

## The Impact of Leverage Financing on Financial Performance of Some Manufacturing Industries in Nigerian Stock Exchange

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**Abstract** In this study, financial leverage was to be explored to ascertain its impact on financial performance. The data for this research were accessed through secondary source. A total of twenty four (24) manufacturing companies listed on Nigeria Stock Exchange, four (4) companies data were used to verify and validate the research. Five (5) dependable variables were used to determine the impact of leverage financing on financial performance. The descriptive method was used to analyze the data generated for the research. General regression statistical tool was used to determine the relationship between the dependent and independent variables. The hypotheses were tested using descriptive statistics, general regression and correlation statistical tool. From the findings, the researcher observed that Return on Equity is significant to return on Assets, Net Profit Margin and Assets Turnover. It was also observed that Return on Assets is significant to return on Equity, Net Profit Margin and Assets Turnover. Net Profit Margin is also significant to Return on Equity, Return on Assets and Assets Turnover. Also Assets Turnover is significant to Return on Equity, Return to Assets and Net Profit Margin

**Keywords:** Leverage, performance, variables, validate, Industries, etc.

### INTRODUCTION

Financial leverage is the measure of how much firms use equity and debt to finance its investments. Borrowing for example money from any financial outlet or institutions to make investment is what we call financial leverage. How an organization is financed is of paramount importance to both the managers of the firms and providers of funds. This is because, if a wrong mix of finance is employed, the performance and survival of the business enterprise may be seriously affected [1].

Financial performance is a subjective measure of how well a firm can use its assets for its primary business to generate revenues Emekekwe [2]. According to Krishnan and Moyer, 1997 the main benefit of debt financing is the tax-deductibility of interest charges, which results in lower cost of capital. However, there are certain costs associated with debt financing. So, between the two extremes of the whole equity financing and whole debt financing, a particular debt-equity mix is to be decided. Any attempt by a firm to design a financial mix need to be made in the light of two propositions: first, that the capital structure be designed in such a way to lead to the objective of maximizing shareholder's wealth and secondly, to achieve the best approximation of the optimal capital structure.

### Objective Of The Study

The main objective of this study is to determine the effect of leverage financing on financial performance of industrial manufacturing companies listed on the Nigerian stock exchange.

### Research Hypotheses

- I. Ho -There is no significant relationship between financial leverage and return on equity.  
Hi -There is significant relationship between financial leverage and return on equity.
- II. Ho – There is no significant relationship between financial leverage and Return on Assets.  
Hi – There is significant relationship between financial leverage and Return on Assets.

### Review of Related Literature

Financial leverage is measured by the ratio of debt to debt plus equity. It uses debt to increase the expected return on equity. However, the greater the ratio of funds contributed by creditors could be compared to funds contributed by stockholders. The fund could lead to greater a firm's financial leverage. Financial leverage magnifies changes in net income compared to changes in operating income. Financial leverage can be appropriately described as the level a business or investor is using the borrowed money to finance a business project. Moreover, Business Corporation with high leverage is measured to be at

verge of bankruptcy. Bankruptcy often occurs most times especially when the business owner are not able to repay the debts, it might lead to difficulties in getting new lenders in future. Well managed financial leverages remain one of the effective ways various business organization use to increased shareholders' return on investment [3]. Although studies opine that if not well structure from on set and properly managed it could have a significant consequence on business finances. Also, very often, there are tax advantages related with borrowing, also known as leverage [4].

Brigham and Dave [5] referred to capital structure as the way in which a firm finances its operations which can either be through debts or equity or a combination of both. Modigliani and Miller [6], stated that under a perfect market, a firm's financial structure would not affect firm's value or its cost of capital. However in 1963, they argued that in reality a firm's value could be increased by changing the firm's capital structure because of tax advantage of debts.

#### **Advantages and Disadvantages of Leverage**

In totality, leverage has its advantages under good economic situations and at the same time, it is not free from disadvantages. The Study of Enekwe *et al* [1] highlight various Advantages and disadvantages that firm could experience

**Advantages of Higher Leverage:** In operating leverage, the operating profits can see a sharp increase with a small change in sales as most parts of the expenses are stagnant and cannot further increase with sales. Likewise, if we consider financial leverage, the earnings share of each shareholder will increase significantly with an increase in operating profits. Here, higher the degree of leverage, higher will be the percentage increase in operating profits and earnings per share.

