IMPACT OF CAPITAL STRUCTURE ON FIRMS' PERFORMANCE (CASE STUDY OF SELECTED QUOTED COMPANIES IN NIGERIA)

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ABSTRACT

Capital structures represent the financing choices open to corporate organizations. This issue of Capital structures has been identified as an immediate reason for business failure or lack of progress. In the process of finding optimum capital structure most suitable for an organization, the one that will enhances her performance company try out various alternatives of debt-equity ratio, with two extreme-100% equity; 0% debt or 0% equity: 100% debt. This study is set out to ascertain the impact of capital structure on organizational performance, that to determine relationship between capital structure and the organizational productivity and profitability in Nigeria. Data were sourced from secondary sources and it was analyzed using ordinary least square under certain assumption. It was discovered that debt in various format (Long or short term Loans) and equity make up the capital structure of the organization and these have much impact on organization productivity and profitability. Based on the findings, it is therefore recommended that further research should incorporate other variable that may influence the choice of capital structure in Nigeria like Inflation rate, Interest rate, capital formation, stock market development, financial stability of country and political stability of the country.

Keywords: Profitability, Solvency, Asset Tangibility, Capital Intensity

Section I: Introduction

Capital is an integral part of business concerns; it is the lifeblood of any business because it is linked with all activities performed by the business. Business cannot function properly with lack of fund or inadequate funds as the initial capital contributed by the promoter of the business is not always sufficient to take care of all financial requirements of the business. Capital structures, representing the financing choices open to corporate organization that is financing mix that can maximize the market share price and the value of the company. The decision making process concerning the financing choice of a company have a substantial significance in a corporate governance and consequently in its future successful development.

Achieving the right capital structure by defining the composition of debt and equity for an organization to finance its operations and investments has challenged academics and practitioners alike. Some firms focus on the traditional tax benefit of debt, since interest is often a tax deductible expense, while many other companies hold substantial amounts of cash and explore options of what to do with it. The choice of capital structure for firms is by and large the most fundamental issue of the financial framework of a business entity. Capital structure entails the methods by which corporate organizations finance their assets, set up their ownership structure and reflect standards of their corporate governance.

Financing is one of the crucial areas in firms' activities; a finance manager is concerned with the determination of the best financing mix and combination of debts and equity for his firm. The business has to look for different other sources from where the needed funds can be met. External funds represent finance sourced by firms outside its equity capital, which is debt. The use of foreign capital is linked with the paying interest to fund owners. In turn, external fund is divided into long and short-term. Long term fund is the source for which the deadline of the payment established on the balance sheet date, comes later than one year while short-term capital is the sources provided for the company for a period shorter than a year. In frames of this classification of capital, there is also fixed capital which has a special significance in the analysis of capital structure (Michalak, 2013). Under this purview, the managers are expected to choose the best financial strategy option between debt and equity in such a manner that the financial risk remains low. The capital structure of a firm is designed in such a way that the cost of capital is kept at its lowest and the value of the firm reaches its maximum (*Olowe, 2011).*

The issue of finance has been identified as an immediate reason for business failing to start or to progress. It is imperative for firms in Nigeria to be able to finance their activities and grow over time if they are ever to play an increasing and predominant role in creating value-added, providing employment as well as income in terms of profits, dividends and wages to households, expanding the size of the derivatives sector in the economy, generating tax revenue for the government and facilitating poverty reduction through fiscal transfer and income from employment and firm ownership. It is important in this regard to understand how firms in Nigeria finance their operations by examining their structure decisions.

The capital structure most suitable for an organization is a much debated question in Nigeria. Corporate organizations have been struggling with discovering optimal capital structure that enhances performance. Successful corporate leaders must constantly consider factors such as the company and its management, the economy, government regulation and social trends, the state of capital markets, and industry dynamics. Any decision related to capital structure depends on market conditions and investors' acceptance of debt.

