

## AN ASSESSMENT OF THE IMPACT OF CAPITAL STRUCTURE ON CORPORATE PERFORMANCE OF NIGERIAN MANUFACTURING COMPANIES.

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### Abstract

The study investigates the impact of the use of various long term funds on the performance of Nigerian companies. Secondary data were collected from the case study, Unilever Nig. Plc which was picked through purposive sampling method. Analysis of data was done by using multiple regression of the ordinary least square (OLS) method on the data extracted from twelve years financial statements of the company to test for the relationship between its capital mix and its value, measured in terms earnings per share (EPS). The findings show that both long term debt and profit have positive correlation with EPS, while equity is negatively correlated with EPS. The overall result was statistically significant with F-ratio value of 690. Based on the results, the financial managers of corporations are advised to always embark on appropriate financial mix between equity and debt alongside retained earnings that will maximised the returns to shareholders and monitor other market variables that may serve as constraints in achieving the overall goals of their companies.

**Keywords:** capital structure, profitability, liquidity, dividend, debt capital

### Introduction

The impact of capital structure on the corporate performance of a firm has been a controversial issue for decades. Some writers are of the opinion that the way and manner a firm is financed does not affect the value of the firm, while some believe that the use of debt in financing mix will magnify the firm's value or the corporate performance. If the former assertion is valid, then the financial manager will be indifferent as to the sources of finance to apply and if on the other hand, the financing mix will affect the value of the firm, then the proper capital structure will be worth undertaken since it will ensure of shareholders' wealth.

Therefore, the proportion in which debt and equity are combined would influence to a great extent both the firm's value or corporate performance and its overall cost of capital [Ko]. At this juncture, the management has to decide from the onset whether or not to employ debt in its financing mix. And if so, what proportion of debt-equity will maximize the total value of the firm or minimize the overall Weighted Average Cost of Capital (WACC).

It is on this note that the paper is out:

- (i) to find out whether the financing mix of firm has any effect on the corporate performance of such firm;
- (ii) to determine the effect of financing on earnings per share of a firm and consequently the value of the firm.
- (iii) to find out the impact of equity on the earnings per share of corporations.
- (iv) to investigate the extent and in what direction the use of debt or equity will affect the value of the firm.

## Literature Review

### *Capital structure defined*

Capital structure is the term often used to describe the mix of long term debt, preference share capital and equity share capital. It connotes the proportionate relationship between long term debt and equity, where equity is defined to include share capital, share premium, reserves and surplus (Pandey 2010). Harris and Raviv (1991) supported the fact that the firm's mix of different securities is known as its capital structure. He therefore suggested that choice will have to be made in an attempt to choose a particular combination of securities that maximizes its overall market value, that is, the securities that have the greatest overall appeal to investors. Pandey (2010) went further to distinguish between capital structure and financial structure. According to him, financial structure of a firm is the various means used to raise funds, whether short term, medium term or long term while the long term claims are said to form the capital structure. Therefore the use of long term debt in relation to the owner's equity in the capital structure is referred to as the financial leverage.

According to Rahul (1997) and Izedonmi (2002), the debt financing is obviously cheaper between the two most popular forms of external financing (i.e. debt and equity). As a consequence, one would be tempted to use it in place of or at the expense of the other type of financing. Pandey (2004) and Izedonmi (2002) opined that debt magnifies the earnings available to shareholders even though they showed that financial leverage is a "two-edged sword", having benefit and cost.

### *Theories of capital structure.*

One of the earliest formal works on the theory of capital structure was Durandi's study (1959) which identified the three views on the impacts of capital structure on the value of the firm. They are: (i) The net income (NI) Approach (ii) The Net Operating Income Approach and (iii) The Traditional Approach.

### *The net income approach.*

According to Durand (1959), this theory argues that there exists an optimum capital structure at the point where the value of the firm is maximized and the overall cost of capital is minimized. It was upheld that both cost of debt ( $k_d$ ) and cost of equity ( $k_e$ ) are held constant and independent of capital structure of the firm. Hence, the weighted cost of capital ( $k_o$ ) is assumed to be declining progressively with the increase in the proportion of debt in the capital structure as the overall value of the firm rises.