**Disadvantages of Higher Leverage:** Leverage inherits the risk of bankruptcy along with it. In the case of operating leverage, fixed expenses extend the break-even point for a business. Breakeven means the minimum activity (sales) required for achieving no loss/no profit situation. Financial leverage increases the minimum requirement of operating profits to meet with the expense of interest. In any case, if the required activity level is not achieved, bankruptcy cash losses become certain.

When looking closely at the pros and cons of leverage, it seems that the balance is required between the rewards and risks associated with leverage. The degree of leverage should not be too high which invites the bankruptcy and on the contrary, it should not be too low that we lose out on the benefits and the viability of a business itself comes under question.

Financial leverage indicates the reliability of a business on its debts in order to operate. Knowing about the method and technique of calculating financial leverage can help you determine a business' financial solvency and its dependency upon its borrowings. The key steps involved in the calculation of Financial Leverage are:

- Compute the total debt owed by the company. This counts both short term as well as long term debt, also including commodities like mortgages and money due for services provided.
- Estimate the total equity held by the shareholders in the company. This requires multiplying the number of outstanding shares by the stock price. The total amount thus obtained represents the shareholder equity.
- Divide the total debt by total equity. The quotient thus obtained represents the financial leverage ratio.

#### **Norms and Limits**

If the financial leverage ratio of a company is higher than 2-to-1, it indicates financial weakness. If the company is leveraged highly, it is considered to be near bankruptcy. Also, it might not be able to secure new capital if it is incapable of meeting its current obligations [7]

#### **Financial Performance**

Financial Performance is the measuring of results of a firm's policies and operations in monetary terms. These results are reflected in the firm's return on investment, return on assets, value added, etc [1]. Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation [8]. In the words of Frich Kohlar "The performance is a general term applied to a part or to all the conducts of activities of an organization over a period of time often with reference to past or projected cost efficiency, management responsibility or accountability or the like. Thus, not just the presentation, but the quality of results achieved refers to the performance. Performance is used to indicate firm's success, conditions, and compliance.

#### **Breaking down 'Financial Performance'**

There are many different ways to measure financial performance, but all measures should be taken in aggregation. Line items such as revenue from operations, operating income or cash flow from operations can be used, as well as total unit sales. Furthermore, the analyst or investor may wish to look

deeper into financial statements and seek out margin growth rates or any declining debt [3].

There are many different stakeholders in a company, including trade creditors, bond holders, investors, employees and management. Each group has its own interest in tracking the financial performance of a company [9].

## METHODOLOGY

### Population of the Study:-

The population of the study comprised of four (4) industrial manufacturing companies listed on the Nigerian Stock exchange selected from total population of (24) twenty four.

### Sampling and Sampling Technique

Purpose sampling technique was adopted. This choice was used because out of the twenty-four listed industrial goods companies in the Nigerian Stock exchange, four had their accounting years not ending in 31<sup>st</sup> December. Hence out of the remaining twenty, judgmental sampling technique was applied to select four (4) companies useful in the work. The list is available in appendix I.

### Method of Data Collection:

Secondary source of data collection is adopted in the study. Specifically the financial statements of four (4) industrial manufacturing firms listed on the Nigerian Stock Exchange for the period 2010 – 2014 financial year were used. The manufacturing companies are as follows:

- Portland Paints & Products Nig Plc
- Berger Company Plc
- CAP Company Plc
- Cement Company of Northern Nig. Plc

### Variables Used

#### Dependent Variables

In carrying out this research work, five dependent variables are used. They include:

- Earnings Per Share (EPS)
- Return on Equity (ROE)
- Net Profit Margin (NPM)
- Return on Assets (ROA) and
- Assets Turnover (ATO).