Capital structure is the way a company sources for funds in financing its assets through the mixture of equity, debt or hybrid securities. Hence, the capital structure decision is the mix of debt and equity that a company uses to finance its business. This is closely related to ability of the firms to fulfil her organizational goal and the needs of various stakeholders. Capital structure represents the major claims to a corporation's assets which includes the different types of both equities and liabilities. There are various alternatives of debt-equity ratio, with two extreme-100% equity; 0% debt or 0% equity; 100% debt. From these two extremes, alternatives are derived. The first extreme depicts financing option that is called unlevered firm, that is, the firm that shuns the advantage of leverage (if any) while the second extreme is that of a firm that has no equity capital. This option may not actually be realistic or possible in the real life economic situation, because no rational investors will invest his money in a firm without equity capital. This partially explains the term "trading on equity", that is, it is the equity element that is present in the firm's capital structure that encourages the debt providers to give their scarce resources to the business. In between these extremes is the real life experience that is the most realistic option available to firms for operations; That which combines certain percentage of debt and equity in the capital structure and thus, the advantages of leverage (if any) is exploited. This mix of debt and equity has long been the subject of debate concerning its determination, evaluation and accounting.

The corporate organizations in Nigeria are characterized by a large number of firms operating in a largely deregulated and increasingly competitive environment. Financial liberalization has changed the operating environment of firms, by giving more flexibility to the financial manager in capital mix that will yield more results in terms of organizational performance. Therefore, mangers are faced with three main options; using retained earnings, borrowing through debt instruments, or issuing new shares. Therefore, the standard capital structure available to a firm includes retained earnings, debt and equity; these three components of capital structure reflect fund ownership structure in the sense that the first and third component reflects ownership by shareholders while the second component represents ownership by debt holders.

Hence firms are faced with choosing the best option strategically that will yield maximum returns in terms of productivity, profitability, efficiency and increase in market share. Over the years, the Scholars have examined the impact of capital structure on firm's performance in developed countries. Thus, there is a conspicuous gap in the empirical research on capital structure of corporate firms in the developing world like Nigeria.

Therefore, this study sets to ascertain the impact of capital structure on organizational performance, that is, to determine relationship between capital Structure and the organizational productivity and profitability in Nigeria. While the tentative statements is that there is no

significant correlation between Capital structure and organizational profitability in Nigeria and that corporate organizations' capital structure does not have significant influence on productivity in Nigeria.

The paper is organized in four sections. Section I is the background to the study which comprises of statement of problem, objectives of the study and the hypotheses that will be tested. The rest of the paper is organized as follows; section II is the literature review which contains the conceptual framework, theoretical and empirical framework, section III deals with research design as methodology and variable selection as well as the empirical result of the research including correlation analysis between variables. And the last section, section IV represents summarizes and provides concluding remarks.

Section II: Literature Review

The decision making process concerning the financing choice of a company have a substantial significance in a corporate governance and consequently in its future successful development. The capital structure and its adjustment can be influenced by several internal and external factors or so called determinants of capital structure. In fact internal factors and their impact can be managed by a company, at the same time macroeconomic factors cannot be controlled by the managers. However both types of determinants have a significant influence on the corporate capital structure. And the knowledge about the level, direction and power of their impact support companies to make effective decisions according capital structure for the purpose of financial stability and sustainable growth.

2.1 Conceptual Framework

Capital structure or target capital structure refers to the combination of funds that is the proportion of debt to equity ratio that forms the capital basis that is used to finance an organization's assets. As matter of policy, firm usually sets a target capital structure, which is the proportion of debt and equity it will be use as investment seed (Ogbulu and Emeni; 2016). Capital refers to the total investment of the company in terms of money and assets; it is also refer to as total wealth of the company. Pandey, (2005) opined that capital is the initial and integral part of new and existing business concern. He classified capital requirements of the business concern into two categories:

Fixed Capital: Fixed capital is the capital, which is needed for meeting the permanent or long-term purpose of the business concern. Fixed capital is required mainly for the purpose of meeting capital expenditure of the business concern and it is used over a long period. It is the amount invested in various fixed or permanent assets, which are necessary for a business concern. Fixed

capital includes land, building, machinery and other assets having a relatively permanent existence. It has following characteristics;

- ❖ Fixed capital is used to acquire the fixed assets of the business concern.
- ❖ Fixed capital meets the capital expenditure of the business concern.
- ❖ Fixed capital normally consists of long period.
- ❖ Fixed capital expenditure is of nonrecurring nature.
- ❖ Fixed capital can be raised only with the help of long-term sources of finance.

