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The impact of capital structure on the profitability of pharmaceutical companies in Nigeria

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Abstract
This study sought to investigate the effect of capital structure on profitability (measured by return on asset) of firms in Nigeria with specific focus on the pharmaceutical companies between 2011 and 2020 financial year. In this study, two specific objectives, research questions and hypotheses were formulated. Ex-post facto research design was utilized while secondary sources of data derived from the pooled data collected from annual financial report of four listed pharmaceutical companies. The data collected was analysed using pooled ordinary least square regression analysis, however the study also conducted some preliminary analysis such as descriptive statistics and correlation analysis. The study reveals that about 30.9% of the total variation in their return on asset is explained by variations in the capital structure variables captured in the model. In addition, Total debt ratio (TDR) was found to be negatively related to profitability of pharmaceutical firms in Nigeria; while Debt equity ratio (DER) was positively related to profitability of pharmaceutical firms in Nigeria. The study recommends that pharmaceuticals companies in Nigeria should use the less level of debt because it decreases their profitability. Rather, the firms should rely more on their internal source of finance because it is the cheap and reliable source of finance.

Keywords: Capital structure, Total Debt ratio, Debt Equity ratio, Return on Asset

1. Introduction

Increasing profitability is an important goal for businesses in order to stay in business and avoid competition from other companies in similar industries. It is critical to take pride in the company's success or to prioritize other business objectives (Gitman & Zutter, 2012). Profitability is an important component of its financial reporting. It reveals the company's ability to generate revenue and the rate of sales, as well as the level of assets and capital products at a given time (Margaretha & Supartika, 2016). As a result, firm profitability and strategies for increasing it have sparked heated debates in economics, finance, accounting, and management.

Profitable firms create value, hire people, tend to be more innovative, more socially responsible and are beneficial to the entire economy through payment of taxes.

Profitability is a factor based on the "Static Trade-off Theory" and "Pecking Order Theory" of capital structure. Businesses seek debt levels that balance the tax benefits of additional debt with the costs of potential financial distress, according to the trade-off theory. According to the tradeoff theory, tax-paying businesses will borrow moderately. The pecking order theory states that when internal cash flow is insufficient to fund capital expenditures, the firm will borrow rather than issue equity. As a result, the amount of debt reflects the total amount of external funds required by the company (Mohammadzadeh, Rahimi, Rahimi,

Aarabi & Salamzadeh 2013). Due to the interconnectivity of capital structure and the profitability, the company managers put all their efforts on reaching a suitable form of the combination between financial resources and the proper capital structure.

Pharmaceutical Industry is essential for determining the stability and overall outcome of any economy and its failure can disrupt all other sectors of a country's economic development (Ejike& Agha 2018). It serves as a catalyst for employment generation, production of goods and services required for human consumption and development and its contribution to the healthy growth of the economy cannot be overemphasized. The pharmaceutical industry's growth and profitability are boosted by their involvement in trade credit. The zest for continuous growth thus leads to trade credit that can enhance sale volume of products and services (Kungu, Wanjau, Waititu & Gekara 2014).

The pharmaceutical industry is critical to the overall stability and success of any economy, and its failure can disrupt all other sectors of a country's economic development (Ejike& Agha 2018). It acts as a catalyst for job creation, the production of goods and services needed for human consumption, and development, and its contribution to the economy's healthy growth cannot be overstated. The pharmaceutical industry's involvement in trade credit boosts its growth and profitability. The desire for continuous growth leads to trade credit, which can increase the volume of products and services sold (Kungu, Wanjau, Waititu & Gekara 2014).

Financing is an important decision because it has a direct impact on a company's profitability. In fact, the quality of a company's financial decisions determines how successful it is in its operations. To understand how pharmaceutical companies finance their operations, one must look at the factors that influence their financing or capital structure decisions. Financing decisions for businesses involve a wide range of policy issues. They have implications for capital market development, interest rate and security price determination, and regulation in the private sector (Green, Murinde & Suppakitjarak, 2012).

Statement of Problem

The profitability of Nigeria pharmaceutical was never above 20% for the past 7 years using their Return on Asset as a proxy for profitability. One of the challenges facing the industry is weak financial base (Ezuma, 2022). It thus critical for pharmaceutical companies in Nigeria to figure out the best way to fund their operations and grow over time, whether it's entirely through equity, debt, or a combination of both. The issue of how companies choose and adjust their strategic mix of securities has sparked a lot of discussion and debate in the corporate financial literature.