ROE is an important profitability ratio that is calculated as net profit after tax divided by total equity.

$$\text{ROE} = \frac{\text{Net Profit after Tax}}{\text{Total Equity}}$$

ROA is calculated as net profit after tax decided by total assess.

$$\text{ROA} = \frac{\text{Net Profit after Tax}}{\text{Total Assets}}$$

NPM is calculated as Pre Tax profit divided by sales

$$\text{NPM} = \frac{\text{Profit before Tax}}{\text{Sales}}$$

ATO is calculated as sales divided by capital employed

$$\text{ATO} = \frac{\text{Sales}}{\text{Capital Employed}}$$

### Explanatory Variables

In this study, the researchers used two proxies as financial leverage measures. They are: Interest Coverage Ratio and Total Debt to Total Assess. Also growth opportunity is considered as control variable.

$$\text{Interest Coverage Ratio} = \frac{\text{EBIT}}{\text{Interest Charges}}$$

$$\text{Total Debt to Total Assess (TDTA)} = \frac{\text{Total Debt}}{\text{Total Assess}}$$

Growth opportunity (growth) = Percentage increase in sales.

### METHOD OF DATA ANALYSIS

The descriptive method of data analysis will be used to analyze data to determine their mean, range, sum, etc. General regression statistical tool will be used to attempt to explain the relationship between the dependent and independent variables.

The data for this study will be analyzed, using correlation statistical tool to determine the significance of all financial leverage variables used for this study to financial performance. Other statistical tool may be used when appropriate or required using Statistical Package for Social Science (SPSS) version 21 and Minitab software version 16.1. The hypotheses will be tested as follows.

**Hypothesis:** Descriptive analysis, general regression analysis and correlation analysis were used to validate the hypothesis.

### Decision Rule

The null hypotheses will be accepted if the significant value is greater than 0.05 significant level, otherwise, accept the alternative hypothesis.

### Presentation and Data Analysis

Here shows how the data collected for the study are presented, analyzed and discussed. The researchers made use of Descriptive Analysis, Multiple Regression Analysis and Correlation and other relevant statistical tools to analyze and determine the significance of the variables.

**Portland Paints & Products Nig Plc**

**Table 1: Actual Data of Portland Paints & Products Nig Plc**

| YEAR | NPAT     | TE      | TA      | PBT      | SALES    | CE      | IC      | LTD      | TD       |
|------|----------|---------|---------|----------|----------|---------|---------|----------|----------|
| 2010 | 21334586 | 6214427 | 6615386 | 20294070 | 17160477 | 6214427 | -102712 | 20292643 | 33172643 |
| 2011 | 21474789 | 5936110 | 6401593 | 28639273 | 17867453 | 5936110 | -151424 | 28638128 | 34148128 |
| 2012 | 21524393 | 4513400 | 5311208 | 32084529 | 17339181 | 4513400 | -737251 | 32082663 | 43162663 |
| 2013 | 21970123 | 4610450 | 5437095 | 32771463 | 18290463 | 4610450 | -450357 | 32771500 | 43191500 |
| 2014 | 21513291 | 4500200 | 5221208 | 37902749 | 18511219 | 4222721 | -721105 | 37903778 | 50103778 |

**Table 2: Financial Leverage Data for Portland Paints & Products Nig Plc**

| ROE      | ROA      | NPM      | ATO      | LTDTA    | TDTA     | SG       |
|----------|----------|----------|----------|----------|----------|----------|
| 3.433074 | 3.224995 | 1.182605 | 2.761393 | 3.067492 | 5.014468 |          |
| 3.617653 | 3.354601 | 1.602874 | 3.00996  | 4.473594 | 5.334317 | 0.041198 |
| 4.768997 | 4.052636 | 1.850406 | 3.841712 | 6.040559 | 8.126713 | -0.02957 |
| 4.765288 | 4.040783 | 1.791724 | 3.967175 | 6.027391 | 7.943856 | 0.054863 |
| 4.780519 | 4.120367 | 2.047556 | 4.383718 | 7.25958  | 9.596204 | 0.012069 |

Source: Researcher (2016)

**Table-3 DESCRIPTIVE STATISTICS**

|                    | N         | Range     | Minimum   | Maximum   | Sum       | Mean      |            | Std. Deviation |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|----------------|
|                    | Statistic | Statistic | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic      |
| ROE                | 5         | 1.35      | 3.43      | 4.78      | 21.37     | 4.2731    | .30667     | .68573         |
| ROA                | 5         | .90       | 3.22      | 4.12      | 18.79     | 3.7587    | .19299     | .43154         |
| NPM                | 5         | .86       | 1.18      | 2.05      | 8.48      | 1.6950    | .14643     | .32743         |
| ATO                | 5         | 1.36      | 3.02      | 4.38      | 18.70     | 3.7399    | .27052     | .60490         |
| TDTA               | 5         | 4.58      | 5.01      | 9.60      | 36.02     | 7.2031    | .87782     | 1.96285        |
| LTDTA              | 5         | 4.19      | 3.07      | 7.26      | 26.87     | 5.3737    | .72654     | 1.62460        |
| Valid N (listwise) | 5         |           |           |           |           |           |            |                |

