

EFFECT OF FINANCIAL LEVERAGE ON FINANCIAL PERFORMANCE: EVIDENCE OF QUOTED PHARMACEUTICAL COMPANIES IN NIGERIA

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Abstract

This study examines the Effect of Financial Leverage on Financial Performance: Evidence of Quoted Pharmaceutical Companies in Nigeria. This work employed three (3) financial leverage for the independent variables, 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 18.5% of the variations on the dependent variable are caused by the independent variables in our model suggesting that 81.5% of the variations in financial performance are caused by other factors outside our model. Based on the above the study therefore recommend that 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; 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; management should seek other sources of funding which may not be in the interest of equity holders and leading to an increase in returns to equity holders. Therefore, managers should employ financial leverage in a way that enhances value for their company owners'

Introduction

Financial leverage can be described as the extent to which a business or investor is using borrowed money, is a measure of how much firm uses equity and debt to finance its assets. As debt increases, financial leverage increases. It has been seen in different studies that financial leverage has the relationship with financial performance; consequently, the use of financial leverage is like a "double-edged sword" as it has the ability to boost the firm's potential losses or gains (Khan, 2012; Pandey, 2010). The option to use both debt and equity comes with costs while relying on debts only leads to cost savings since debt interest is tax deductible, thereby reducing the overall cost of capital (Mueni and Muturi, 2015).

Financial leverage decision is a vital one since the performance of a firm is directly affected by such decision; hence, financial managers should trade with caution when taking debt-equity mix decisions. The theory of financial leverage and its relationship with firms' performance has been an issue of great concern in corporate finance and accounting literature since the seminal work of Modigliani and Miller in 1958 (Al-Taani, 2013; Mohammed, 2010; Ogebe, Ogebe&Alewi, 2013). Financial performance is

the measure of how well a firm can use its assets from its primary business to generate revenues, it like profitability and liquidity among others provide a valuable tool to stake holders which aids in evaluating the past financial performance and current position of a firm (Erasmus (2008). Financial performance evaluation are designed to provide answers to a broad range of important questions, some of which include whether the company has enough cash to meet all its obligations, is it generating sufficient volume of sales to justify recent investment. Capital structure is closely linked with financial performance (Tian and Zeitun, 2007). Financial performance can be measured by variables which involve productivity, profitability, growth or, even, customers' satisfaction. These measures are related among each other. Financial measurement is one of the tools which indicate the financial strengths, weaknesses, opportunities and threats. Those measurements are return on investment (ROI), residual income (RI), earning per share (EPS), dividend yield, return on assets (ROA), growth in sales, return on equity (ROE),e.t.c (Stanford, 2009).

Financial performance evaluation is regarded as a useful step in attaining a self-evaluation method and consequently the improvement of accountability power (Mehragan and Golkani, 2012). Some scholars have considered performance evaluation as a part of the emerging movement of accountability. They believe that performance evaluation is one of the best methods of employing an accountability approach. Financial performance evaluation is itself in the need of some indexes through which to evaluate corporate performance. Performance evaluation indices are in fact an action guide from what it is towards what it should be. Evaluating the performance of firms and factories can act as a guideline that paves the way for future decisions concerning investment, development and most importantly, control and supervision (Tehrani and Rahnama, 2006).

Firms nowadays maintain a mix of debt and equity, but the problem is that which is proportionate of debt and equity has greater benefits against lesser costs as both sources have different cost and rate of return. (Khan, 2012; Amjed, 2011) i.e. short term debts (STD) and long term debt (LTD), both of them have different rate of returns an investor will ask for, due to its duration difference and the risk attached. According to Umar (2012), Debt and Equity are the main financing options used by all the firms. For the purpose of operating a firm, intensity of debt or equity option used by the firm to finance its operations represents the firm's capital structure. If the organization is financing through debt they have to pay the interest to the bank and if they are financing through equity they have to give the dividends to the shareholders from their profit and sometimes generate the retained earnings account that they did not distribute to the shareholders but is reflecting in their profit. The impact of financial leverage on the value of firms varies across countries due to the difference in tax laws and tax brackets (Obradovich and Gill, 2012). This study therefore examines effect of Financial Leverage on Financial Performance: Evidence of Quoted Pharmaceutical Companies in Nigeria.

Statement of the Problem

In Nigeria, most of the studies did not use other components on capital structure and financial performance. The studies which include Bello and Onyesom (2005), Salawu (2007), Olokoyo (2012), Babalola (2012), Yinusa and Babalola (2012), Sabastian and Rapuluchukwu (2012) and Idode, Adeleke, Ogunlowo and Ashogbon (2014) have left a gap that need to be filled. For example, Salawu (2007), who studied the effect of capital structure on financial performance of selected quoted companies in Nigeria between 1990 and 2004 concentrated on short term debt. His study did not extend to other forms of financing, thus the finding could only be used in the context of short term debt financing. This means even within the purview of debt financing; only the short term aspect of the debt was covered in his study. In reality, a study on capital structure is supposed to cover both types of debt financing.

Babalola (2012) who also studied the effect of optimal capital structure on firm's performance in Nigeria between 2000 to 2009 using samples of 10 firms, concentrated on total debt to total assets. His study excluded the aspect of total debt to equity, short term debt to total assets and long term debt to total assets financing despite the fact that both types of debt financing are used by the sampled firms. More so, his study and those of Bello and Onyesom (2005) and Olokoyo (2012) used Chi-square technique to analyze their data. Chi-square is considered deficient in terms of reflecting time variant and specific characteristic issues. Studies on capital structure and performance of firms are supposed to use parametric techniques that measure both time variant and specific characteristic issues. Furthermore, the study of Yinusa and Babalola (2012) examined the impact of corporate governance on capital structure decision of ten (10) firms in the food and beverage sector during the period from 2000 to 2009. They used total debt to total assets ratio as proxy of capital structure. The study did not cover other components or types of debt financing such as total debt to total equity, short- term debt and long-term debt.