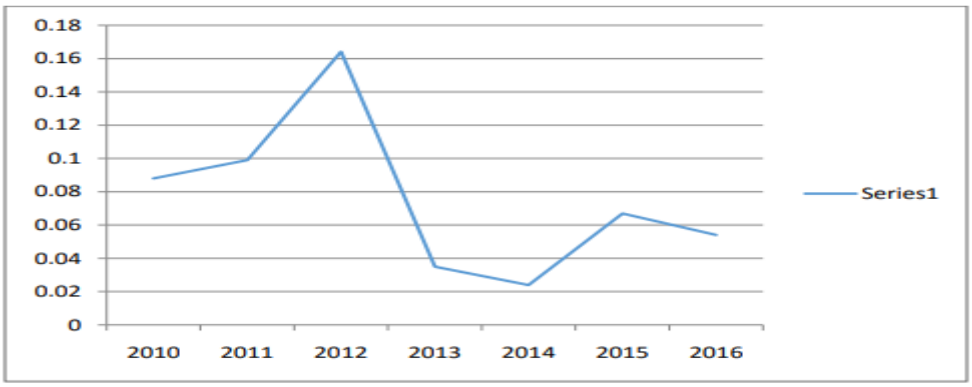

Figure 1: ROA for Pharmaceutical firms in Nigeria

Analysts and researchers have divergent views on the feasibility of pharmaceutical firms' resource requirements. Scholars in the field of capital structure have expressed three opposing viewpoints in the literature: first, there is a positive correlation between a high equity-to-debt ratio and firm performance (Idode, Adeleke, Ogunlowore, & Ashogbon 2014; Adesina, Nwidobie, &Adesina 2015), implying that firms rely more on their own funds than borrowed funds. The second is the link between high debt-to-equity ratios and corporate performance (Awunyo-Vitor & Badu 2012; Iavorskyi 2013; Opoku, Audu, & Anarfi 2013; Hasan, Ahsan, Rahaman, & Alam 2014), which means that corporations rely heavily on borrowed money in comparison to the funds of their owners. The final perspective depicts a point of equilibrium between owners and debts (Prahalathan & Ranjan, 2011; Velnampy & Niresh 2012; Addae, Nyarko-Baasi & Hughes 2013; Hasan, Ahsan, Rahaman & Alam 2014 and Chechet & Olayiwola 2014). However, the applicability of any given scenario at any given time is primarily determined by the cost of servicing the borrowed funds, and the relationship between capital structure and performance remains contentious and warrants further investigation. Explicitly, the study seeks to: ascertain the effect of capital structure on the profitability of pharmaceuticals companies in Nigeria.

Aims and Objectives

The main objective of the study is to critically examine the effect of capital structure on profitability of firms in Nigeria with specific focus on the pharmaceutical companies. The specific objectives are to:

1. Determine the effect of Total Debt ratio on profitability of listed pharmaceutical companies in Nigeria.
2. Investigate the effect of Debt Equity ratio on profitability of listed pharmaceutical companies in Nigeria

2. Literature review

Profitability

Profitability is one of major the areas investors pay attention to when analyzing the viability of a business. Tulsian (2014) explained that the word profitability is composed of two words - profit and ability. Profit refers to the total income earned by the enterprise during a specific period, while profitability refers to the operating efficiency of the enterprise. It is the ability of the enterprise to make profit on sales; it is the ability of enterprise to get sufficient return on the capital and employees used in the business operation. While profit report just about the financial and operational efficiency of an enterprise, profitability interprets the profit in relation to other elements likely to affect profit in order to help in decision making. While profit is regarded as absolute connotation profitability is regarded as relative concept (Tulsian 2014).

