

Impact of Leverage (Financial and Operating) on Corporate Performance of Selected Quoted Nigerian Manufacturing Firms

Abolade Akintola

Department of Banking and Finance, Babcock University, Ilishan-Remo, Ogun-State, Nigeria

Abstract: - The aim of this paper is to study the effect of leverage on the corporate performance of listed manufacturing companies in the Nigerian Stock Exchange (NSE) over a period of seven (7) years (2008-2014 for the selected companies). Leverage explained the use of borrowed money to make an investment and return on that investment. Financial leverage is commonly used in various circumstances as a means of altering the cash flow and financial position of a company. Since the objective of the firm is to increase the wealth of the shareholders, the best leverage policy is the one that increases the shareholders wealth by the greatest amount. It is therefore necessary to understand the nature of the relationship between leverage and value of the firm.

Ex-post facto research design was used for this study. The secondary data were obtained from the financial statements and Fackbooks published by the Nigerian Stock Exchange (NSE). Leverage (financial, operating and combined leverage) as independent variable while price earnings ratio, fixed asset cover and return on capital employed as dependent variable. For testing the hypotheses of this study, linear regression technique has been used. All the hypotheses tested gave positive results. Thus, confirming that leverage has positive and significant effects on price earnings ratio, fixed asset cover and return on capital employed (ROCE). The study recommends that management of quoted firms in Nigeria consistently use debt capital in financing to improve price earnings ratio.

Keywords: Financial leverage, operating leverage, cash flows, shareholders' wealth, price earnings ratio, return on capital employed.

I. INTRODUCTION

Financing is one of the crucial areas in a firm. Financial manager is concerned with the determination of the best financing mix and combination of debt and equity for his firm. The theory of capital structure is one of the most important financial themes in corporate finance and various studies use capital structure theory to highlight the significance of debt financing. Capital structure of a firm is defined by its leverage, that is a mix of debt and equity employed by a firm in its capital structure. Leverage refers to the extent to which firms make use of their borrowed money (debt financing) to increase profitability and its measured by total liabilities to equity. Firms that borrow large sums of money during a business recession are more likely to default to pay off their debts as they mature, they will end up with high leverage and are more likely end up with a potential risk of bankruptcy. On

the contrary, the lower the firm's borrowings, the lower the leverage, and the risk of bankruptcy will eventually be lower which signifies that business will continue operating (Alkhatib, 2012). The rate of interest on debt is fixed irrespective of the company's rate of return on assets. The financial leverage employed by a company is intended to earn more on the fixed charges funds than their costs. As debt increases, financial leverage increases. It has been seen in different studies that financial leverage has effect on corporate performance of quoted pharmaceutical companies in Nigeria (Enekwe, Agu & Eziedo, 2014).

An investor who would like to be rational in his investment decision has to evaluate a lot of information about past performance and the expected future performance of the company, industry and the economy as a whole before making the investment decision. This study attempts to analyze the impact of leverage on corporate performance of selected quoted Nigerian manufacturing firms. The following are the objectives of the study:

1. Establish how operating leverage affected price earnings ratio of Nigeria quoted manufacturing firms.
2. Analyze the effect of financial leverage on fixed asset cover of Nigerian quoted manufacturing companies and
3. Determine how combined leverage affected total capital employed of Nigerian quoted manufacturing firms.

Akintoye (2008) defined operating leverage as change in the earnings before interest and taxes relative to a given percentage change in sales. It is computed as:

$$DOL = \frac{\% \text{ change in EBIT}}{\% \text{ change in sales/turnover}}$$

Operating leverage to a finance manager is advantageous as a highly operating levered firm will have its profit increasing at a high rate with a small increase in sales (Akinsulire, 2015). Rehman (2013) defines financial leverage/financial risk as a measure of how much firm uses equity and debt to increase its assets. Degree of financial leverage can be computed thus:

$$DFL = \frac{\% \text{ change in EPS}}{\% \text{ change in EBIT}}$$

Combined or total leverage is combination of operating and financial leverage. The degree of total leverage is defined as the percentage change in stockholder earnings for a given change in sales and it can be calculated by multiplying a company's degree of operating leverage by its degree of financial leverage (Aborode, 2005).

This is represented thus:

$$\% \Delta \text{ in EPS}$$

$$\% \Delta \text{ turnover}$$

II. LITERATURE REVIEW

A critical decision for any business organization is a decision for an appropriate capital structure, the decision is not only because of the need to maximize returns to various organizational constituencies, but on an organization's ability to deal with its competitive environment. Several studies, with mixed results, have been carried out on effects of leverage on corporate performance. Grounded on the pecking order theory, Myers and Majluf (1984) argued that the firm prefers the debt finance to the equity finance when using external financing. The signaling theory (Ross, 1977; Hull, 1999) states that a firm with favourable prospects will raise new capital through debt financing, while a firm with unfavourable prospects will go through equity financing. Incentive-signaling model developed by Ross (1977), provides a theory for the determination of the financial structure of the firm.

