. It shows that debt-equity ratio (DER) is not an important determinant factor or variable of financial performance of Nigeria pharmaceutical companies. So debt-equity ratio (DER) has no effect on Return on Assets (ROA) of quoted pharmaceutical companies in Nigeria.

❖ The interest coverage ratio (ICR) of the financial leverage of the quoted pharmaceutical companies shows positive relationship with Return on Assets (ROA). It is insignificant and does not consider as an important variable affecting the financial performance of Nigeria pharmaceutical companies. They do not make use of interest coverage ratio (ICR) on financing of the Nigeria pharmaceutical companies' growth. So there is no significant effect of interest coverage ratio (ICR) on Return on Assets (ROA) of quoted pharmaceutical companies in Nigeria.

Against this backdrop, the researcher recommended among others:

❖ Companies' management should ensure that financial decisions made by them are in consonance with shareholders' wealth maximization objectives which encompasses the profit maximization objective of the firm.

❖ The amount of debt finance in the financial mix of the firm should be at the optimal level so as to ensure adequate utilisation of the firms' assets.

❖ The separation of ownerships and management in modern day corporation (companies) demands that agents must act in ways that are in line with the objectives of the principal in order to achieve enhanced earnings per share for the firm owners.

❖ More often than not, it is rare for any firm to depend solely on equity finance, thus, management may seek other sources of funding which may not be in the interest of equity holders. Therefore, managers should employ financial leverage in a way that enhances value for their company owners' i.e leading to an increase in returns to equity holders.

- ❖ The managementshould monitor the interest charged on debt financing to avoid liquidation of the company. It is also suggested that further research be conducted on the same topic with different sector and extending the years of the sample.

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### Table 1:Descriptive Statistics

|  | Mean | Std. Deviation | N |
|---|---|---|---|
| ROA | .0320 | .06063 | 36 |
| DR | .5844 | .15721 | 36 |
| DER | 2.0260 | 2.00272 | 36 |
| IC | 2.7576 | 5.24713 | 36 |

Source: Authors' SPSS output

**Table 2: Correlations**

|  |  | ROA | DR | DER | ICR |
|---|---|---|---|---|---|
| Pearson Correlation | ROA | 1.000 | -.424 | -.470 | .200 |
|  | DR | -.424* | 1.000 | .851 | -.177 |
|  | DER | -.470* | .851 | 1.000 | -.186 |
|  | ICR | .200 | -.177 | -.186 | 1.000 |
| Sig. (1-tailed) | ROA | . | .005 | .002 | .122 |
|  | DR | .005 | . | .000 | .151 |
|  | DER | .002 | .000 | . | .138 |
|  | ICR | .122 | .151 | .138 | . |

Source: Authors' SPSS output. *is significant at 0.01 level

**Table 3: Model Summary**

| Model | R | $R^2$ | Adj. $R^2$ | Std. Error of the Estimate | $R^2$ Change | F Change | df 1 | df 2 | Sig.F change | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .485[a] | .235 | .164 | .05545 | .235 | 3.284 | 3 | 32 | .033 | 1.571 |

a. Predicators: (Constant), ICR, DR, DER
b. Dependent Variable: ROA

**Table 4: Coefficients**

| Model |  | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
|  |  | B | Std. Error | Beta |  |  |
| 1 | (Constant) | .070 | .053 |  | 1.316 | .198 |
|  | DR | -.032 | .113 | -.082 | -.280 | .781 |
| DER |  | -.011 | .009 | -.378 | -1.283 | .209 |
|  |  | .001 | .002 | .115 | .728 | .472 |
| ICR |  |  |  |  |  |  |

a. Dependent Variable: ROA