Working Capital: Working capital is defined as the capital needed to meet the day-to-day transaction of the business concern. Normally working capital consists of various compositions of current assets such as inventories, bills, receivable, debtors, cash, and bank balance and prepaid expenses. According to Bonneville (2016), any acquisition of funds which increases the current assets increase the Working Capital also for they are one and the same. Working capital is needed to meet the following purpose:

- ❖ Purchase of raw material
- ❖ Payment of wages to workers
- ❖ Payment of day-to-day expenses
- ❖ Maintenance expenditure etc.

Smith, and Harper, (2006) opined that if a firm uses more debt, the risk associated with its future earnings is increased. At the same time, however, because debt has a fixed cost (that is, interest), more debt allows the firm to earn a higher expected rate of return. Thus, there is a risk/return trade-off associated with increasing (decreasing) debt. The firm should use the amount of debt that maximizes the value of the firm. Stated differently, at the best, or optimal, capital structure, the value of the firm is maximized because the overall WACC is minimized.

He reiterated that following factors should be considered when making decisions about the capital structure of a firm:

Business risk: firms with greater business risk generally cannot take on as much debt as firms with less business risk. Business Risk can be divided into two components:

1. Business risk which is the risk associated with the type of production function adopted by the firm, whether the industry is capital-intensive or labour-intensive, that is risk associated with the manufacturing process, and so forth is termed its business risk. Business risk can be evaluated by examining the stability of a firm's operations and its ability to maintain operating income. Generally less business risk is associated with

greater stability in sales, operating expenses, and so on. Greater flexibility in the ability to change selling prices and less relative fixed operating costs (operating leverage).

2. Financial risk is the risk associated with how the firm is financed that is, what portion of the financing is debt and what portion is equity is termed its financial risk. This risk is associated with the ability of a firm to meet its financial obligations, which means this form of risk arises when the firm uses sources of financing that require fix payments or obligations that is, financial leverage exists. Financial risk affects the ability of a firm to generate stable income for common stockholders that means financial risk affects the risk of common stock.

Tax position: interest on debt is tax deductible, which makes debt attractive as a source of financing. Also remember that more debt generally implies a greater chance of bankruptcy, which is extremely expensive.

Financial flexibility: to strengthen its balance sheet, a firm might raise funds by issuing more common stock. On a relative basis, a stronger financial position—that is, stronger balance sheet—generally implies that the firm is better able to raise funds in the capital markets in a slumping economy.

Managerial attitude (conservatism or aggressiveness): some financial managers are more conservative than others when it comes to using debt, thus they are inclined to use less debt, all else equal.

2.2 Determining the Optimal Capital Structure

Optimal Capital Structure is the combination of debt and equity that maximizes the value of the firm. According to Jensen and Meckling (1976), the optimal capital structure is obtained by trading off the agency cost of debt against the benefit of debt. Here, Jensen and Meckling first identified disputes between shareholders and managers because of management's ownership being less than 100% of the equity. Jensen (1986) proposed that this problem could be reduced by increasing the percentage of shares owned by the manager or by increasing debt in the capital structure. This would result in the reduction of the amount of unused cash available to managers (Jensen, 1986; Stulz, 1990). This would eventually benefit debt financing.

Harris and Raviv (1990) in their research state that the optimal structure is obtained through a trade-off between liquidation decisions and higher investigation costs. They concluded that high leverage can be an outcome with large firm value, lower probability of reorganization following default, and higher debt level. Stulz (1990) stated that the optimal capital structure can be

designed by a trade-off between benefit of debt and cost of debt. His arguments were based on the fact that managers issue debt only if they fear a takeover.