Profitability is the ability of a given firm to earn profit. The ability of the firm to earn profit from all activities of an enterprise; it indicates how well mangers of an enterprise generate earnings by using the resource of the business at their disposal (Doga 2013). Simply put, profitability is profit making ability of the business. It is a strong indication of ability pay dividend and avoid bankruptcy (Tulsian 2014). Profitability is one of major the areas investors pay attention to when analyzing the viability of a business. Tulsian (2014) explained that the word profitability is composed of two words - profit and ability. Profit refers to the total income earned by the enterprise during a specific period, while profitability refers to the operating efficiency of the enterprise. It is the ability of the enterprise to make profit on sales; it is the ability of enterprise to get sufficient return on the capital and employees used in the business operation. While profit report just about the financial and operational efficiency of an enterprise, profitability interprets the profit in relation to other elements likely to affect profit in

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Capital Structure

Capital structure has been a major issue in financial economics ever since Modigliani and Miller showed in 1958 that given frictionless markets, homogeneous expectations; capital structure decision of the firm is irrelevant. By relaxing the assumptions and analyzing their effects, theories seek to determine whether an optimal capital structure exists or not, and if so what could possibly be its determinants. The relationship between capital structure decisions and firm value has been extensively investigated in the past few decades. Capital structure could have two effects; according to Desai (2007) firms of the same risk class could possibly have higher cost of capital with higher leverage. Second, capital structure may affect the valuation of the firm, with more leveraged firms, being riskier and consequently valued lower than the less leveraged firms. If the manager of a firm has the shareholders' wealth maximization as his objective, then capital structure is an important decision, for it could lead to an optimal financing mix which maximizes the market price per share of the firm.

If capital structure is not irrelevant, then there is also another thing to consider: the interaction between financing and investment. In order to try to distinguish the effects of various determinants on capital structure, it is assumed that the investment decision is held constant. The choice of capital structure of a firm is determined by a number of factors which include the market forces, type of industry, internal policies of the firm, size of the firm, profitability, corporate tax and bankruptcy costs.

Components of Capital Structure

Debt

Zietlow, Hankin, and Seidner (2007) note that debt is one of the major components in the capital structure of companies. It acts a means of obtaining funds for their business operations. It represents any agreement between a lender and a borrower. Debt instrument includes notes, certificates, bonds, debentures, mortgages and leases etc. The major attribute of debt funding is that the amount borrowed in addition to the interest, must be paid back to the providers of the fund at the agreed period of time. The agreed interest rate which must be paid on the borrowed money is usually set out in the contract agreement between the company and the fund provider. If the borrower does not fulfill their obligations set out in the contract, it can negatively affect their credit rating, which in turn can make it more difficult for the company to obtain funds for future investment which in return can result in financial failure. Even if a company suffers loss and they are unable to make the scheduled payments, they still owe debt obligation to the lenders (Shah & Hijazi 2014).

Equity

Sibilkov (2009) states that equity provides companies the opportunity to acquire funds without borrowing. This means that the money acquired in the form of equity will not be paid back since there belong to the owners of the company. Investors who acquired ownership rights (shares) in the company hope to recoup their investment from future earnings. The owners of the company have the opportunity to take part in sharing the profits of the company in the form of dividends or future capital gains. Conversely, if the company makes a loss, the shareholders have limited liability. This means that the shareholders will only lose the amount they invested in the company (Sibilkov, 2009). There are two types of equity; internal equity (retained earnings) and external equity (shares).

Internal equity: Represents the undistributed profit of a company which is kept as reserve. Before distributing profit, the company has to decide the proportion of the profit to keep as reserve before sharing

the remainder to shareholders as dividend (Myers, 2001).

External equity: Refers to money which is gotten through the issue of new shares. It is usually made up of ordinary share and preference share. A company whose retain earning is not enough has to raise shares (external capital) in order to fund their investment opportunities (Graham & Harvey, 2001). Narayanan (2008) is of the opinion that when a firm raises too much capital through equity issues, it could be interpreted as a signal to the market that the firm involved has insufficient reserves or cash flows, and this could result in the undervaluation of the firm's shares. When business operations are funded with external capital, the share prices of the company occasionally fall. Therefore, it is safer to build up reserves so that higher amount of capital needs can be sourced within the firm.