The theory rests on the following assumptions, though some cannot hold in the world of reality (Pandey 2010).

- (i) The cost of debt is less than the cost of equity, (i.e.  $k_d < k_e$ ).
- (ii) The investors capitalise the value of the firm at a constant rate.
- (iii) The firm can raise all debts at an instant rate and with constant  $k_d$  and  $k_e$ , the weighted average cost of capital (WACC) is reduced as the firm uses more debt.
- (iv) The corporate income tax does not exist. Therefore, the overall cost of capital is measured by:

$$K_o = \text{NOI}/V$$

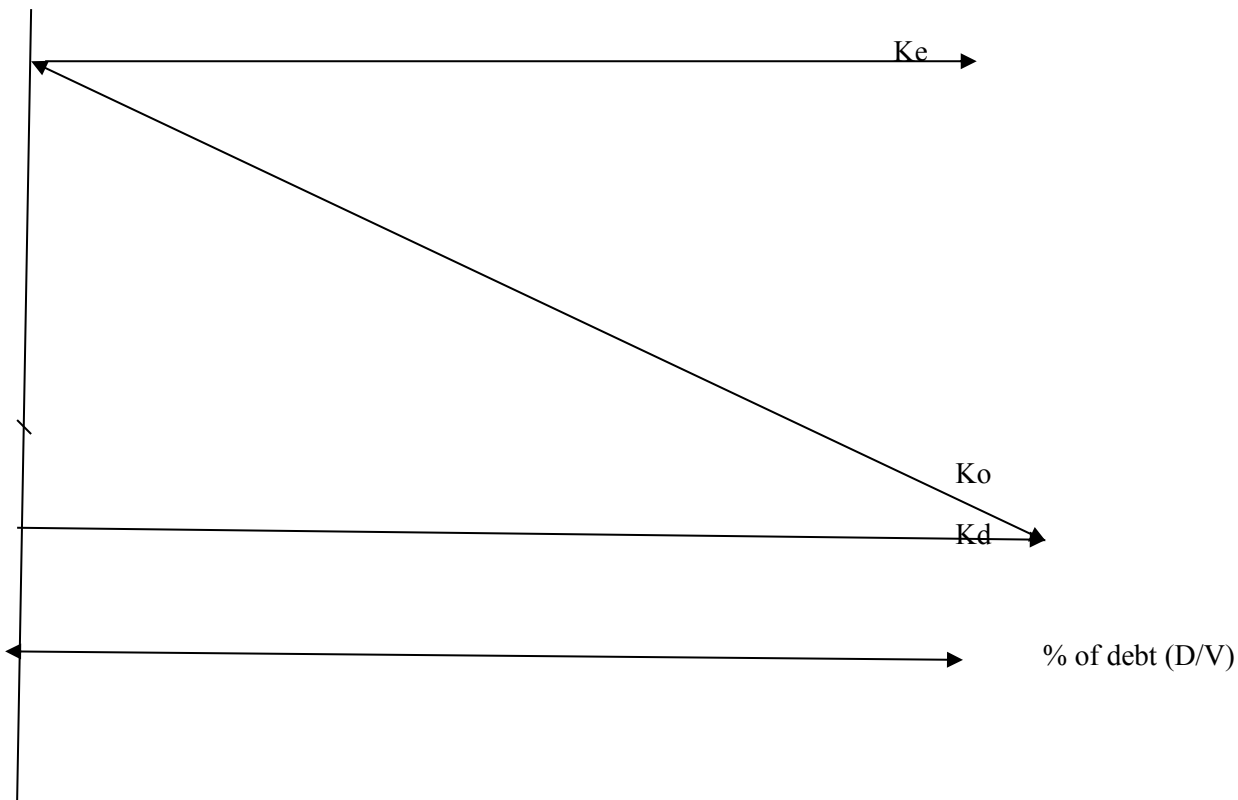
Where  $K_o$  = overall cost of capital (WACC)

NOI = expected net operating income

V = value of the firm.