Myers (2001) argued that that there is no complete theory of the debt-equity choice and no reason to expect one. Additionally, Brealey and Myers (1991) identified financial leverage as one of the ten unresolved problems in corporate finance. Surveys of empirical studies revealed that consensus have not been reached on the relationship between financial leverage and financial performance. Many researchers found a significant negative relationship between leverage and firms' performance (see Al-Taani, 2013; Al-tally, 2014; Arowoshegbe&Emeni, 2014). Enekweet *al.*, (2014) examine 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; it coverage was between 2001 – 2012.

It can be seen from the above reviews of empirical literature that results from investigations into the relationship between financial leverage and financial performance are inconclusive and requires more empirical studies. An important financing decision that firms must take is to decide the proportion of debt and equity that will constitute their capital structure. Moreover, despite the widespread interest in the way firms make their financing decisions, most of the research on financial leverage has been conducted in the advanced countries' using different quoted financial companies with little study on pharmaceutical companys. This study is an attempt to fill this gap in knowledge; hence, the main problem of this research was to investigate the effect of Financial Leverage on Financial Performance: Evidence of Quoted Pharmaceutical Companies in Nigeria

Objectives of the Study

The broad objective of this study is to examine the effect of Financial Leverage on Financial Performance: Evidence of Quoted Pharmaceutical Companies in Nigeria. Specifically, the study sought to:

- i. Estimate the effect of debt ratio (DR) on financial performance of quoted pharmaceutical companies in Nigeria.
- ii. Determine the effect of debt- equity ratio (DER) on financial performance of quoted pharmaceutical companies in Nigeria; and
- iii. Determine the effect of interest coverage ratio (ICR) on financial performance of quoted pharmaceutical companies in Nigeria.

Statement of Hypotheses

H0₁: Debt Ratio (DR) has no significant effect of on Return on Assets (ROA) of quoted pharmaceutical companies in Nigeria.

H0₂: Debt to Equity Ratio (DER) has no significant effect on Return on Assets (ROA) of quoted pharmaceutical companies in Nigeria.

H0₃: There is no significant effect of interest coverage ratio (ICR) on Return on Assets (ROA) of quoted pharmaceutical companies in Nigeria.

Review of Related Literature

Conceptual Framework

Concept of Financial Leverage

Financial leverage is a measure of how much firm uses equity and debt to finance its assets. As debt increases, financial leverage increases. Management tends to prefer equity financing over debt since it carries less risk (Matt, 2000). Financial leverage takes the form of a loan or other borrowing (debt), the proceeds of which are re-invested with the intent to earn a greater rate of return than cost of interest. An unlevered firm is an all-equity firm, whereas a levered firm is made up of ownership equity and debt (Andy, Chuck & Alison, 2002). Leverage allows a greater potential returns to the investor than otherwise would have been available, but the potential loss is also greater if the investment becomes worthless, the loan principal and all accrued interest on the loan still need to be repaid (Andy et. al., 2002).

Concept of Financial Performance

Similarly, Pandey (2010) assert that the financial leverage employed by a company is intended to earn more return on the fixed-charge funds than their costs. The surplus (or deficit) will increase (or decrease) the return on the owners' equity. The rate of return on the owners' equity is levered above or below the rate of return on total assets. Thus, financial leverage is considered as a double-edged sword because it provides the potentials of increasing the shareholders' earnings as well as creating the risks of loss to them.

Measures of Financial Leverage

The most commonly used measures of financial leverage according to Bierman (1970), are debt ratio, debt-equity ratio and interest coverage. Debt ratio and debt-equity ratio can be expressed either in terms of book values or market values. The market value to financial leverage is theoretically more appropriate because market values reflect the current attitude of investors. But it is difficult to get reliable information on market values in practice. The market values of securities fluctuate quite frequently. Bowman (1980) revealed that the cross-sectional correlation between book value and market value of debt is very large, so that misspecification due to using book value measures is probably fairly small.

Financial Leverage Propositions

There are broadly two schools of thought that gave birth to capital structure theory. The first school believes that the cost of capital is determined by the composition of the capital structure of a firm. The suggestion is that an optimal capital structure will occur at a level where the overall cost of capital is lowest; hence the overall capital structure in a firm would contribute to its market value. This is known as the relevance of capital structure which comprises the net income approach and the traditional view.

According to the net income approach, a firm can increase its value or lower the overall cost of capital by increasing the proportion of debt in the capital structure. The net income (NI) approach is based on the assumptions that (i) the equity capitalization rate and debt capitalization rate remain constant with changes in leverage, and (ii) the equity capitalization rate is greater than debt capitalization (Kurfi, 2003). Since equity capitalization rate and debt capitalization rate are constant and debt capitalization rate is lower than equity capitalization rate, increased use of debt will increase the shareholders' earnings, and that will result in higher value of the firm because of the higher value of equity. The resultant effect will lower the overall, or the weighted average cost of capital. Similarly, the traditional view has emerged as a compromise to the extreme position taken by the NI approach (Solomon, 1963). Like the NI approach, it does not assume constant cost of equity with financial leverage and continuously declining weighted average cost of capital (WACC). According to this view, a judicious mix of debt and equity capital can increase the value of the firm by reducing the WACC up to certain level of debt. This suggests clearly that WACC decreases only within reasonable limit of financial leverage and after reaching the minimum level, it starts increasing with financial leverage. Hence a firm has an optimum capital structure that occur when WACC is minimum, and thereby maximizing the value of the firm. The traditional theory assumed that at moderate level of leverage, the increase in the cost of equity is more than offset by the lower cost of debt. The assertion that debt funds are cheaper than equity funds carries the clear implication that the cost of debt plus the increased cost of equity, together on a weighted basis, was less than the cost of equity that existed on the equity before debt financing (Barges, 1963).