Source: The Researcher

The Descriptive analysis observed the statistical analysis of the data for the Portland Paints & Products Nig Plc. The analysis revealed that return of equity has the range of 1.35, mean of 4.2731, standard deviation of 0.6857 and a total sum of 21.37. It also shows that the return of assets has the range of 0.90, mean of 3.7587, standard deviation of 0.4315 and a total sum of 18.79. The net profit Margin has the range of 0.86, mean of 1.6950, standard deviation of 0.3274 and a total sum of 8.48. The assets turnover has the range of 1.36, mean of 3.7399, standard deviation of 0.6049 and a total sum of 18.70.

**Model 1**

**General Regression Analysis: ROE versus ROA, NPM, ATO**

**Regression Equation:**

$$ROE = -2.20925 + 1.95846 ROA - 0.0801002 NPM - 0.206823 ATO$$

**Coefficients**

| Term     | Coef     | SE Coef  | T       | P     | 95% CI              |
|----------|----------|----------|---------|-------|---------------------|
| VIF      |          |          |         |       |                     |
| Constant | -2.20925 | 0.267733 | -8.2517 | 0.077 | (-5.61113, 1.19262) |
| ROA      | 1.95846  | 0.163006 | 12.0146 | 0.053 | (-0.11273, 4.02964) |
| NPM      | -0.08010 | 0.140046 | -0.5720 | 0.669 | (-1.85955, 1.69935) |
| ATO      | -0.20682 | 0.122829 | -1.6838 | 0.341 | (-1.76751, 1.35387) |

**Summary of Model**

S = 0.0328497 R-Sq = 99.94% R-Sq(adj) = 99.77%  
PRESS = 0.0576951 R-Sq(pred) = 96.93%

The regression analysis shows the model used to predict the yield variable. The model summary reveals the rate of coefficients of determination of the variables. The summary shows a relationship of 99.94% to the variables.

**Table-5 Correlations**

|       |                     | ROE    | ROA    | NPM    | ATO    | TDTA   | LTDTA  |
|-------|---------------------|--------|--------|--------|--------|--------|--------|
| ROE   | Pearson Correlation | 1      | .998** | .884*  | .974** | .947*  | .928*  |
|       | Sig. (2-tailed)     |        | .000   | .046   | .005   | .014   | .023   |
|       | N                   | 5      | 5      | 5      | 5      | 5      | 5      |
| ROA   | Pearson Correlation | .998** | 1      | .904*  | .986** | .965** | .947*  |
|       | Sig. (2-tailed)     | .000   |        | .035   | .002   | .008   | .014   |
|       | N                   | 5      | 5      | 5      | 5      | 5      | 5      |
| NPM   | Pearson Correlation | .884*  | .904*  | 1      | .925*  | .915*  | .985** |
|       | Sig. (2-tailed)     | .046   | .035   |        | .024   | .029   | .002   |
|       | N                   | 5      | 5      | 5      | 5      | 5      | 5      |
| ATO   | Pearson Correlation | .974** | .986** | .925*  | 1      | .992** | .968** |
|       | Sig. (2-tailed)     | .005   | .002   | .024   |        | .001   | .007   |
|       | N                   | 5      | 5      | 5      | 5      | 5      | 5      |
| TDTA  | Pearson Correlation | .947*  | .965** | .915*  | .992** | 1      | .968** |
|       | Sig. (2-tailed)     | .014   | .008   | .029   | .001   |        | .007   |
|       | N                   | 5      | 5      | 5      | 5      | 5      | 5      |
| LTDTA | Pearson Correlation | .928*  | .947*  | .985** | .968** | .968** | 1      |
|       | Sig. (2-tailed)     | .023   | .014   | .002   | .007   | .007   |        |
|       | N                   | 5      | 5      | 5      | 5      | 5      | 5      |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

The above correlation analysis reveals that financial leverage is significance to return of equity, return of assets, net profit margin, assets turnover total debt to total assets and long term debt to total assets.