The effect of leverage on the overall cost of the capital ( $K_o$ ) is illustrated below.

Cost of capital ( $k$ )



**Fig 2.1. Effect of Leverage on the cost of capital under NI Approach.**

From the figure above, it could be deduced that as the firm moves from 0% towards 100% leverage, its overall cost of capital decreases continuously and its value increases continuously. Thus, if the net income Approach assumptions are correct, firms should use 100% debt in order to maximize their values.

### **The Net Operating Income (NOI) Approach**

This approach upholds that the financing decision is not of great concern to the financing manager as it does not affect the valuation of the firm. The proponents were of the view that the increase use of leverage does not affect the total value of the firm.

According to Durand (1959) the theory is termed the “independence hypothesis”, being the extreme opposite view to the Net Income Approach. The theory upholds that leverage has no effect whatsoever on the overall cost of capital, and hence the value of the firm is independent of leverage (Olowe 1997). However, the NOI advocates deny the existence of optimum capital structure. They also believed that the market value of the firm is obtained by capitalizing the Net Operating income to the overall cost of capital ( $K_o$ ) which is assumed to be constant.

The NOI proponents based their views on certain assumptions stated below (Harris and Raviv, 1991).

- The market capitalises the value of the firm as a whole. Thus, the split between debt and equity is not important.
- The market uses an overall capitalization rate (i.e.  $K_o$ ) to capitalise risk.
- The cost of debt ( $K_d$ ) is constant.
- The corporate income taxes do not exist.
- The use of less costly debt fund increases the risk on the shareholders, this causes the cost of equity capital to increase, that is, the advantage of debt is offset exactly by the increase in the cost of equity ( $K_e$ ).

The illustration is shown as follows

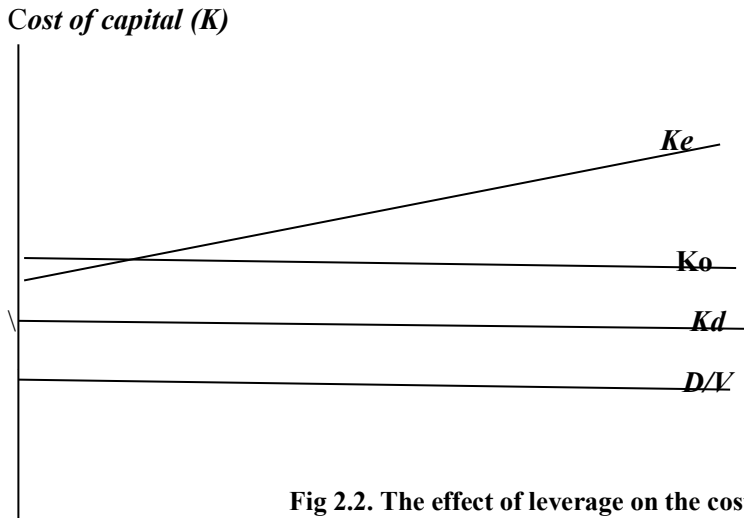


Fig 2.2. The effect of leverage on the cost of capital under the NOI Approach.

The figure above shows  $K_d$  and  $K_o$  remain constant as  $K_e$  increases with continuous increase in leverage.

**The Traditional Approach.**

This approach is also known as the “intermediate approach” because it is the one between the two extreme approaches mentioned before. According to Solomon (1963), the value of the firm can be reduced by a judicious mix of debt and equity capital. This school of thought states that the cost of capital decreases within the reasonable limit of debt and then increases with leverage. This shows that the optimum capital structure exists and this occurs when the cost of capital is minimum or value of the firm is maximum. This means that the weighted average cost of capital (WACC) decreases only within the reasonable limit of financial leverage and reaching the minimum level, it starts increasing with financial leverage (Owualla 2000; Nzotta, 2002; and Pandey, 2010). Hence, a firm has an optimum capital structure that occurs when WACC is minimum, and thereby maximizing the value of the firm. This is illustrated as follows.