Trade-off theory of Capital Structure

The capital structure trade-off theory examines the many corporate finance options available to a company. Theoretical considerations are critical for learning financial economics ideas. Companies or firms are often financed by both equity and debts, according to the notion. The theory is largely concerned with these two ideas. The cost of financial trouble as well as the cost of the agency. The goal of the trade-off theory of capital structure is to explain why companies borrow money to finance their investments. The theory also considers the benefits and drawbacks of using either stock or debt to finance a project (Rajha & Alslehat 2014). The trade-off hypothesis really allows for the existence of the cost of bankruptcy. Myers (2001) in his research on capital structure noted that the trade-off theory justifies moderate debt ratios. The purpose of the trade-off theory of capital structure is to explain the strategy a firm uses to finance investments which may be by equity and sometimes by debt. Tradeoff theory predicts that a weak firm will rely exclusively on a bank for debt capital. That is, for weak firms, debt dominates any mix of market and debt regardless of the priority structure. This result contradicts the notion that small/young firms avoid public debt because they lack access to such markets or face prohibitive costs in so doing (Hackbarth, Hennessy, & Leland, 2007). Within the tradeoff theory, there is a debt "pecking-order" with bank debt being preferred to market debt due to the lower implied bankruptcy costs. When the bank holds all ex post bargaining power, the desired level of debt tax shields can be achieved using only bank debt (Hackbarth et al., 2007). While Myers noted that the firm would borrow up to the point where the marginal value of tax shields on additional debt is offset by the increase in the present value of possible costs of financial distress (Myers 2001).

Empirical Review

Since the publication of the MM theory, many scholars have explored the effect that capital structure has on firm performance. Some have found out a positive relationship while others have found capital structure having a negative relationship with the performance of firms.

Opoku-Asante, Winful, Sharifzadeh and Neubert (2022) investigated using a sectorial analysis, the relationship between capital structure and financial performance and consider the effect of debt maturity on the relationship. the relationship between capital structure and financial performance, considering the debt maturity, using 425 cross-sectional firm-year samples from firms in Ghana and Nigeria from 2014 to 2019. The empirical findings suggested a significant negative relationship between capital structure and financial performance. Debt maturity did not affect the relationship between capital structure and financial performance. However, the Industry influences the direction of the relationship between capital structure and financial performance. Also, debt maturity influences the capital structure performance relationship in specific sectors but not the

market. This paper extends on previous studies on the relationship between capital structure and financial performance by incorporating sectorial and debt maturity on firms in Ghana and Nigeria. The findings of this study will assist finance managers in maximizing performance by considering financially sensible heterogeneities such as the sector and the funding source when making financing decisions.

Mustapha, Adio, and Abdulazeez (2020) investigated the relationship between equity and debt ratio as a common cause of capital structure imbalance. The study's population consisted of the 15 publicly traded commercial banks. The analysis relied on secondary data derived from audited financial reports of 15 Nigerian deposit money banks rated by Fitch in 2017. Data from annual reports of publicly traded commercial banks were evaluated with the Fixed Effect, Random Effect, and Panel regression models. The findings revealed that at the 5% level of significance, debt-equity ratio (DER) had a significant negative influence on the financial health of commercial banks in Nigeria. Furthermore, the debt-asset ratio has a considerable negative impact on the financial health of Nigerian commercial banks. Based on the findings of this analysis, the study proposes that financial managers aim to support their activities with retained earnings rather than relying significantly on loan capital in their capital structure. Financial managers should also strive to achieve an ideal level of capital structure and maintain it as much as possible.

Nelson and Peter (2019) investigated the relationship between capital structure and firm performance in the microfinance banking subsector in Nigeria from 2009 to 2018. The study employed explained variables (debt to equity ratio, long term debt ratio and total debt ratio) representing capital structure and the explanatory variable (return on equity) representing firm performance. Descriptive statistics and regression technique were used for the analysis. The results revealed a negative and insignificant relationship between Debt-to-equity ratio and return on equity, a positive and insignificant relationship between Long term debt ratio and return on equity and a positive and significant relationship between Total debt ratio and return on equity. The results also indicated that F-statistic is 37.16701 with a probability of 0.026372 indicating that the combined effect of the explained variables on firm performance represented by return on equity is statistically significant. It is therefore recommended that microfinance banks in Nigeria and beyond should devise strategies that are effective to expand their debt profile in order to achieve better performance.

Adeoye and Olojede (2019) examined the effect of capital structure on the performance of some selected banks in Nigeria. A cross sectional time series secondary data covering the period of seven years (2012-2018) was extracted from the audited financial statement of ten (10) banks listed on the floor of stock exchange. The descriptive statistics, Pearson moment correlation and multiple linear regressions were used. The correlation results showed that capital structure is negatively correlated with financial performance (ROA and ROE). Result from panel regression revealed that debt to equity though significant, impacted negatively on return on assets and return on equity, asset tangibility significantly impacted return on asset but insignificantly impacted return on shareholder's equity and also age has a significant impact on return on asset and insignificant effect on return on equity. This study therefore concluded that capital structure has a negative effect on the financial performance of deposit money banks in Nigeria and recommended that appropriate proportion of capital should be tailored towards viable investment opportunities for maximum return of shareholders wealth and increase in value

of the firm. More so, while finance manager is alert to the movement in the stock market, banks should take precautionary measures for mitigating credit risk associated with lending and borrowing.