Diamond (1989), and Hirschleifer and Thakor (1989) in their research argued that the asset substitution problem (such as using debt to finance high risk projects instead of equity) could be reduced because of the management's reputation being at stake. While shareholders preferred to maximize an expected return, managers maximized the possibility of being successful. Diamond (1989) argued that as a firm gets older, it chooses less risky projects, thereby reducing its defaults which would lead to a lower cost of debt. This theory suggests that younger firms will have less debt than older ones.

Manager might not operate at the optimal capital structure because he might find it difficult, if not impossible, to determine the optimal capital structure. As result he might be reluctant to take on the amount of debt necessary to achieve the optimal capital structure (that is, have a conservative attitude toward debt financing); or might provide important services that prohibit him or her from endangering the ability of the firm to survive, which might be the case if the firm is financed using the optimal mix of capital.

Often, firms use measures of financial liquidity, such as the times-interest-earned (TIE) ratio, to provide an indication of financial strength. Remember that the TIE ratio gives an indication of how many times a firm can cover the interest payments associated with its debt financing. Generally, a firm with a higher TIE ratio is said to have greater financial liquidity and lower threat of bankruptcy than a firm with a lower TIE ratio.

Variations in Capital Structures among Firms—there are wide differences in capital structures among firms in the United States. Much of the difference depends on the type of operations, including the stability of sales that is associated with the firm. For example, firms in industries that have high degrees of research and development costs, such as pharmaceuticals, generally have capital structures that contain lower proportions of debt than firms in industries that have relatively stable, predictable cash flows, such as utilities.

Capital Structures around the World-capital structures vary significantly around the world. In countries where the debt is closely held so that the costs of monitoring firms are relatively low (that is, where bank loans or syndicates are used), firms have greater proportions of debt than firms in countries where debt is held by a large number of diverse investors. In countries where firms are required to regularly provide information about operations and finances to stockholders, firms have greater proportions of equity than firms in countries where such information is not required. In essence, whichever form of financing is more easily monitored by

investors to ensure their best interests are being followed by management is the one that is more prevalent in capital structures.

2.3 Theoretical Framework

There has been series of theories proposed by many Scholars regarding the capital structures of firms. The two major theories are summarized as follows:

2.3.1 Trade-off theory

This theory was proposed more than 40 years ago Modigliani and Miller, who developed a theory that showed firm's should favour using debt in their capital structures because the tax deductibility of interest payments is such a benefit. Under a very restrictive set of assumptions, they showed that the value of a firm increases as it uses more and more debt. In fact, according to their theory, the value of the firm is maximized when it is financed with nearly 100 percent debt. However, the theory ignored the costs associated with bankruptcy, which can be considerable. When the costs of bankruptcy are considered, there is a point where the benefit of the tax deductibility of debt is more than offset by increases in the cost of debt and the cost of equity that result from the risk associated with the firm's heavy use of debt.

Trade-off theory of capital structure allows bankruptcy cost to exist as an offset to the benefit of using debt as tax shield. It states that there is an advantage to financing with debt, namely, the tax benefits of debt and that there is a cost of financing with debt the bankruptcy costs and the financial distress costs of debt. This theory also refers to the idea that a company chooses how much equity finance and how much debt finance to use by considering both costs and benefits. The marginal benefit (of additional increase in debt) declines while the marginal cost increases as debt increases so that a firm optimizing its overall value will focus on this trade-off when choosing how much debt and equity to use for financing.

Empirically, this theory may explain differences in debt-to-equity ratios between industries, but it doesn't explain differences within the same industry.

2.3.2 Pecking order or Signaling theory

Pecking order theory tries to capture the costs of asymmetric information. It states that companies prioritize their sources of financing (from internal financing to equity) according to the law of least effort, or of least resistance, preferring to raise equity as a financing means "of last resort".