Total Debt Ratio

Total debt ratio measures the amount of a firm's total assets that is financed with external debt. This measure encompasses all short term liabilities and long-term liabilities. Nwude (2003) contend that this measures portion of the firm's assets that is financed by creditors. As the total debt ratio increase, so do a firm's fixed-interest charges, if the total debt ratio becomes too high, the cash flow the firm generates during economic recessions may not be sufficient to meet interest payments. In terms of its significance to a firm, theoretical literatures predict that debt is positively correlated with level of investment. For example, long and Malitz (1985) found a significant positive relationship between the rate of investment in fixed plant and equipment and level of borrowing. The total debt ratio is measured by dividing total debt with the total assets of the firm. This proxy variable remained most notable measure of leverage ratio of a firm as adopted in many empirical studies (Zeitun and Tian, 2007; Onaolapo and Kajola, 2010; Tze-Sam and Heng, 2011; Kasozi and Ngwenya, 2010; Baker and Wurgler, 2002; Ju et al., 2004; and Booth et al., 1999; Khan, 2012; Azhagaiah and Gavoury, 2011).

$$\text{Total Debt} = \frac{\text{Total Debt ratio}}{\text{Total Assets}}$$

Debt Equity Ratio

Debt equity ratio is similar to the debt ratio and relates the amount of a firm's debt financing to the amount of equity financing. Actually, this measure of leverage ratio is not actually a new measure; it is simply the debt ratio in a different format. Debt equity ratio is the quantitative measures of the proportion of the total debt to residual owners' equity (Nwude, 2003). Thus, it is an indicator of company's financial structure and whether the company is more reliant on borrowing (debt) or shareholders capital (equity) to fund assets and activities. Many empirical studies in different jurisdictions have employed this measure of financial structure in their various studies (Zeitun and Tian, 2007; Majumdar and Chhibber, 1999; Azhagaiah and Gavoury, 2011) among others.

$$\text{Debt equity ratio} = \frac{\text{Total Debt}}{\text{Shareholders' Funds}}$$

Long Term Debt Ratio

Although this measure is incorporated in the last two measures highlighted above, some analysts generally use this measure because most interest costs are incurred on long-term borrowed funds, and because long-term borrowing places multi-year, fixed financial obligations on a firm. Titman and Wessels (1988) contend that significant results are good reason for employment of different measures of leverage ratio because some of the theories of financial structure have different implications for not combining them as aggregate “debt ratio”. Long term debt ratio is measured by dividing long term debt with the total assets of the firm, and has been adopted in several empirical studies (Titman and Wessels, 1988; Zeitun and Tian, 2007; Tze-Sam and Heng, 2011; Long and Malitz, 1985; Booth et al., 1999).

$$\text{Long term debt ratio} = \frac{\text{Long Term Debt}}{\text{Total Assets}}$$

Short Term Debt Ratio

Short term debts are debt obligation that matured within one accounting year. This measure is very appropriate to be included in the measures of leverage ratio due to implication it normally revealed when there is occurrence of mismatch of funding by a firm. This may be one of the reasons that led to adoption of different measures of leverage ratio rather than narrow measure of financial structure by some scholars. Titman and Wessels (1988) contend that theories have different empirical implications in regard to different types of debt instruments. Thus, mismatching funds is a situation when long term investments are financed by short term debt rather than long term debt. Apparently, the occurrence of this is prone to default as payment of interest and repayment of principal may fall due when the proceeds (cash inflow) from the investment are not readily available. The inability of the firm to repay the principal will expose it to the embarrassments resulting from legal actions. This measure however, indicates the magnitude of current liabilities (obligations) to changes in the value of overall assets of a firm. Schinasi (2000) contends that leverage is the magnification of the rate of return whether positive or negative on a position or investment beyond the rate obtained by a direct investment of own funds in the market. The body of theoretical literatures have argued that short term measure is a good measure of leverage ratio in transition economy with less developed debt market where most firms’ external debt finance are majorly commercial bank loans. Lucey and Zhang (2011) are of the view that market liberalization at the country level decreases the use of long-term debt, and debt maturity shifts to short term. Empirical investigation by Khan (2012) revealed that engineering sector firms in Pakistan are largely dependent on short debt but debts are attached with strong covenants which affect the performance of the firm. A good number of authors have employed this measure in their empirical studies (Timan and Wessels, 1988; Zeitun and Tian, 2007; Long and Malitz, 1995; Khan, 2012) among others. This is measured thus;

$$\text{Short term debt} = \frac{\text{Sho Term Debt}}{\text{Total Assets}}$$

Times Interest Earned Ratio

Times interest earned ratio is one of the measures of leverage ratio that employs income statement data to measure financial structure. This measure tells the financial analyst the extent to which the firm’s current earnings are able to meet current interest payments. The earnings before interest and tax of the firms are used because the firm makes interest payments out of operating income. Theoretical literatures

contend that when the times interest earned ratio falls below 1.0, the continued viability of the firm is threatened because the failure to make interest payments when due can lead to bankruptcy. Olatundum and Ademola (2008) point out that when times interest earned declines; the firm is likely to face a high premium. The times interest earned ratio is measured by dividing the earnings before interest and tax with the interest charges. This has remained the used standard to ascertain the ability of the current earnings of the firm to offset its current obligations. Olatundum and Ademola (2008) employed this measure in their empirical study.