**BERGER COMPANY PLC**

**Table-6: Actual Data of Berger Company Plc.**

| YE<br>R | NI     | NO<br>OF<br>ES | NPAT    | TE      | TA      | PBT     | SALES   | CE      | STD    | LTD    | TD      |
|---------|--------|----------------|---------|---------|---------|---------|---------|---------|--------|--------|---------|
| 2010    | 442463 | 10868400       | 5198978 | 1262420 | 2211001 | 2808547 | 4356608 | 3251001 | 786985 | 507364 | 948581  |
| 2011    | 227816 | 10868400       | 6933735 | 1427153 | 2475035 | 3669325 | 4774359 | 3453035 | 740118 | 549387 | 901714  |
| 2012    | 192009 | 10868400       | 5320097 | 1655445 | 2729838 | 2884465 | 4813664 | 4082838 | 922893 | 487524 | 1174393 |
| 2013    | 257580 | 289823447      | 6743878 | 1749724 | 3227598 | 3842767 | 5272986 | 4197598 | 798623 | 520754 | 1151341 |
| 2014    | 148808 | 297534224      | 5863082 | 1964378 | 3640145 | 3958638 | 5192930 | 4630145 | 816531 | 541093 | 1180315 |

**Table-7: Financial Leverage Data for Berger Company Plc.**

| ROE      | ROA      | NPM      | ATO      | LTDTA    | TDTA     | SG       |
|----------|----------|----------|----------|----------|----------|----------|
| 4.118263 | 2.351414 | 0.644664 | 1.340082 | 0.229473 | 0.429028 |          |
| 4.858438 | 2.801469 | 0.768548 | 1.382656 | 0.221971 | 0.364324 | 0.095889 |
| 3.213696 | 1.948869 | 0.599224 | 1.179    | 0.178591 | 0.430206 | 0.008233 |
| 3.854252 | 2.089442 | 0.728765 | 1.256191 | 0.161344 | 0.356718 | 0.09542  |
| 2.984702 | 1.610673 | 0.762313 | 1.121548 | 0.148646 | 0.324249 | -0.01518 |

Source: The Researcher

**Table-8: Descriptive Statistics**

|                    | N         | Minimum   | Maximum   | Sum       | Mean      | Std. Deviation |
|--------------------|-----------|-----------|-----------|-----------|-----------|----------------|
|                    | Statistic | Statistic | Statistic | Statistic | Statistic | Statistic      |
| ROE                | 5         | 2.985     | 4.858     | 19.029    | 3.80587   | .747131        |
| ROA                | 5         | 1.611     | 2.801     | 10.802    | 2.16037   | .447056        |
| NPM                | 5         | .735      | 1.027     | 4.293     | .85866    | .119134        |
| ATO                | 5         | 1.122     | 1.383     | 6.279     | 1.25590   | .108533        |
| Valid N (listwise) | 5         |           |           |           |           |                |

Source: The Researcher

The Descriptive analysis observed the statistical analysis of the data for the Berger Company Plc. The analysis revealed that the return of equity has the mean of 3.8058, standard deviation of 0.7471 and a total sum of 19.02. It also shows that the return of assets has the mean of 2.1603, standard deviation of 0.4470 and a total sum of 10.80. The net profit Margin has the mean of 0.8586, standard deviation of 0.1191 and a total sum of 4.29. The assets turnover has the mean of 1.2559, standard deviation of 0.1085 and a total sum of 6.27

**Model 2**

**General Regression Analysis: ROE versus ROA, NPM, ATO**

Regression Equation

$$ROE = -3.31585 + 0.819514 ROA + 1.69562 NPM + 3.31488 ATO$$

Coefficients

| Term     | Coef     | SE Coef | T        | P     | 95% CI              |
|----------|----------|---------|----------|-------|---------------------|
| VIF      |          |         |          |       |                     |
| Constant | -3.31585 | 1.05997 | -3.12825 | 0.197 | (-16.7841, 10.1524) |
| ROA      | 0.81951  | 0.31322 | 2.61643  | 0.232 | (-3.1603, 4.7993)   |
| NPM      | 1.69562  | 0.48550 | 3.49256  | 0.178 | (-4.4732, 7.8644)   |
| ATO      | 3.31488  | 1.28510 | 2.57948  | 0.235 | (-13.0138, 19.6436) |

**Summary of Model**

S = 0.0719250 R-Sq = 99.77% R-Sq(adj) = 99.07%

PRESS = 0.889517 R-Sq(pred) = 60.16%

The regression analysis shows the model used to predict the yield variable. The model summary reveals the rate of coefficients of determination of the variables. The summary shows a relationship of 99.77% to the variables.