Ajibola, Wisdom and Qudus (2018) examined the impact of capital structure on financial performance of quoted manufacturing firms in Nigeria over the period 2005-2014. Panel methodology was applied to analyse the impact of capital structure on financial performance of quoted manufacturing firms in Nigeria. The findings of the panel ordinary least square show that a positive statistically significant relationship exist between long term debt ratio (LTD) (0.0001), total debt ratio (TD) (0.0065) and return on equity (ROE) while a positive statistically insignificant relationship between ROE (return on equity) and STD (Short term debt ratio). There was also a negative insignificant relationship between all the proxies of capital structure (LTD, STD and TD) and ROA which makes ROE a better measure of performance. The study concluded that capital structure has a positive impact on financial performance and companies should employ more of long-term debts. Therefore, it recommends that every firm should make good capital structures decision to earn profit and carry on their business successfully.

Nwude and Anyalechi (2018) evaluated the influence of financing mix on the performance of commercial banks, and the causal link between debt-equity ratio. Data collated were analyzed using correlation analysis, pooled OLS regression analysis, fixed effect panel analysis, random effect panel analysis, granger causality analysis, as well as post estimation test such as restricted f-test of heterogeneity and Hausman test. The findings show that while debt finance exert negative and significant impact on return on asset, the debt-equity ratio has positive and significant influence on return on equity. There was neither unidirectional nor bidirectional relationship between capital structure and performance of commercial banks in Nigeria.

Conceptual Framework

The conceptual framework below shows capital structure as independent variables and profitability of pharmaceutical firms as a dependent variable. The framework is based on the hypothesis that capital structure variables (Total debt ratio and Debt equity ratio) have no significant impact on profitability of pharmaceutical firms in Nigeria

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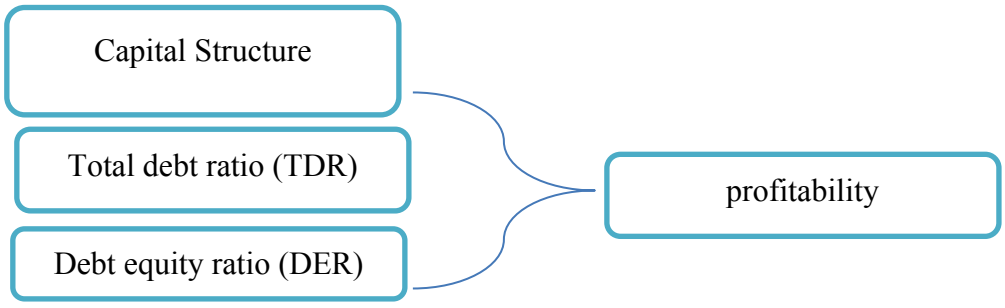

Conceptual Framework (Author, 2022)

3. Methodology

The research design employed in this study is ex post facto research design. Ex post facto research is ideal for conducting social research when determining the influence of a variable on another variable, and testing a claim using statistical hypothesis testing techniques (Simon & Goes, 2013). Kerlinger and Rint (1986) explained that in the context of social science research an ex post facto investigation seeks to reveal possible relationships by observing an existing condition or state of affairs and searching back in time for plausible

contributing factors. Ex post facto research uses data already collected, but not necessarily amassed for research purposes.
The population of this study consists of six (6) pharmaceutical firms listed on Nigeria Stock Exchange. Three out of the six companies are selected, i.e. Neimeth International Pharmaceuticals Plc, May & Baker Nigeria Plc and Glaxo Smithkline Consumer Nig. Plc. The sample was drawn using purposive sampling technique. The choice of these companies is justified on the basis of data availability for the study. The secondary data used was obtained from Annual Reports and Accounts of the pharmaceutical companies for the period of ten (10) years i.e. 2011 – 2020.
The variables used are two: dependent and independent variables. For the dependent variable which is profitability, return on assets (ROA) was used (Ahmad et al.,2015; Fiala et al., 2020) and for the independent variable (capital structure), the proxies are:
Total debt ratio = Total Liabilities divided by Total Assets (Kumari& Kumar, 2018)
Debt equity ratio = Total Liabilities divided by Total Equity (Hintošová et al., 2020
The technique of data analysis that will be employed is regression analysis. Variables will be computed using financial ratios and evaluated with descriptive statistics. Regression is a basic and commonly used type of predictive analysis (Sekaran & Bougie, 2013). It is used to identify the strength of the effect that the independent variable(s) have on a dependent variable. In a bid to examine the impact of capital structure on firm's profitability, we specify a model in line with the traditional theory of capital structure. Thus, following (Muritala, 2012; Ogebe, Ogebe & Alewi 2013; Olokoyo, 2013);