Fixed-Charge Coverage Ratio

Fixed-charge coverage ratio measures the number of times a firm is able to cover total fixed charges, which include (in addition to interest payments) preferred dividend and payments required under long term lease contracts. Firms in some time are required to make sinking fund payments on bond issues, these are annual payments aimed at either retiring a portion of the bond obligation each year or providing for the ultimate redemption of bonds at maturity. Under most sinking fund provisions, the firm either may make these payments to the bondholders' representative (the trustee), who determines through a lottery process which of the outstanding bonds was retired, or deliver to the trustee the required number of bonds purchased by the firm in the open market. Either way, the firm's outstanding indebtedness is reduced.

In calculating the fixed-charge coverage ratio, an analyst must consider each of the firm's obligations on before-tax basis. However, because sinking fund payment and preferred stock dividends are not tax deductible and therefore must be paid out of after-tax earnings, a mathematical adjustment has been made. Nwude (2003) contend that this measure the extent to which earnings may fall without causing problem to firm as regards the payment of interests and other fixed charges. A high coverage ratio is preferred and suggests strength.

Concept of firm Performance

In this section, we look at concept of firm performance. The concept of performance in finance is a controversial issue largely due to its multi-dimensional meanings. Santos and Brito (2012) posits that the definition of firm performance and its measurement continues to challenge scholars due to its complexity. This theoretical literature has spawned the interest of numerous studies. Performance measures are either financial or organizational (Zeitun and Tian, 2007). Citing the work of Chakravarthy (1986) and Hoffer and Sandberg (1987) by Zeitun and Tian (2007) point that financial performance such as value maximization, maximizing profit on investment, and maximizing residual owners equity are at the core of the firm's effectiveness, while, operational measures, such as growth in sales and growth in market share, essentially emphasizes wide range of performance as they focus on the factors that specifically result to financial performance. There are statutory requirements to provide information for performance of publicly

Measurement of Firms' Performance

The concept of performance is a controversial issue in finance largely because of its multi-dimensional meanings (Prahalthan&Ranjany, 2011). Performance can be studied from two interconnected points of view: financial and organizational; a company's performance can be measured based on variables that involve productivity, returns, growth or even customer satisfaction. Financial performance (reflected in profit maximization, maximizing return on assets and maximizing shareholder return) is based on the firm's efficiency (Chakravarthy, 1986).

Return on Assets

Return on Assets (ROA) is a measure of firm performance that reveals to the users of financial statements how well a company uses its assets to generate income. A higher ROA denotes a higher level of firm performance. A rising ROA, for instance, may initially appear good, but turn out to be unimpressive if compared with other companies in the same line of activities or industrial average. Hence, if a company's ROA is below the industrial average, the company is not utilizing its full capacity. Booth et al. (1999) posits that this measure was used in their study because it was the only variable that can be calculated across countries. They conclude that country comparisons of profitability are therefore difficult. Among other authors that adopted this measure in their empirical studies are Zeitun and Tian (2007), Zeitun (2009), Tze-Sam and Heng (2011), Onalapo and Kajola (2010) and Khan (2012). The ROA ratio may thus be more useful when compared to the risk-free rate of return to be rewarded for the additional risk involved. If a firm's ROA is equal to or even less than the risk-free rate, investors were indifferent and better off just purchasing a bond with a guaranteed yield.

$$\text{ROA} = \frac{\text{Profit Before Interest and Tax}}{\text{Total Asset}}$$

Return on Equity

Return on equity is another measure of firm performance that shows how well a company has used the capital from its shareholders to generate profits. Investors use ROE as a measure of how well a company is using its money. Evidently, numerous empirical studies have employed this measure in quest to observe the predicted relationship between financial structure and firm performance (Tze-Sam and Heng, 2011; Zeitun and Tian, 2007; Onalapo and Kajola, 2010; Kajola 2008; Zeitun, 2009; Skopljak and Luo, 2012; Khan, 2012).

$$\text{That is; ROE} = \frac{\text{Profit Before Interest and Tax}}{\text{Shareholders' Funds}}$$

Earnings per Share

Earnings per share is a ratio that measures earnings in relation to every share on issue. This is measured by dividing the profit before interest and taxes with the outstanding number of shares of the firm. This indicates how much each one share of the firm will earn from the yearly proceeds. The earnings for every share represent shareholders' slice of the pie. As earnings go up over time, the value of that piece of the firm becomes more valuable and this is why the price was bid up. Whilst there are not many truisms when it comes to share investment, one is that if earnings rise consistently over the long term, then the share price will follow. Apparently, issue of shares that increases the number of outstanding shares dilutes the equity owners' residual value. Tze-Sam and Heng (2011) provide empirical investigation using EPS as a proxy for corporate performance to establish its relationship with financial structure. The measure is derived thus;

$$\text{EPS} = \frac{\text{Profit Before Interest and Tax}}{\text{No of Outstanding Share}}$$

Tobin's Q

Tobin's Q is the market value of assets (market value of equity plus market value of debt) divided by estimated replacement cost (Brealey and Myers, 1996). Lang and Stulz (1994) assert that no risk adjustment or normalization is required to compare Tobin's Q across firms in contrast to comparisons

of stock return or accounting performance measures. Although, Tobin's Q has been employed in many empirical studies as a major indicator of firm performance but many researchers have agreed it is noisy signal (Zeitun and Tian, 2007; Onaolapo and Kajola, 2010). Similarly, Lang and Stulz (1994) posit that the problem with Tobin's Q is that it reflects what the market thinks, whether illusory or not. They suggest that to be able to adopt Tobin's Q, financial markets must assume to be efficient and firm's market value is an unbiased estimate of the present value of its cash flows. With this assumption, the ratio of the market value of the firm to the replacement value of its assets is a measure of the contribution of the firms' intangible assets to its market value. Although, Tobin's Q as market performance has been extensively used as a proxy for firm performance but there is difficulties in getting required information relating to market value of debt issued in most emerging economy like Nigeria, since these are not usually disclosed in their financial statement (Kajola, 2008). He noted that most researchers used modified Tobin's Q that seems to be subjective, because the modification usually influences the outcome of the study. Booth et al. (1999) using Tobin's Q as a proxy for performance in their empirical study found that market-to-book ratio is imperfectly correlated with Tobin's Q and arrived at the conclusion that the degree of correlation will differ across countries according to the accounting principles adopted. Another empirical study by Khan (2012) revealed that Tobin's Q as firm performance is significantly negatively related to capital structure.