**Table-9: Correlations**

|  |                     | ROE    | ROA    | NPM    | ATO    |
|--|---------------------|--------|--------|--------|--------|
| ROE  | Pearson Correlation | 1      | .979** | .961** | .973** |
|  | Sig. (2-tailed)     |        | .004   | .009   | .005   |
|  | N                   | 5      | 5      | 5      | 5      |
| ROA  | Pearson Correlation | .979** | 1      | .910*  | .966** |
|  | Sig. (2-tailed)     | .004   |        | .032   | .008   |
|  | N                   | 5      | 5      | 5      | 5      |
| NPM  | Pearson Correlation | .961** | .910*  | 1      | .890*  |
|  | Sig. (2-tailed)     | .009   | .032   |        | .043   |
|  | N                   | 5      | 5      | 5      | 5      |
| ATO  | Pearson Correlation | .973** | .966** | .890*  | 1      |
|  | Sig. (2-tailed)     | .005   | .008   | .043   |        |
|  | N                   | 5      | 5      | 5      | 5      |
| **. Correlation is significant at the 0.01 level (2-tailed). |                     |        |        |        |        |
| *. Correlation is significant at the 0.05 level (2-tailed).  |                     |        |        |        |        |

The above correlation analysis reveals that financial leverage is significance to return of equity, return of assets, net profit margin and assets turnover.

**CAP Company Plc**

**Table-10: Actual Data for CAP Company Plc**

| YE<br>R | NI      | NO OF<br>ES | NPAT    | TE      | TA      | PBT     | SALES   | CE      | STD    | LTD     | TD      |
|---------|---------|-------------|---------|---------|---------|---------|---------|---------|--------|---------|---------|
| 2010    | 3644934 | 36184269    | 592856  | 7998321 | 1997868 | 901080  | 1831034 | 1421291 | 682839 | 1207547 | 1590532 |
| 2011    | 4312774 | 45129471    | 1798672 | 1539635 | 1895618 | 1961908 | 1812774 | 1667653 | 702357 | 1597328 | 1396379 |
| 2012    | 5231330 | 52056187    | 1115554 | 1038572 | 1537295 | 2261180 | 1831330 | 1718572 | 767342 | 1037845 | 1284539 |
| 2013    | 5518491 | 86215480    | 1472626 | 1341745 | 1629379 | 2573909 | 1893501 | 1726835 | 802746 | 1485275 | 1462864 |
| 2014    | 6204236 | 98164326    | 1782427 | 1759251 | 1893265 | 2793253 | 1942073 | 1902537 | 898297 | 1687389 | 1573877 |

**Table-11: Financial Leverage Analysis for CAP Company Plc**

| ROE      | ROA      | NPM      | ATO      | TDTA     | LTDTA    | SG       |
|----------|----------|----------|----------|----------|----------|----------|
| 0.074123 | 0.296744 | 0.492115 | 1.288289 | 0.796115 | 0.604418 |          |
| 1.168246 | 0.948858 | 1.082268 | 1.087021 | 0.736635 | 0.842642 | -0.00997 |
| 1.074123 | 0.72566  | 1.23472  | 1.065611 | 0.835584 | 0.675111 | 0.010236 |
| 1.097545 | 0.903796 | 1.359339 | 1.096515 | 0.897805 | 0.911559 | 0.033949 |
| 1.013174 | 0.941457 | 1.438284 | 1.020781 | 0.831303 | 0.891259 | 0.025652 |