Performance = f (capital structure) + ε_i

$ROA_t = \alpha_0 + \beta_1 TDR_t + \beta_2 DER_t + \varepsilon_t$

Where:
TDR = Total Debt ratio
DER = Debt Equity ratio
t = is error structure defined as firms unobserved effects;
α_0 = the intercept
β_1, and β_2 = the change coefficient for the independent variables;
t = the number of firms and time period for the series (2011 to 2020);

4. Results and Discussion

Under this section, the results of the analysis are presented starting with the descriptive statistics. Table 1 provides the summary of the descriptive statistics analysis result.

Table 1: Descriptive Statistics

	TDR	DER	ROA
Mean	0.073542	0.348259	0.081342
Median	0.060500	0.334000	0.085000
Maximum	0.249000	0.924300	1.227000
Minimum	0.000000	0.000000	-0.609000
Std. Dev.	0.049188	0.250690	0.172238
Skewness	-1.852058	-0.329752	1.749355
Kurtosis	8.869157	2.335356	6.291460
Jarque-Bera	240.8374	4.383480	115.3734
Probability	0. 698000	0.111722	0.543000
Observations	40	40	40

Source: EViews 8.0 Output, 2022

The descriptive statistics result provided some insight into the nature of the selected pharmaceutical firms that were used for the study. From the result, it was observed that within the period (2011 to 2020), firms selected has mean total debt ratio (TDR) value of 0.079542, minimum value of 0.33 and maximum value of 0.249000 respectively. The mean value shows that the debt equity ratio (DER) of the of the selected pharmaceutical firm is 0.348259. The difference between the maximum and minimum value is that the sampled pharmaceutical firms used for the study are not dominated by either large or small firms. Also, the descriptive statistic table also revealed that return on asset (ROA) for the firms has mean value of 0.081342, maximum and minimum 1.227 and -0.6090 respectively. The Jarque – Bera (JB) which test for normality or the existence of outlier or extreme value among the variables shows that all variables are normally distributed at 5% level of significance.

In examining the relationship between the variables, the study employed the Pearson correlation analysis and the results are presented below in table 2 below:

Table 2: Correlation Matrix

	ROA	TDR	DER
ROA	1.000000		

TDR	-0.184708	1.000000	
	0.0434	-----	
DER	0.045582	-0.044359	1.000000
	0.0211	0.6305	-----

Source: EViews 8.0 Output, 2022

The table 2 above shows the Pearson correlation coefficient (r) of the relationship between capital structure variables (DER, TDR) and performance (ROA). The results show that the coefficient of the correlation between DER and ROA stood at 0.045582 which is positive with a significant value of 0.0211. the positive relationship is significant and implies that an increase in DER would lead to an increase in ROA. Also, the coefficient of the correlation between TDR and ROA stood at -0.184708 which is negative with a significant value of 0.0434. This implies that an increase in TDR would lead to an insubstantial decrease in ROA. Generally, all the correlation coefficients for the independent variables are less than 0.8, hence, there are no cases of harmful correlation (Hair, Black, Babin, & Anderson, 2010). This suggests the absence of multi-collinearity among the variables.

For the test of hypothesis, pooled regression was adopted which is based on an assumption that all the pharmaceutical companies are homogenous. Hence, all observations are run neglecting the cross section and time series nature of the data. This does not distinguish the various companies under study as their individuality or heterogeneity is denied. Table 3 below presents the statistics of the pooled regression.