This measure can be derived as follow;

$$\text{Tobin's Q} = \frac{\text{Market Value of Assets}}{\text{Estimated Replacement Cost}}$$

Price Earnings Ratio

The price to earnings ratio (P/E) measures the number of times the share price covers the earnings per share. It is measured by taking firm's current share price and dividing it with the earnings per share (EPS). However, a firm's P/E ratio should not be analyzed as a standalone number. It may be interpreted in many ways depending on whether it is being compared with the firm's historical P/E, the industry P/E or even the market P/E. This measure as market performance measure was used in empirical work of Zeitun and Tian (2007), which documented that the regression model using price per share to earnings per share (P/E) is not significant using any measure of capital structure. They gave the following reasons that have contributed to the insignificance of the results; (i) that the share price does not reflect the actual situation of the firm, (ii) that most investors still depend on the accounting measure of performance rather than the P/E measure due to inactivity of the stock market, (iii) inclusion of default firms in the studies that have a low or even negative P/E affects the validity of the P/E as a measure of performance.

$$P/E = \frac{\text{Current Share Price}}{\text{Earnings per share}}$$

Effect of Financial Leverage

Effect of Financial Leverage on Profitability

Tulsian (2014) defined profitability as the ability of a given investment to earn a return from its use. Profitability shows the final results of the business operations (Buvaneshwaran and Bai, 2015). Profitability is a relative measurement of the operational performance of any company (Ali and Imdadul, 2014). The word profitability is made up of two word; profit and ability (Tulsian, 2014). He adds that profit refers to the current operating performance and efficiency of business firms while ability refers to

the power of business entity to earn profits, which indicates the business' earning power or operating performance. According to Lakhtaria (2013), profitability is the capacity of earning profit.

Financially, profitability refers to the earning capacity or capability of a company to earn profit currently and in the future (Lakhtaria, 2013). Though profitability is nearly the same as efficiency, it is considered an index or measurement of efficiency and a guide for management for greater efficiency (Enekwe, Okwo and Ordu, 2013). Though used interchangeably, profit and profitability are different terms (Ali and Imdadul, 2014). Profit is an absolute measurement of operational performance while profitability is a relative measurement of operational performance (Tulsian, 2014; Ali and Imdadul, 2014). Profit is not relevant in comparison of the efficiency of a business while profitability analysis is considered the best technique to measure productivity of capital employed and operational efficiency (Tulsian, 2014).

Effect of Financial Leverage on Dividend Policy

Pandey (2001) defines dividend as "that portion of a company's net earnings which the directors recommend to be distributed to shareholders in proportion to their shareholdings in the company". Dividend refers to the benefit of shareholders in return for their risk and investment (Uwuigbe, Jafaru and Ajayi, 2012). They add that a firm's dividend is determined by various factors for example financing limitations, investment chances and choices, firm size, pressure from shareholders and regulatory regimes. Dividends are presented in form of cash flows or as a result of capital gains due to the investors' view point (Ur Rehman and Hussain, 2013). A firm's profits can either retained or paid out to the owners of the firm as dividends (Shisia, Sang, Sirma, and Maundu, 2014).

Dividend policy refers to management's decision to either pay dividends or retain the funds for reinvestment purposes (Priya and Nimalathan, 2013). They add that dividend policy can either be managed or residual, explaining that in residual dividend policy, the dividend amount is what is left after the firm makes its preferred investments based on NPV. The managed dividend policy is one that the manager believes is important to the investors and positively influences the value of share price. According to Ur Rehman and Hussain (2013), a firm's dividend policy is a sign of its performance and also a measure of mitigating the agency problem between managers and outside investors.

Effect of Financial Leverage on Liquidity Management

Liquidity refers to both the time and the costs associated the process of converting a particular asset into cash and from cash into an asset (Brandon and Wang, 2013). Agbada and Osuji (2013) define (bank) liquidity as the "the ability maintain sufficient funds to pay for its maturing obligations". They add that it refers to the ability (of a bank) to instantly meet its cash, other obligations and permissible loan demands while obliging by its current reserves. Liquidity can also refer to the ability of a business to meet its cash obligations within a specific period of time (Sheikhdon and Kavale, 2016).

Financially, liquidity is defined as the bank's ability to settle its maturing obligations while avoiding unacceptable losses (Agbada and Osuji, 2013). Liquidity management affects the growth and profitability of a firm to a great extent because inadequate or excess levels of liquidity may disrupt with the smooth operations of a firm (Egbide, Uwuigbe and Uwalomwa, 2013). Liquidity management therefore involves the strategic supply or withdrawal from the market the liquidity amount consistent with the desired current level of reserve money without interrupting the profit making ability and operations of the firm (Agbada and Osuji, 2013).

Theoretical Framework

Dynamic Trade-off Theory

Extensive theoretical literature has established dynamic nature of firms' capital structure. But dynamic trade-off theory is not as popular as static trade-off theory leading to many authors categorizing the two theories as one (trade-off theory). Although the distinction between these two theories are not well established. Hull (1999) and Ju et al. (2004), postulate that dynamic tradeoff theory corresponds with traditional trade-off approach in the pursuit of an optimum capital structure but not static. They assert that factors affecting financial structure are tax shields and bankruptcy costs. This suggests that some managers make financial structure decisions with the objective of maximizing the total value of the levered firm. Optimal capital structure is the point at which the financing costs and the Weighted Average Cost of Capital (WACC) are minimized, thereby maximizing returns (Onalapo and Kajola, 2010 and Tz-Sam and Heng, 2011). In other words, this theory argues that firms chose capital structure base on the attributes that determine the costs and benefits associated with debt ratio, which can be maintain or revert to predetermine debt to equity ratio that maximizes firm value and /or minimized risk of default (Kasozi and Ngwenga, 2010).