Source: The Researcher

**Table-12: Descriptive Statistics**

|                    | N         | Minimum   | Maximum   | Sum       | Mean       | Std. Deviation |
|--------------------|-----------|-----------|-----------|-----------|------------|----------------|
|                    | Statistic | Statistic | Statistic | Statistic | Statistic  | Statistic      |
| ROE                | 5         | .074123   | 1.168246  | 4.427210  | .88544207  | .204342962     |
| ROA                | 5         | .296744   | .948858   | 3.816515  | .76330301  | .123491203     |
| NPM                | 5         | .492115   | 1.438284  | 5.606727  | 1.12134535 | .168434297     |
| ATO                | 5         | 1.020781  | 1.288289  | 5.558218  | 1.11164357 | .046050988     |
| Valid N (listwise) | 5         |           |           |           |            |                |

Source: The Researcher

The Descriptive analysis observed the statistical analysis of the data for the CAP Company Nigeria Plc. The analysis revealed that return of equity has the mean of 0.8854, standard deviation of 0.4569 and a total sum of 4.42. It also shows that the return of assets has the mean of 0.7633, standard deviation of 0.2761 and a total sum of 3.81. The net profit Margin has the mean of 1.1213, standard deviation of 0.3766 and a total sum of 5.60. The assets turnover has the mean of 1.1116, standard deviation of 0.1029 and a total sum of 5.55.

**Model 3**

**General Regression Analysis: ROE versus ROA, NPM, ATO**

Regression Equation:

$$ROE = 2.37396 + 1.02062 ROA - 0.0967385 NPM - 1.94224 ATO$$

Coefficients:

| Term     | Coef     | SE Coef | T         | P     |
|----------|----------|---------|-----------|-------|
| Constant | 2.37396  | 6.63366 | 0.357865  | 0.781 |
| ROA      | 1.02062  | 1.18998 | 0.857681  | 0.549 |
| NPM      | -0.09674 | 1.18770 | -0.081450 | 0.948 |
| ATO      | -1.94224 | 4.70615 | -0.412703 | 0.751 |

**Summary of Model**

S = 0.265524 R-Sq = 91.56% R-Sq(adj) = 66.23%  
PRESS = 6.24480 R-Sq(pred) = -647.77%

The regression analysis shows the model used to predict the yield variable. The model summary reveals the rate of coefficients of determination of the variables. The summary shows a relationship of 91.56% to the variables.

**Table-13: Correlations**

|     |                     | ROE    | ROA    | NPM    | ATO    |
|-----|---------------------|--------|--------|--------|--------|
| ROE | Pearson Correlation | 1      | .944*  | .889*  | -.923* |
|     | Sig. (2-tailed)     |        | .016   | .044   | .025   |
|     | N                   | 5      | 5      | 5      | 5      |
| ROA | Pearson Correlation | .944*  | 1      | .894*  | -.911* |
|     | Sig. (2-tailed)     | .016   |        | .041   | .032   |
|     | N                   | 5      | 5      | 5      | 5      |
| NPM | Pearson Correlation | .889*  | .894*  | 1      | -.953* |
|     | Sig. (2-tailed)     | .044   | .041   |        | .012   |
|     | N                   | 5      | 5      | 5      | 5      |
| ATO | Pearson Correlation | -.923* | -.911* | -.953* | 1      |
|     | Sig. (2-tailed)     | .025   | .032   | .012   |        |
|     | N                   | 5      | 5      | 5      | 5      |

\*. Correlation is significant at the 0.05 level (2-tailed).

The above correlation analysis reveals that financial leverage is significance to return of equity, return of assets, net profit margin and assets turnover.

**Cement Company of Northern Nig. Plc**

**Table-14: Actual Data of Cement Company of Northern Nig. Plc**

| YEA R | NI      | NO OF ES | NPAT   | TE     | TA     | NPBT   | SALES  | CE     | STD   | LTD   | TD     |
|-------|---------|----------|--------|--------|--------|--------|--------|--------|-------|-------|--------|
| 2010  | 1253768 | 1194387  | 360153 | 183547 | 175358 | 140052 | 383408 | 376287 | 84639 | 60532 | 106646 |
|       | 8       | 28       | 7      | 2      | 5      | 3      | 5      | 2      | 7     | 2     | 3      |
| 2011  | 1391509 | 1643792  | 358795 | 216357 | 217347 | 136932 | 364103 | 386451 | 83408 | 63609 | 103598 |
|       | 9       | 73       | 3      | 8      | 9      | 5      | 7      | 0      | 6     | 8     | 2      |
| 2012  | 1512557 | 1710892  | 349925 | 243762 | 236401 | 128446 | 337850 | 387100 | 97896 | 58369 | 127451 |
|       | 7       | 37       | 3      | 9      | 2      | 5      | 9      | 7      | 9     | 5     | 0      |
| 2013  | 1578711 | 2073541  | 342975 | 258472 | 256165 | 134276 | 324156 | 462774 | 83084 | 68935 | 126483 |
|       | 1       | 96       | 3      | 6      | 8      | 7      | 8      | 8      | 7     | 3     | 0      |
| 2014  | 1511905 | 2175207  | 330638 | 283827 | 278465 | 135863 | 309870 | 440658 | 89934 | 66410 | 112845 |
|       | 1       | 13       | 2      | 6      | 7      | 8      | 7      | 8      | 7     | 2     | 2      |