Most people agree that managers and other "insiders" possess more information about the firm than outside investors. The fact that managers have asymmetric information, which means they

have some information that outside investors do not, could mean that any action taken by a firm, including how it raises funds (capital), might provide a signal to the less-informed investors. For example, studies have shown that when firms issue new common stock to raise funds the per share value of the stock decreases. It has been suggested that this occurs because managers would only issue new common stock if they felt that the firm's future prospects were unfavourable. Consider the fact that when new stock is issued, new stockholders join the firm's existing stockholders to share in any future changes in value. Thus, if the firm's future was extremely optimistic, managers would want to make existing stockholders happy by allowing them to receive all of the increase in value that will result from the favourable prospects, which means managers would choose to issue debt rather than equity. When debt is issued, only the contracted costs need to be paid—that is, fixed interest and the repayment of the debt and the remaining gains from the favourable projects accrue to the stockholders.

Hence, internal financing is used first; when that is depleted, debt is issued; and when it is no longer sensible to issue any more debt, equity is issued. This theory maintains that businesses adhere to a hierarchy of financing sources and prefer internal financing when available, and debt is preferred over equity if external financing is required (equity would mean issuing shares which meant 'bringing external ownership' into the company). Thus, the form of debt a firm chooses can act as a signal of its need for external finance.

The pecking order theory has been popularized by Myers (1984) when he argued that equity is a less preferred means to raise capital, because when managers (who are assumed to know better about true condition of the firm than investors) issue new equity, investors believe that managers think the firm is overvalued, and managers are taking advantage of the assumed over-valuation. As a result, investors may place a lower value to the new equity issuance. Other theories identified by Scholars are;

2.3.3 Capital structure substitution theory

The capital structure substitution theory is based on the hypothesis that company management may manipulate capital structure such that earnings per share (EPS) are maxim*ized* (*Timmer, Jan (2011).* The model is not normative and does not state that management should maximize EPS, it simply hypothesizes they do.

The 1982 SEC rule 10b-8 allowed a public company open market repurchases of its own stocks and made it easier to manipulate capital structure. This hypothesis leads to a larger number of testable predictions. First, it has been deduced that market average earnings yield will be in equilibrium with the market average interest rate on corporate bonds after corporate taxes, which is a reformulation of the 'Fed model'. The second prediction has been that companies with a high

valuation ratio, or low earnings yield, will have little or no debt, whereas companies with low valuation ratios will be more leveraged.[5] When companies have a dynamic debt-equity target, this explains why some companies use dividends and others do not. A fourth prediction has been that there is a negative relationship in the market between companies' relative price volatilities and their leverage. This contradicts Hamada who used the work of Modigliani and Miller to derive a positive relationship between these two variables.

2.3.4 Agency Costs

Three types of agency costs can help explain the relevance of capital structure.

- ❖ **Asset substitution effect**: As debt-to-equity ratio increases, management has an incentive to undertake risky, even negative Net present value (NPV) projects. This is because if the project is successful, share holders earn the benefit, whereas if it is unsuccessful, debtors experience the downside.
- ❖ **Underinvestment problem** or debt overhang problem: If debt is risky e.g., in a growth company, the gain from the project will accrue to debt holders rather than shareholders. Thus, management have an incentive to reject positive NPV projects, even though they have the potential to increase firm value.
- ❖ **Free cash flow**: unless free cash flow is given back to investors, management has an incentive to destroy firm value through empire building and perks etc. Increasing leverage imposes financial discipline on management.

2.4 Empirical Framework

The traditional theory of capital structure strongly believes that the optimal mix of capital ensures a low weighted average cost of capital that maximizes the market value per share. But the leverage and equity ratios are not sufficient in determining performance, because there are multiple factors interfering in these relationships. Akintoye (2009) confirmed the role of business risk, taxes, managerial behaviour or financial flexibility in the analysis of firm performance. He explained that since the capital structure is based on the trade-off between risk and expected return, these are crucial factors in determining a target capital mix. This target would guide companies towards an ideal mix of debt and equity that minimizes the cost of capital and maximizes the company value. Moreover, any changes made in the level of debt or equity will modify the firm's value. According to tax benefits it is expected that under the tax burden, companies would borrow more in order to obtain a higher performance. Some think that performance is the total market value of a firm or the sum between market value of equity and value of equity options (Cole and Mehran, 1998; Merz and Yashiv, 2007). Others consider that company value refers to more than market capitalization, taking into consideration the value of