Debt is one of the tools used by many companies to leverage their capital in order to increase profit. However, the affectivity of debt to increase profitability varies between companies. The ability of the company's management to increase their profit by using debt indicates the quality of the management's corporate governance. Good corporate governance shows the companies' performance on their use of debt to increase their profit (Saleem, Rahman & Sultana, 2004). Huang and Song (2002) employed a database which contained the market and accounting data from more than 1,000 Chinese listed companies up to the year 2000. Authors found that leverage in Chinese firms increases with firm size, non-debt tax shields and fixed assets, and decreases with profitability and correlates with industries. Abor (2005) collected data from listed firms in Ghana and found a positive relationship between profitability and leverage.

To increase the assets to generate more profits, companies might use leverage. One type of leverage that companies use is debt. When debt is used to expand the companies by adding more operational asset, then it can generate more cash flows which are expected to increase the value of return on equity ratio. This means that the company's management can make use of the debt to increase the profit. It also can indicate the ability of company's management to maximize its operation on assets in making profit (Saleem, Rahman & Sultana, 2004).

Simon-Oke and Afolabi (2011) using a study of five quoted firms within a period of nine years (1999-2007) from the

static-trade-off and agency cost theory point of view. They employed the panel data regression model and revealed in their study a positive relationship between firms' performance and equity financing as well as between firms' performance and debt-equity ratio. There is also a negative relationship that exists between firms performance and debt financing due to high cost of borrowing in the country.

Adeyemi and Oboh (2011), using a sample size of 150 respondents and 90 firms were selected for both primary data and secondary data respectively for a period of five years (2005-2009) from the relevance, pecking order, the free cash flow, the agency cost and the trade-off theory point of view. They employed descriptive statistics and chi-square analysis and suggested that a positively significant relationship exists between a firm's choice of capital structure and its market value in Nigeria.

In Jordan, Zeitun and Tian (2007) conducted a study on capital structure and corporate performance on 167 Jordanian firms between 1989-2003. They found a significantly negative relationship between capital structure and corporate performance. Many variables such as return on assets, return equity, profitability, Tobin's Q were used to measure performance while leverage, growth, size and tangibility were proxies for capital structure.

Rehman (2013) studied the relationship between financial leverage and financial performance in listed sugar companies of Pakistan. The results showed positive relationship of debt equity ratio with return on assets and sales growth and negative relationship of debt equity ratio with earnings per share, net profit margin and return on equity.

III. DATA AND METHODOLOGY

The research design for this study is *ex-post facto*. The population for this study is all the seventy (70) manufacturing firms quoted on the Nigerian Stock Exchange (NSE) Factbook as at 31st December, 2014. Proportionate sampling technique was adopted to arrive at 20 manufacturing firm using firm using 30% of the population.

Secondary data used for the study were extracted from the financial statements of twenty (20) sampled firms for the period 2008 to 2014.

The data used for this study are valid and reliable as they were obtained from annual reports of selected companies which have been subjected to independent audit by an external auditor and prepared in accordance with the requirements of the companies and Allied Matters Act cap C20, 2004 and the requirement of Nigerian Stock Exchange.

Data for this study were analyzed using the Ordinary Least Square (OLS) to determine the nature of the relationship between leverage and corporate performance.

The ordinary least square (OLS) model:

$$CP = \alpha + \beta_1 \text{ DOL} + \beta_2 \text{ DFL} + \beta_3 \text{ DCL} + \mu$$

Where CP = Corporate Performance

DOL – Degree of operating leverage

DFL – Degree of finance leverage

DCL – Degree of combined leverage

μ – Random or stochastic term (error term) is used in this study as similar studies Fosu (2013) in South Africa, Abor (2005) in Ghana used it in similar studies.

Functional Relationship

$$y_1 \text{ PER} = f(x_1 = \text{DOL})$$

$$y_2 \text{ FAC} = f(x_2 = \text{DFL})$$

$$y_3 \text{ TCE} = f(x_3 = \text{DCL})$$

Where:

PER = Price earnings ratio

FAC = Fixed asset cover

TCE = Total capital employed

IV. RESULT AND DISCUSSION

Descriptive Statistics

Descriptive statistics of the variables used in this study is presented in Table 1 below and it contains their mean, maximum, minimum and standard deviation values.

Table 1 Descriptive values of variables

	OL	FL	PER	FAC
Mean	6.881098	3.075094	3.06883	2.366795
Median	2.965443	1.149039	2.626653	1.996125
Maximum	170.8536	60.72357	9.116814	10.34441
Minimum	-5.930251	-3.165154	-2.664375	0.00000
Standard deviation	17.97006	8.576059	2.600845	1.549999
Observation	140	140	140	140

Descriptive statistics for dependent and independent variable of the study are tabulated above in Table 1. The mean value for operating leverage and finance leverage stood at 6.881098 and 3.075094 respectively while the maximum value for operating leverage was 170.8536 and maximum value for finance leverage was 60.72357. It means the minimum rate of return applying operating leverage was 6.8% while minimum rate of return applying finance leverage was 3.075%. While maximum return to the company applying operating leverage is 170.85% and 60.72% when finance leverage was applied by the company.