Table 3: Statistics of Pooled Regression

Variable	Coefficient	t-Statistic	Prob.
TDR	-0.494282	-4.561106	0.0212
DER	0.064853	1.029924	0.5052
R-squared	0.308853		
Adjusted R-squared	0.216780		
F-statistic	9.302303		
Prob(F-statistic)	0.00380		

Source: EViews 8.0 Output, 2022

In table 3 above, the F-statistic stood at 9.302303 with a p-value of 0.00380 which is significant at 5%; this shows that the model is fit even if the banks are considered as just one institution with no differences. However, the empirical findings from the

pooled regression shows that R^2, the multiple coefficient of determination of the variables stood at 0.308853 indicating that where these companies are considered as having the same characteristics, opportunities and challenges, about 30.9% of the total variation in their ROA is explained by variations in the capital structure variables captured in the model, the remaining 69.1% is explained by variables not captured in this study. The adjusted R^2 being 0.216780 also indicates that the capital structure variables will still explain 21.7% of the variations in the profitability of pharmaceutical firms even if other variables were added to the model. In addition, all the individual capital structure variables, TDR has probability ($p < 0.05$) which is significant at 95% confidence level while DER has probability ($p > 0.05$) which is insignificant at 95% confidence level.

Discussion of Results

Total debt ratio and profitability of Pharmaceutical firms in Nigeria

Total debt ratio (TDR) is found to be negatively related to profitability of pharmaceutical firms in Nigeria. It has a beta coefficient of -0.494282, with a t-statistics of -4.561106 respectively. The negative beta coefficient implies that an increase in the TDR will lead to a decrease in profitability. However, the significance of this is ascertained from its p-value. The p-value of the t-statistic stood at 0.0212, indicating that the t-statistic is significant at 95% confidence level. Based on this, the study rejects the null hypothesis which states that total debt ratio has no significant effect on the performance of listed DMBs in Nigeria thus, the alternative hypothesis is accepted which states that total debt ratio has significant impact on the profitability of pharmaceutical firms in Nigeria.

Debt-equity ratio and profitability of Pharmaceutical firms in Nigeria

Debt equity ratio (DER) is found to be positively related to profitability of pharmaceutical firms in Nigeria. It has a beta coefficient of 0.064853, with a t-statistics of 1.029924. The positive beta coefficient implies that an increase in the DER will result to an increase in profitability of pharmaceutical firms in Nigeria. However, the significance of this is ascertained from its p-value. The p-value of the t-statistic stood at 0.5052, indicating that the relationship is insignificant at 95% confidence level. Based on this, the study accepts the null hypothesis which states that debt-equity ratio has no significant effect on profitability of pharmaceutical firms in Nigeria.

This study reports a mixed result of positive and negative relationship between capital structure and profitability of pharmaceutical firms in Nigeria. The result is consistent with the finding of Prahalathan & Ranjan, (2011), Velnampy and Niresh (2012), Addae, Nyarko-Baasi and Hughes (2013), Hasan, Ahsan, Rahaman and Alam (2014) and Chechet and Olayiwola (2014) who had also reported mix findings on capital structure and performance of firms. However, the result of this study contradicts the findings of Akinyomi (2013), Patrick *et al.,* (2013), Olokoyo (2012), Abu-Rub (2012) and San and Heng (2011) who claimed that capital structure has only positive relationship with financial performance of an organization.

5. Conclusion and Recommendation

Financing is an important decision because it has a direct impact on a company's profitability. In fact, the quality of a company's financial decisions determines how successful it is in its operations. As evidenced in this study, capital structure, measured by total debt ratio and debt equity ratio has mixed effect on profitability (measured by ROA) of pharmaceutical firms in Nigeria. For pharmaceutical companies, debt may be an effective tool to raising funds for expansion and development without diluting ownership control (Hasan et al., 2014). However, over exposure to debt for financing could lead to

a fall in return on asset as revealed by the study.

Following this study, it is recommended that the pharmaceuticals companies in Nigeria should use the less level of debt because it decreases their profitability. Rather, the firms should rely more on their internal source of finance because it is the cheap and reliable source of finance. The research is conducted on a sample of companies in the Pharmaceutical industry, a growing business in a developing country like Nigeria. In such a rapidly moving environment, the economic relationship may not be consistent in the long- term. Therefore, the empirical result obtained from this study needs to be re-examined in a longer prospect. To reach a more general conclusion, more research on the same topic with more integrated and multi data should be conducted. Because of the database limitation, the study does not include some determinants mentioned in previous investigation, such as company unique characteristics and size (Titman &Wessels, 1988), earning fluctuation, and market-related factors. More research should be done to see if the pecking order model can be applied in light of new input data, resulting in more reliable empirical evidence.

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