firm's operation assets (Mehran, 1995; Ang et al., 2000; Allen et al., 2007). Either way, firm performance reflects how effectively companies manage their resources. There is a multitude of capital structure indicators that influence the firm performance and profitability. Previous studies report a positive relationship between short-term debt and total debt and performance, but a negative impact from long-term debt to profitability expressed through return on equity (Abor, 2005). A negative correlation between leverage and performance, described by the ratio of earnings before interest and tax to total assets, was found in the Chinese firms (Huang and Song, 2006; Chakraborty, 2010). There are also studies such as Ebaid's (2009), where no significant impact was found between capital structure choices and performance. Studies analyzing the impact of financing decisions on performance and profitability usually employ some of the most relevant capital structure determinants. Nigerian companies use more debt when they want to expand, but they try to finance their fixed assets with internal funds. Besides, in order to avoid risks, profitable companies and those retaining high liquidities avoid leverage (Serghiescu and Vaidean, 2013). Nigerian manufacturing companies tend to follow the rule of financing fixed assets with long-term resources and temporary needs with short-term debt. The significant direct relationship between debt and tax proves that tax-saving is not the main reason for borrowing, because manufacturing companies raise their liabilities when they are low on cash. Therefore, by accessing debt with short-term maturity when they are in financial distress, companies increase their business risk. Moreover, there was evidence that companies turn to temporary debt when inflation rate rises (Vatavu, 2012).

Section III: Methodology

The section gives the detail of the method of data collection and model specification and analysis of the data. The population of study is made up of the 225 companies listed on the Nigerian Stock Exchange (NSE) as at 31st December, 2015. The cross-sectional survey research design was used in this study. This design was adopted because the selected companies making up the sample for this study are to be observed at a particular point in time. The major source of data for this work is the Secondary source of data which is the Nigerian Stock Exchange (NSE) Fact-book, 2015.

The Ordinary Least Square (OLS) correlation method is to be used in estimating and analyzing the regression model stated below. The reason for the choice of the OLS method of data analysis is because; the test in this study is a test of association between capital structure and some independent variables (size, growth, profitability, tangibility and age). Also, the OLS regression is a good estimation technique in this study; given that, any form of violation in its assumptions can be corrected using auto- regression correction methods.

Statistical tool adopted for the research is multiple regression analysis, under the assumption that it satisfying five assumptions of normality assumption Test, the Homoscedasticity Assumption Test, the Linearity Assumption. Test of each of the independent variables with the dependent variable, the Durbin Watson Statistic Test for detecting serial correlation and the Multicollinearity Test in trying to understand the significant and the insignificant variables.

3.1 Sample

The sample size was five (5) from financial Sector companies listed on the Nigerian Stock Exchange (NSE). The sample includes First Bank of Nigeria Plc, United Bank for Africa Plc, Zenith Bank Plc, Guarantee Trust Bank Plc and Access Bank Plc selected.

The stratified random sampling and simple random sampling methods were used in selection of the sample for this study. The reason for the choice of the stratified random sampling method is to ensure adequate or proportional representation of the different categories (new and Old generation Banks) make up the population. Against this background, the research population, that is, all the banks listed on the NSE as at 31st December, 2015, were organized into homogeneous subsets (sectors) with heterogeneity between the subsets. The appropriate number of companies was then selected from each subset, using the simple random sampling method (lottery technique).

The reason for also introducing the simple random sampling method is because, it made every company in each subset (sector) to have an equal and known chance of being selected. However, there was a major methodological weakness in this study. This limitation was the further small size of the sample size for easy management of data within the time frame.

The sample analyzed includes 196 listed Nigerian companies operating in the manufacturing industry. Only one sector was chosen in order to avoid misleading results. Some factors, such as economic risk, vary across the corporate domains, and so they influence the capital structure decisions. These become biased, affecting the corporate performance, which can vary differently across economic sectors. All companies are listed on the Bucharest Stock Exchange. The sample refers to a period of eight years, from 2006 to 2015, and it was gathered from the official website of the Nigerian Stock Exchange.