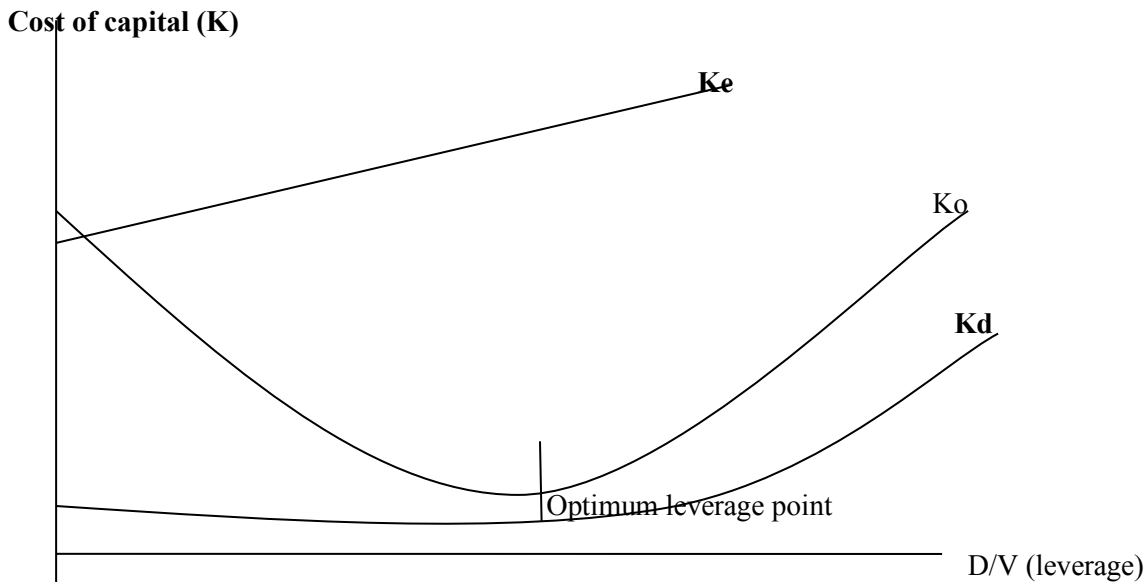


Fig.2.3. Effect of leverage on the cost of capital under Traditional Approach.

From the illustration, the optimum capital structure is reached where the  $K_o$  is at minimum and the value of the firm is maximized at the same point.

### ***The Modigliani-Miller (M.M) Approach.***

Modigliani and Miller (1958) developed a defence of the Net Operating Income Approach concerning the effect of gearing or leverage on the cost of capital and the value of the firm which holds that the value of the firm and the overall cost of capital are independent of the firm's capital structure. They offered behavioural justification for having the cost of capital ( $K_o$ ) remaining constant throughout all degrees of leverage while investors would use arbitrage to achieve this. They argued against the existence of an optimum capital structure in the absence of taxes that a firm's market value and the cost of capital remain invariant with the capital structure.

Modigliani and Miller (1958) therefore gave two propositions on the above subject matter.

- (i) Under the proposition I, they argued that, if two firm's differ only in the way they are financed and their total market values, investors will sell their shares in the overvalued firm and invest the proceed in the undervalued firm. By this process of arbitrage, the two firms will eventually have the same market value in the long run.
- (ii) Under the proposition II, they agreed that leverage will result to more earnings per share to the shareholders but also at an increased cost of equity and consequently the market value of the firm thus remains unaffected. The crucial point of the Modigliani and Miller hypothesis therefore, is that the overall cost of capital ( $K_o$ ) will not rise even if every excessive use of debt is applied. In the latter study, when corporate tax was considered, Modigliani and Miller (1983) recognised that the value of the firm will increase with leverage due to the deductibility of interest charges of tax computation. Thus to achieve an optimum capital structure, the firm should use maximum amount of leverage since a firm can lower its cost of capital continuously with leverage.

