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

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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:

\[
\% \Delta \text{ in EPS} = DOL \times \% \Delta \text{ turnover}
\]

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).

Simun-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.

Adyem and Obbo (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:

\[
CP = \alpha + \beta_1 DOL + \beta_2 DFL + \beta_3 DCL + \mu
\]
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
\[ y_1 \text{ PER} = f(x_1) = \text{DOL} \]
\[ y_2 \text{ FAC} = f(x_2) = \text{DFL} \]
\[ y_3 \text{ TCE} = f(x_3) = \text{DCL} \]

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>
<thead>
<tr>
<th></th>
<th>OL</th>
<th>FL</th>
<th>PER</th>
<th>FAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>6.881098</td>
<td>3.075094</td>
<td>3.06883</td>
<td>2.366795</td>
</tr>
<tr>
<td>Median</td>
<td>2.965443</td>
<td>1.149039</td>
<td>2.626653</td>
<td>1.996125</td>
</tr>
<tr>
<td>Maximum</td>
<td>170.8536</td>
<td>60.72357</td>
<td>9.116814</td>
<td>10.34441</td>
</tr>
<tr>
<td>Minimum</td>
<td>-5.930251</td>
<td>-3.165154</td>
<td>-2.664375</td>
<td>0.00000</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>17.97006</td>
<td>8.576059</td>
<td>2.600845</td>
<td>1.549999</td>
</tr>
<tr>
<td>Observation</td>
<td>140</td>
<td>140</td>
<td>140</td>
<td>140</td>
</tr>
</tbody>
</table>

IV. RESULT AND DISCUSSION

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.

<table>
<thead>
<tr>
<th>Beta</th>
<th>Standard Error</th>
<th>Adj R²</th>
<th>t-statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1207</td>
<td>0.0037</td>
<td>0.7000</td>
<td>3.18</td>
<td>0.0010</td>
</tr>
</tbody>
</table>

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.

\[ \text{FAC} = \Pi_0 + \Pi_{24} \text{DFL} + \mu_2 \]

FAC = 2.1404 + 0.2222 DFL + μ2

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

<table>
<thead>
<tr>
<th>Beta</th>
<th>Standard Error</th>
<th>Adj R²</th>
<th>t-statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2222</td>
<td>0.0092</td>
<td>0.2270</td>
<td>2.40</td>
<td>0.016</td>
</tr>
</tbody>
</table>

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.

\[ \text{TCE} = Q_0 + Q_{34} \text{DCL} + \mu_3 \]

TCE = 0.6885 + 0.0178 + μ3

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

<table>
<thead>
<tr>
<th>Beta</th>
<th>Standard Error</th>
<th>Adj R²</th>
<th>t-statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0178</td>
<td>0.0054</td>
<td>0.5820</td>
<td>3.27</td>
<td>0.001</td>
</tr>
</tbody>
</table>

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,
The 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.

REFERENCES

## Appendix

List of Nigerian firms used in the study

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