Two performance indicators were chosen as dependent variables to represent two of the phenomenal in the hypotheses that is organizational productivity and profitability and capital structure, where productivity and profitability depend on capital structure.

3.2 Variables

Independent variables

Organizational Profitability (Oprof): Profitability is the financial benefit that is realized when the amount of revenue gained from a business activity exceeds the expenditure, costs, and taxes needed to sustain the activity. Any profit that is gained goes to the owners of the business, who may or may not decide to spend it on the business. Operating profit rate of return (earnings before interest and taxes (EBIT)/total assets) is used as a measure of profitability. It is called Return on assets (ROA) as net income to total assets. While Organizational Productivity (Oprod) is measured as return on sales

Dependent variables

Total debt ratio (TDR): Total debt ratio is a financial ratio that indicates the percentage of a company's assets that are provided in comparison to debt.

Long term debt ratio (LTDR): The long term debt to total asset ratio, at the simplest, indicates the portion of a company's total assets that is financed from long term debt. The value varies from industry to industry and company to company. Comparing the ratio with industry peers is a better benchmark. Long term debt ratio is computed as long term debt/total assets.

Short term debt ratio (STDR): Short term debt is an account shown in the current liabilities of a company's balance sheet. This account is comprised of any debt or repayments incurred by a company that is due within one year. The debt in this account is usually made up of short term bank loans taken by a company. The ratio is the calculation of debt payable within one year to total assets.

The ratio indicates whether a firm will be able to satisfy its immediate financial obligations. It is computed as short term debt to total assets.

3.3 Model specification

The model is design in form of Y as function X, put in mathematical format,

$$Y = f(X) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots..(1)$$
$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \mu$$

Model I

$$Oprof = f(debt, equity)\dots\dots\dots..\dots\dots\dots\dots.\dots\dots\dots(2)$$
$$Oprof = \beta_0 + \beta_1 debt + \beta_2 equity + \mu$$

Model II

$$Oprod = f(debt, equity)………..……………….………(3)$$
$$Oprod = \beta_0 + \beta_1 debt + \beta_2 equity + \mu$$

3.4 Presentation of Results

Unit-root tests were applied to the cross sectional data in order to avoid spurious variables correlations. Due to missing values from the panel the only option available was the Fisher test.

3.4.1 Results of Model I

The summary of results obtained for Mode I are given as:

$$Oprof = 1.6232212 - 3.562991 debt + 7.97451 equity + 5452.01898234$$
$$(3.00) \quad (-4.19) \quad (0.35)$$
$$R^2 = 0.7390$$
$$F–Stat\ (8,\ 98) = 7.7$$
$$DW – Stat = 2.09$$

The t values are presented in the parenthesis below the coefficients. The R2 values of 0.7390, shows that about 73% of the total variations in Oprof can be explained by the independent variables within the period of study.

The F value of 7.7 passes its significance test at the 5% level. This shows that there is a significant linear relationship between Oprof and the various independent variables used. Furthermore, the DW–Statistics of 2.09 shows the absence of serial correlation. This means that the error term is well behaved. In addition, the variables except debt pass their a priori signs, debt assuming negative signs instead of positive signs. Only equity pass their t-test at the 5% level of significance, with values 0.25. This is due to the fact that the value is more than critical t-value of more than 2.05 using the two-tailed test. Finally, the result of this analysis suggests that debt and equity are the major determining factors that influence the behaviour of Oprof. Thus a unit rise in debt will result in about 3.562991 units decrease in Oprof, while a unit rise in equity will lead to about 7.9451 increases in Oprof within the period of investigation.

The influence of capital structure on profitability of the organizations

The model indicates that total debt, short-term debt, equity, and equity that make up the capital structure of the organization explain the variation in organization profitability. The debt ratios coefficients are negative and positive for equity. Direct influence from capital structure can be observed on the ability of the corporate organization to make profit in the regression. This is line

with Hausman test which discovered that debt profile of corporate organizations have direct impact on the profit after tax and interest of such organization.