With price earnings ratio, it ranges from -2.6643 to a maximum of 9.11. Negative of 2.6643 indicated period when company made a loss while maximum of 9.1168 indicated that it will take a maximum period of nine (9) years for an investor to recoup amount invested in the company.

4.1 Correlation Results

In research, the common aim of carrying out a correlation test that relate with regression is to determine whether a collinearity exists among the independent variables employed in the work or not, because it is capable of distorting the true picture of the relationship of the dependent and independent variables.

$$\text{PER} = \alpha_0 + \beta_{1+} \text{DOL} + \mu_1$$

From the model:

$$\text{PER} = 2.9857 + 0.1207 \text{DOL} + \mu_1$$

Test of Hypothesis One: Degree of operating leverage does not significantly affect price earnings ratio (PER) of quoted Nigerian manufacturing firms.

Beta	Standard Error	Adj R ²	t-statistic	P-value
0.1207	0.0037	0.7000	3.18	0.0010

Based on the result, Null hypothesis is rejected and the alternate is accepted which means that degree of operating leverage has positive and significant effect on price earnings ratio of quoted manufacturing companies in Nigeria.

$$\text{FAC} = \Pi_0 + \Pi_{2+} \text{DFL} + \mu_2$$

$$\text{FAC} = 2.1404 + 0.2222 \text{DFL} + \mu_2$$

Test of Hypothesis Two: Degree of financial leverage (DFL) has no significant effect on fixed asset cover (FAC) of the quoted Nigerian manufacturing firms.

Beta	Standard Error	Adj R ²	t-statistic	P-value
0.2222	0.0092	0.2270	2.40	0.016

From the result, the null hypothesis is rejected and we accept the alternative which means that degree of operating leverage has positive and significant effect on fixed asset cover of quoted Nigerian manufacturing firms.

$$\text{TCE} = Q_0 + Q_{3+} \text{DCL} + \mu_3$$

$$\text{TCE} = 0.6885 + 0.0178 + \mu_3$$

Test of Hypothesis Three: Degree of combined leverage (DCL) has no significant effect on total capital employed (TCE) of the quoted Nigerian manufacturing firms.

Beta	Standard Error	Adj R ²	t-statistic	P-value
0.0178	0.0054	0.5820	3.27	0.001

From the result, we reject null hypothesis and accept the alternate, which means that degree of combined leverage has positive and significant effect on total capital employed of the quoted Nigerian manufacturing firms.

V. CONCLUSION AND RECOMMENDATIONS

Findings from this study shows that correlation between leverage and price earnings ratio is strong and positive,

correlation between leverage and fixed asset cover is strong and positive and finally, correlation between leverage and total capital employed is strong and positive. Therefore, the study concluded that leverage has positive and significant effect on corporate performance of manufacturing companies in Nigeria.

The study recommends as follows:

Firms should ensure to use optimal level of debt in their capital structure as this will lead to optimum capital structure.

The management should monitor the interest charged on debt financing to avoid liquidation of the company.

The management of Nigerian manufacturing companies should increase the use of equity capital financing to improve earnings per share of their companies.

Financial decisions on profit growth for any firm should be made in consonance with the prevailing inflation rates at that time by the management of quoted firms in Nigeria.

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Appendix

List of Nigerian firms used in the study

S/N	NAME OF FIRM	SECTOR
1	Nestle Nigeria Plc	Food/beverages and tobacco
2	Cadbury Nigeria Plc	Food/beverages and tobacco
3	7-up Bottling Company Plc	Food/beverages and tobacco
4	Honeywell Flour Mills Plc	Food/beverages and tobacco
5	Nigeria Bottling Company Plc	Food/beverages and tobacco
6	Portland Paints & Product Plc	Chemical and Paints
7	Vitafoam Nigeria Plc	Industrial and domestic product
8	BOC Gases Plc	Chemicals
9	Studio Press Nigeria Plc	Printing and Publishing
10	GSK Nigeria Plc	Healthcare
11	May & Baker Nigeria Plc	Pharmaceutical
12	Livestock Feeds Plc	Livestock/Animal specialist
13	Nigeria Wire Industry Plc	Construction
14	Lafarge Wapco Plc	Building materials
15	Nigerian Breweries Plc	Breweries
16	Presco Plc	Crop production
17	PZ Nigeria Plc	Conglomerates
18	Unilever Nigeria Plc	Conglomerates
19	Guinness Nigeria Plc	Breweries
20	Berger Paints Plc	Chemical and Paints