Agency Cost Theory

Agency cost theory was first incorporated in financial structure argument in the work of Jensen and Meckling (1976); this theory was incorporated in financial structure because of agency relationship between the principal (shareholders) and agent (manager) when there is separation of ownership and control. This theoretical literature argues that agency costs arise because of interests of the principal and agent resulting from personal utility maximization does not align (Kim, et al., 2006 and Siddiqui and Shoaib, 2011). Eisenhardt (1989) asserts that agency theory is directed at the ubiquitous agency relationship, in which one party (the principal) delegates work to another (the agent), who performs that work. While, Berger and Patti (2002) posits that agency costs of outside ownership equal the lost value from professional managers maximizing their own utility, rather than the value of the firm due to separation of ownership and control. In the work of Eisenhardt (1989), agency theory is concerned with resolving two problems that can occur in agency relationships. The first is the agency problem that arises when (i) the desires or goals of the principal and agent conflict (ii) it is difficult or expensive for the principal to verify what the agents is actually doing. The problem here is that the principal cannot verify the agent has behaved appropriately. The second is the problem of sharing that arises when the principal and agent have different attitudes toward risk. The problem here is that the principal and the agent may prefer different actions because of the different risk preferences.

Trade-off Theory

The trade-off theory could be traced to the debate over the Modigliani and Miller (1958) irrelevance propositions, which state that in a perfect capital market situation, the choice between debt and equity is irrelevant. Additionally, Modigliani and Miller (1963) argued that, when corporate taxation is introduced to their original Modigliani and Miller (1958) irrelevance proposition, firms should be 100% debt financed because of the tax advantage of debt. However, introducing bankruptcy costs into this model implies that the optimal capital structure becomes a trade-off between the tax advantage of debt and the costs of bankruptcy (Myers, 1984).

Similarly, the trade-off theory of leverage is that in which firms' trade-off the benefits of debt financing against the cost of debt. In other words, firms' trade-off the benefits of debt (tax shields) against the higher interest rates and bankruptcy cost. A firm's optimal debt ratio is usually viewed as determined by a tradeoff of the costs and benefits of borrowing, holding the firm's assets and investment plans constant.

The firm is portrayed as balancing the value of interest tax shields against various costs of bankruptcy or financial embarrassment (Myers, 1984).

According to the trade-off theory, higher profitability lowers the expected costs of distress, and firms increase their leverage to take advantage of tax shield benefits. Therefore, leverage and performance are positively related. Agency theory supports this positive relationship between leverage and performance because of the free cash flow theory of Jensen (1986).

Review of Empirical Studies

Ogiriki, Andabai, & Bina (2018) examined financial leverage and its effect on corporate performance of firms in Nigeria from 1999-2016 using long-term-debt, return on asset and return on equity as dependent and explanatory variable respectively by employing the Ordinary Least Square (OLS). The result revealed that ROA and ROE had positive effect on longterm debt of firms that was significant respectively. The study concluded that financial leverage has a significant influence on the corporate performance of firms in Nigeria and recommended the effective management of the long-term debts.

John-Akamelu, Iyidiobi & Ezejiofor (2017) studied the effect of financial leverage on the financial performance of food production firms in Nigeria from 2009 to 2014 using the earnings per share, Return on Equity, Return on Assets as a proxy for performance. The paired sample t-test analysis showed that financial leverage has no significant effect on the EPS of food production firms in Nigeria while there are effects on return on equity and return on assets of companies in Nigeria. They recommended that the amount of debt finance in the financial mix of the firm should be at the optimal level to ensure the firms' assets are utilization appropriately.

Abdul & Badmus (2017) assessed the relationship between leverage (equity) and debt ratio on return on assets of chemicals and paints firms quoted in the Nigerian stock exchange using the ordinary least square (OLS) on a sample of three firms from 2000 – 2009. They concluded that the equity finance had a significant and positive impact on ROA while the DR reported a negative and insignificant relationship on the performance measures. Therefore, firms in the sector should employ more equity finance and avoid more debt.

Akani & Kenn-Ndubuisi (2017) examined the effect of capital structure and board structure on firm performance in Nigeria using the Vector auto regression (VAR) test on forty listed companies in the Nigerian Stock Exchange (NSE) from 2008 to 2016. The result established that there exists a significant negative relationship between capital structures (DER) and the firm performance using ROA and ROE.

Abubakar (2016) investigated the effects of financial leverage on firms' performance using 66 nonfinancial firms of the Nigerian Stock Exchange from 2005- 2014. Panel data techniques in the form of Pooled Ordinary Least Squares (POLS), Fixed Effects and Random Effects estimators revealed that an increase in the equity portion of total debt-equity ratio (TDER) has a significant positive effect on firms' financial performance measured by return on equity (ROE). The study concludes among others that financial leverage surrogated by total-debt equity ratio (TDER) is an important indicator of firms' financial performance and vice versa. He recommended that non-financial firms' quoted on the NSE should increase the equity portion of the debt-equity mix in their capital structure to improve firms' financial performance.

Adenugba, Ige & Kesinro (2016) studied the relationship between financial leverage and firms' value using a sample of five firms listed on Nigerian Stock Exchange (NSE) for 6 years from 2007-2012. The Ordinary Least Square (OLS) statistical technique showed a significant relationship and effect between financial leverage and firms' value. The study concludes that financial leverage is a better source of finance than equity to firms when there is a need to finance long-term projects.