3.4.1 Results of Model II

The summary of results obtained for Model II is given as:

Oprod=3.2113765 -2.355131debt+ 5.312329equity+ 3211.30034811
        (2.310)   (-2.37)   (1.21)
$R^2 = 0.7390$
F–Stat (9, 76) = 6.2
DW – Stat = 2.01

The t values are presented in the parenthesis below the coefficients. The R^2 values of 0.5110, shows that about 51.1% of the total variations in Oprod can be explained by the independent variables within the period of study.

The F value of 6.2 passes its significance test at the 5% level. This shows that there is a significant linear relationship between Oprod and the various independent variables used. Furthermore, the DW – Statistics of 2.09 shows the absence of serial correlation. This means that the error term is well behaved. In addition, the variables except debt pass their a priori signs, debt assuming negative signs instead of positive signs. Only equity passes their t-test at the 5% level of significance, with values 0.25. This is due to the fact that the value is more than critical t-value of more than 2.05 using the two-tailed test. Finally, the result of this analysis suggests that debt and equity are the major determining factors that influence the behaviour of Oprod. Thus a unit rise in debt will result in about 2.355131 units decrease in Oprod, while a unit rise in equity will lead to about 5.31239 increase s in Oprod within the period of investigation.

Using similar model, the debt maintains its negative impact on the return on assets used as proxy for productivity which remain statistically significant. In conclusion, firms from corporate organization are more profitable in terms of assets when they owe less on a temporary basis. These are the same relationships identified in the previous model considering total debt as one of the independent variables. The consistent results were expected as long as most of the listed companies analyzed owe a very small proportion of their capital in debt, and more of equity sometimes choosing only temporary liabilities. It can be said that corporate organization are more profitable when they invest less in tangible assets and they maintain a high proportion of equity in their capital structure.

The influence of capital structure on organizational productivity

In relation to return on equity, from the models referring the variables used show a statistically significant impact, indicating negative coefficients of debt and positive in equity although all the comparative regressions were used, the goodness of fit indicates that other variables have significant impact on organization profitability and productivity. Finally, the most appropriate method for this model is OLS, corrected to fulfill all linear regression assumptions. Based on the results mentioned, the more debt companies' used, the more tangible assets they own, the less efficient they are regarding their shareholders' money. From these relationships, it can be assumed that profits are affected by a higher degree of leverage and companies purchase fixed assets based on their internal funding.

Nevertheless, it can also be assumed that investors are attracted by companies with investment opportunities and thus firms acquiring more fixed assets will raise more equity.

Section IV: Conclusions and recommendations

Over the 2006-2015 period, the most profitable manufacturing companies were those maintaining a high proportion of equity in their capital mix, avoiding borrowed funds. Shareholders' equity has a positive impact on performance indicators, while total debt and short-term debt have negative relationships with ROA and ROE. Long-term debt shows coefficients with fluctuating signs, and thus the results of these regressions are not always significant and consistent because a large part of this data is missing.

For a better understanding of how capital structure and financing decisions influence the financial performance of Nigerian listed companies, future research should refer to various performance indicators, and other variables should be identified in order to better describe the variation in return on equity..

This study distinguishes itself from previous research with the introduction of key variables such as profitability, and productivity which has not been study in previous studies. The study concentrated on sector of the economy rather than several and covers a horizon of ten (10) years.

This has not been the case with previous studies since they faced the limitation of data not being available for the full period of the study. For future research, the authors plan to study several macro-economic factors that influence capital structure decisions and the role of interest rate and inflation in capital structure in Nigeria. This will include factors such as capital formation, stock market development, financial stability of country, corporate tax, terrorism threat, direct foreign investment, and so on. Researchers with longer timeline datasets can develop a stronger model by including additional firm specific factors like uniqueness factor (uniqueness of product), collateral value factor, carry forwards, discount rates, quality spreads, etc. Although these factors are not the core factors in financial structure decisions, they have been shown to have effects in

previous studies of developed economies. Researchers can utilize this paper to develop stronger models for research into the capital structure determinants for emerging economies.

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