### ***Other Views on Determination of Optimal Capital Structure***

Empirical work by Bradley, Jarrle and Kim (1984), Malitz (1985), Oloyede and Akinmulegun (1999) largely supports some imperfections such as bankruptcy costs or agency cost as partial determinations of leverage and optimal capital structure. Also, De Angelo and Miasulis (1980) demonstrated that with the presence of corporate tax shield substituted for debt (e.g. depreciation, depletion, amortization and investment tax credits), each firm will have "a unique interior optimum leverage decision with or without leverage related cost". This model implies that a firm's optimal capital structure will be industry related in part because of the audience at tax rates vary across industry. They argued further that when firms which issue debts are moving towards the industry average from below, the market will react more positively than when the firm is moving always from the industry average. Durand (1959) also addressed the issue of debt from a different angle. He emphasized and settled down for long term debt component of debt in his analysis because it can be applied side by side with equity for a long time.

### **Methodology**

#### **Source of data**

Secondary data were sourced from the year fact book of the Nigerian Stock Exchange and CBN bulletin and relevant Annual Reports of Unilever Nig PLC. The data covered twelve (12) years financial period covering 2003 to 2014.

#### **Model Specification**

The simple model that was tested is structured as follows:

$$\begin{aligned} Y &= f(x_1, x_2, x_3) \\ Y &= f(\text{Debt, equity, profit}) \\ Y &= B_0 + B_1 X_1 + B_2 X_2 + B_3 X_3 + U \end{aligned}$$

Where  $Y$  = Earnings per share (EPS)

$X_1$  = Long term debt

$X_2$ = Equities

$X_3$ = Profit

U= Stochastic Error Term

$B_0$ = Constant Variable

$B_1, B_2, B_3$ = Slopes of the regression

**Estimation techniques.**

Multiple regression of the ordinary least square (OLS) method was adopted with the aid of statistical package for social science (SPSS) in the study to test for the relationship between optimal financing mix through capital structure and value of the firm in terms of earning per share. The data collected were computed on such variables as long term debt, equity and profit.

**Data Presentation and Analysis.**

*Data on Unilever Nig.PLC*

Year	EPS	DEBT(#'000)	PROFIT (#'0000)	EQUITY(#'000)	TOTAL ASSETS	RETURN ON ASSETS(ROA)
2003	0.49	1713043	1870259	3905551	5618594	0.33
2004.	0.57	2089461	2167249	3954154	6043615	0.36
2005	0.43	2927564	1616457	5570611	8498175	0.19
2006	0.43	3819123	1374363	3953348	7772471	0.18
2007	0.28	3610127	1296533	5030844	8640971	0.15
2008	0.69	3068385	2596533	6681553	9749938	0.27
2009	1.08	3074336	4093822	8202734	11277070	0.36
2010	1.11	3404351	4180620	8335227	11739578	0.36
2011	1.46	6488768	5515213	9634650	16123418	0.34
2012	1.48	11675827	5597613	10043524	21719351	0.26
2013	1.27	15713092	4806907	9639695	25352787	0.19
2014	0.64	19686288	2412343	7478808	27165096	0.09

Source: (i) Annual Reports of Unilever Nig PLc (2003-2014)

Nigeria Stock Exchange fact book.

**Test of Hypothesis**

Hypothesis one

Ho: Leverage (Debt), equity and profit have no significant effect on the firm’s earnings per share.

Model summary

Model	R	R-square	Adjusted R	Standard Error of the estimate.
1	0.998	0.996	0.995	0.03114

Predictors: (constant), EQUITY Unilever, DEBT Unilever, PROFIT Unilever.