Enekweet *al.*, (2014) conducted a study on 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. It 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.

Mwangi, Makau and Kosimbei (2014), investigated the relationship between Financial Leverage and performance of 42 non-financial companies listed in the Nairobi Securities Exchange, Kenya. The study employs panel data models (random effects and feasible generalized least square [FGLS]) and found that financial leverage is statistically negatively related to performance measured by return on assets and return on equity. Maina and Kondongo (2013) examined the effects of debt-equity ratio on performance of firms listed on the Nairobi Securities Exchange for the period 2002- 2011. The result also revealed that significant negative relationship exists between debt-equity ratio and all measures of performance.

Gweji and Karanja (2014) investigated the effect of financial leverage on firm performance of deposit taking savings and credit co-operative in Kenya. The study utilized secondary data sourced from financial statements of 40 savings and credit co-operative societies (SCCOS) sampled for the study from 2000 to 2012. Descriptive and analytical designs were both adopted. The result show perfect positive correlation between financial leverage surrogated by debt-equity ratio with ROE and profit after tax at 99% confidence interval, and a weak positive correlation between debt-equity ratio with ROA and income growth.

Innocent, Ikechukwu and Nnagbogu (2014) conduct a study on the effect of financial leverage on financial performance: evidence from quoted pharmaceutical companies in Nigeria for the period 2001-2012. Financial leverage surrogated by debt ratio (DR), debt-equity ratio (DER), and interest coverage ratio (ICR) was used as independent variable while financial performance proxy by ROA was used as dependent variable. The study utilized secondary data sourced from financial statements of 3 pharmaceutical companies quoted on the Nigerian Stock Exchange. Descriptive statistics, Pearson correlation and multiple regressions were employed in order to determine the relationship between financial leverage variables and performance measure variable identified in the study. The results showed that debt ratio and debt-equity ratio have negative relationship with ROA, while interest coverage ratio has a positive relationship with ROA in Nigerian pharmaceutical industry. The study also

reveals that on aggregate financial leverage variables have no significant effect on financial performance of sampled companies.

SomayyehMahmoudi (2014) .Iran presents an empirical insight on the effect of leverage on cement industry profitability. The study was an attempt to highlight the crucial issue that the managers are confronting today, that how to choose the combination of debt & equity to achieve the financial leverage that would minimize the firms cost of capital & improves returns to the business owners. Using leverage on financial leverage as Independent variable and profitability as dependent variable and time period comprised of years 2008-2011.They used descriptive and regression models to test the theory. Results of the exploration demonstrate that there is critical negative relationship between firm's profitability & leverage. It was evidenced through this research that top management of every firm should be focused on making prudent financing decisions in order to remain profitable and competitive and therefore managers should realize to what extent leverage had an influence on the financial performance.

PerinpanathanRajkumar (2014) .Srilanka had examined the Impact of financial leverage on financial execution with extraordinary reference to John Keells holding plc in Srilanka. John Keells holding plc is the biggest recorded Company in Colombo stock trade having joined in ahead of schedule 1870's as a produce and trade brooking business by two English men named as Edwin & George john. To test the hypothesis and relationship between dependent and Independent variables, data of John Keells plc was taken from period 2006-2012.NP ratio, ROE; ROCE is used to measure dependent variable whereas Debt to equity ratio was employed to measure Independent variable. For identifying the pattern of relationship between financial leverage & financial performance correlation and regression analysis were adopted. Correlation analysis displayed a strong negative relationship of -0.789 between the variables at significance level of 0.05.ANOVA test was also brought into play. Finally it was concluded that there is negative relationship between financial performance and financial leverage. Hence if John Keells wants to maximize its financial performance it has to adopt the policy of minimum debt capital in their financial leverage.

Maroko (2014) examined the influence of Financial Leverage on organizational financial performance of firms listed on Nairobi Securities Exchange. The findings showed that positive relationship exist between financial leverage, cost of equity, debt interest and organization financial performance.

Akande (2013), applied the Ordinary Least Square (OLS) regression analysis on panel data collected from financial statements of 10 Nigerian firms over 20 years from 1991- 2010. The findings show that positive relationships exist between DC and ROE, EPS and DPS, while negative relationship exists between DC and ROA.

Rehman (2013) investigate the relationship between financial leverage and financial performance of 35 listed sugar companies in Pakistan for a period of 6 years from 2006- 2011. Correlation technique was used by taking financial leverage proxy by debt-equity ratio as independent variable and financial performance surrogated by EPS, NPM, ROA, ROE and sales growth as dependent variables. The results show that financial leverage has a positive relationship with ROA and sales growth, and negative relationship with EPS, NPM and ROE.

Ujah and Brusa (2013) examine the effects of financial leverage and cash flow volatility on earnings management using 559 US firms for a period of 20 years from 1990 to 2009. The findings provide evidence that suggest that financial leverage and cash flow has an impact on the extent to which firm's manage their earnings. The results also revealed that earnings management of firms varies according to industry they belong.

Rajni Saini (2012) conducted a study on Impact of Financial Leverage on Shareholders Return and business sector underwriting from the Indian Telecom part organizations. Study period consisted of years 2004-05—2010-11. Hypothetical framework comprise of Independent variable as financial leverage and dependent variable comprise of Shareholder return & market capitalization. The population includes 7 companies of Indian Telecommunication Industry. It was concluded that a Positive Correlation is found between budgetary influence and shareholders return for Telecommunication Industry and negative connection is found between monetary power and business promotion for telecom Industry. The total valuation of a firm can be Increased by the different bounding of three variables as Financial leverage, Shareholder return & market capitalization.

Research Methodology

This chapter discusses the methodology adopted for the study. The chapter analyses the method and sources of data collection, discusses the research design, population of the study, sample size and sampling technique, statistical tool for data analysis, variables measurement, and model specification of the study. The chapter also highlights the robustness tests conducted on the data used for the study.

Research Design

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 design was used because the researcher has no control over the exogenous variable and whatever happens occurred before the research. Furthermore, ex-post facto design is used when researcher is trying to ascertain the cause and effect of the relationships that exist between two variables.

Nature and Source of Data

The secondary data was employed in this study. The researcher only secondary data that was 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.

Population and Sample Size

The population of this research work will consist of six (6) quoted pharmaceutical companies in Nigeria. They are as follows:

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

However the non-probability sampling method in form of availability sampling technique was used in selecting the Quoted Pharmaceutical Companies in Nigeria that meet the criteria of being listed on the Nigerian Stock Exchange since the year 2001 up to the period covering this study and having information on the variables captured in this research was included. This is because not all the Quoted Pharmaceutical Companies in Nigeria listed have being in existence up to 2001 and having all the information needed for this study. This study will covers a period of Sixteen years i.e., 2001 to 2015. The benchmark year was 2001 and the end year was 2016.

Method of data Analysis

Descriptive was used to analyze relevant aspects of financial leverage and provided detailed information about each relevant variable while regression analysis was applied to examine the relationship of independent variables with dependent variable and to know the effect of selected independent variables on financial performance. By using this method, the researcher was able to identify the significance 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.

Variables Measurement

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

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:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + e_i$$

Where:

Y = Dependent variable of company

X = Independent variable of company

β_0 = Intercept for X variable of i company

$\beta_1 - \beta_3$ = Coefficient for the independent variables X of companies, denoting the nature of the relationship with dependent variable Y (or parameters)

e_i = The error term

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

$$(ROA)_{yt} = \beta_0 + \beta_1(DR)_{yt} + \beta_2(DER)_{yt} + \beta_3(ICR)_{yt} + e_i$$

Where: ROA = Return on Assets

DR = Debt Ratio

DER = Debt-Equity-Ratio

ICR = Interest Coverage Ratio

e_i = Error term

Diagnostic Tests

The Hausman test and the Breusch-Pagan Lagrange Multiplier (LM) test for best model selection was used to select the best estimator among the Pooled Ordinary Least Squares, Fixed Effects and Random Effects estimators. Autocorrelation test was conducted to find out whether there is independence of errors.

Autocorrelation can be detected and measured by using the Durbin-Watson (D-W) statistic. In this study, D-W statistic will be used to detect whether there is presence of autocorrelation in the model. Autocorrelation was corrected using the Robust Heteroscedasticity- and Autocorrelation Consistent (HAC) standard errors. In addition, a test for heteroscedasticity was conducted to find out whether the error term has a constant variance. To detect the existence of heteroscedasticity in this study, the White's test and Group wise heteroscedasticity test was used. Heteroscedasticity was corrected using the Robust Heteroscedasticity- and Autocorrelation Consistent (HAC) standard errors

Finally, Pair Wise Granger causality test was conducted and the direction of causality between financial leverage and firms' financial performance was detected.

Results and Discussions of Findings

Table 1 Correlations

Pearson Correlation	ROA	ROA	DR	DER	ICR
	DR	1.000	-0.526	0.851	0.200
Sig. (1-tailed)	DER	-0.562*	1.000	1.000	-0.177
	ICR	-0.420*	0.851	-0.186	-0.186
	ROA	0.211	-0.177	0.002	1.000
	DR	.	0.005	0.000	0.122
	DER	0.001	.	.	0.151
	ICR	0.002	0.000	0.138	0.138
		0.122	0.151	.	.

Source: Authors' SPSS output. * Significant at 0.01 level

Table 3: Model Summary

Model	R	R ²	Adj R ²	Std Error	R ² change	Change statistics			Sig F change	Durbin watson
						F	df1	df2		
1	0.495	0.245	0.185	0.0514	0.245	3.384	3	32	0.031	1.617

a. Predictors: (Constant), ICR, DR, DER

b. Dependent Variable: ROA

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, 0.245 or 24.5% of the variations in the dependent variable were explained by the independent variables while 0.755 or 75.5% 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, 0.185 or 18.5% 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 selected pharmaceutical companies in Nigeria. Moreover, this table also shows the results of F = 3.384 at Significance level of 0.031 with df (32, 3) and Durbin-Watson is 1.617.

Table 3: Coefficients

Model	Unstandardized coefficient		Standardized coefficient		
	B	S.Error	Beta	t	sig
(Constant)	0.071	0.055		1.29	0.194

DR	-0.041	0.114	-0.062	-0.36	0.774
DER	-0.021	0.031	-0.255	-0.68	0.215
ICR	0.002	0.003	0.124	0.67	0.585

a. Dependent Variable: ROA

The results and the emerging multiple regression equation is as:

$$ROA = 0.071 - 0.041 (DR) - 0.021 (DER) + 0.002 (ICR) + \epsilon_i$$

The debt ratio (DR) has negative relationship with Return on Assets (ROA). The t- calculated of debt ratio (DR) shows -0.36 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 0.774 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 company's financial performance. This is in consonance with the findings of 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 Esfandiari (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 $-0.68 < t^*2$ 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 0.215 means 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).

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 $0.67 < t^*2$, we confirm the statistically insignificant effect of interest coverage ratio (ICR). This confirmation is strengthened with the p-value of $0.585 > 0.05$ 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.

Conclusion and Recommendations

Based on the findings of this study, we therefore conclude as follows:

- ❖ 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 24.5% of the variations in the dependent variable are explained by the independent variables while 75.5% 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 -0.36 but insignificant at 0.774 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 -0.68 but insignificant at 0.215. 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.

This study therefore recommended as follows:

- i. 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.
- ii. 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.
- iii. 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.

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