ANOVA<sup>b</sup>

Model	Sum of squares	Df	Mean square	F	Sig.
Repression	2.007	3	0.669	690.212	0.0000
Residual	0.008	8	0.001		
Total	2.015	11			

- a. Predictors: (constant), EQUITY Unilever ,DEBT Unilever, PROFILE Unilever  
 b. Dependent variable: EPS Unilever.

Coefficients<sup>a</sup>

Model	Unstandardised coefficients		Standardised coefficients	T	Sig.
	B	Standard error	Beta		
(constant)	0.028	0.039		0.720	0.492
Debt- Unilever	1.1188E-9	0.000	0.017	0.553	0.595
Profit- Unilever	2.781E-7	0.000	1.049	16.125	0.000
Equity- Unilever	-1.132E-8	0.000	-0.062	-0.852	0.419

- a. Dependent variable: EPS Unilever

### Interpretation of Results

The result shows that there is a very high positive correlation (99.8%) between the independent variables and the dependent variable and 99.6% of the data was explained in the regression as a result of  $R^2=0.996$ . Also, from the result above, debt shows a positive relationship with earnings per share. This indicates that if debt is increased by 1%, earnings per share will increase by 1.7%. The result however, was not significant with  $P>0.05$  as the P value indicate a value of 0.595. This means that debt cannot be used as an important variable in determining EPS in Unilever Nig. PLC. Profit in the analysis was not only positive ( $t=16.125$ ) but also statically significant with  $P=0.000$  at 5%. This indicates that profit is a major variable that determines EPS in Unilever Nig. PLC. Equity from the coefficient table shows a negative relationship with earnings per share and was not significant with  $P>0.05$ . The F- statistic value of 690.212 indicates the overall significant of the model with  $P>0.05$ . This shows that the leverage, equity and profit jointly have significant effect on earnings per share of Unilever Nig. PLC. Hence, the alternative hypothesis is accepted, meaning leverage (debt), equity and profit have significant effect on the firm's earnings per share.

### Hypothesis Two

Ho: Leverage (debt) has no significant effect on the firms Return on Assets (ROA)

Model	R	R-square	Adjusted R	Std. Error of the Estimate
1.	0.577 <sup>a</sup>	0.333	0.266	0.08107

- a. Predictors: (constant), DEBT Unilever.

### ANOVA<sup>b</sup>

Model	Sum of square	Df	Mean square	F	Sig.
1. Regression	0.033	1	0.333	4.982	0.50 <sup>a</sup>
Residual	0.066	10	0.007		
Total	0.098	11			

- a. Predictors: (constant), DEBT Unilever.  
 b. Dependent Variable : ROA Unilever

### Coefficients

Model	Unstandardized coefficient		Standardised coefficients	T	Sig.
	B	Std.Error	Beta		
1 (Constant)	0.316	0.035		8.938	0.000
DEBT Unilever	-9.171E-9	0.000	-0.577	-2.232	0.050

## **Interpretation of results**

From the results above, debt shows an inverse relationship with Return on Assets (ROA). The correlation between the two variables was above average (i.e. 57.7%). The F-test shows an overall significance level because the F-statistic value of 4.982 is greater than the F-critical value of 4.844 and this shows that leverage (debt) has a significant effect on returns on assets (i.e. as debt increases, the return on asset decreases and vice versa)

## **Conclusion**

From the discussion so far, it can be seen that leverage (debt) has significantly affect earnings per share of the company . It has really served as a major problem to grow its earnings per share. Equity has not affected earnings per share positively. However, profit has stood to be a major variable that determines earnings per share and has really assisted in improving the earning per share. Also leverage affects return on assets negatively.

## **Recommendations.**

- (i) There is the need for companies to ensure moderate use of debt as it impacted negatively on their earnings per share (EPS) and return on assets (ROA).
- (ii) Companies should strive to improve on profit generation as this will positively translate to increase in earnings per share.
- (iii) Equity should be improved upon by all companies in order to boost their returns on assets.
- (iv) Alternative sources of finance such as leasing can be encouraged and improved upon in order to reduce the usage of long term debts.

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