**Table-15: Financial Leverage Analytical Data**

| ROE      | ROA      | NPM      | ATO      | LTDTA    | TDTA     | SG       |
|----------|----------|----------|----------|----------|----------|----------|
| 1.962186 | 2.053814 | 0.365282 | 1.018925 | 0.345191 | 0.608162 |          |
| 1.658342 | 1.650788 | 0.376081 | 0.942173 | 0.292664 | 0.476647 | -0.05035 |
| 1.435515 | 1.480218 | 0.380187 | 0.872773 | 0.246909 | 0.53913  | -0.0721  |
| 1.326931 | 1.33888  | 0.414234 | 0.700463 | 0.269104 | 0.493754 | -0.04053 |
| 1.164926 | 1.187357 | 0.438453 | 0.703199 | 0.238486 | 0.405239 | -0.04407 |

Source: The Researcher

**Table-16: Descriptive Statistics**

|                  | N         | Range     | Minimum   | Maximum   | Sum       | Mean      |            | Std. Deviation |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|----------------|
|                  | Statistic | Statistic | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic      |
| ROE              | 5         | .80       | 1.16      | 1.96      | 7.55      | 1.5096    | .13867     | .31009         |
| ROA              | 5         | .87       | 1.19      | 2.05      | 7.71      | 1.5422    | .14910     | .33340         |
| NPM              | 5         | .07       | .37       | .44       | 1.97      | .3948     | .01364     | .03049         |
| ATO              | 5         | .32       | .70       | 1.02      | 4.24      | .8475     | .06381     | .14268         |
| Valid (listwise) | N<br>5    |           |           |           |           |           |            |                |

Source: The Researcher

The Descriptive analysis observed the statistical analysis of the data for the Cement Company of Northern Nigeria Plc. The analysis revealed that return of equity has the Range of 0.80, mean of 1.5096, standard deviation of 0.3100 and a total sum of 7.55. It also shows that the return of assets has the range of 0.87, mean of 1.5422, standard deviation of 0.3334 and a total sum of 7.71. The net profit Margin has the range of 0.07, mean of 0.3948, standard deviation of 0.0304 and a total sum of 1.97. The assets turnover has the range of 0.32, mean of 0.8475, standard deviation of 0.1426 and a total sum of 4.24.

**Model 4**

**General Regression Analysis: ROE versus ROA, NPM, ATO**

Regression Equation:

$$ROE = 0.329936 + 0.850059 ROA - 0.517682 NPM + 0.0862287 ATO$$

Coefficients:

| Term     | Coef      | SE Coef | T        | P     |
|----------|-----------|---------|----------|-------|
| Constant | 0.329936  | 1.45908 | 0.22613  | 0.858 |
| ROA      | 0.850059  | 0.22203 | 3.82862  | 0.163 |
| NPM      | -0.517682 | 2.56382 | -0.20192 | 0.873 |
| ATO      | 0.086229  | 0.73041 | 0.11806  | 0.925 |

Summary of Model

S = 0.0533104      R-Sq = 99.26%      R-Sq(adj) = 97.04%  
 PRESS = 0.241516 R-Sq (pred) = 37.21%

The regression analysis shows the model used to predict the yield variable. The model summary reveals the rate of coefficients of determination of the variables. The summary shows a relationship of 99.26% to the variables.

**Table-17: Correlations**

|     |                     | ROE    | ROA    | NPM    | ATO    |
|-----|---------------------|--------|--------|--------|--------|
| ROE | Pearson Correlation | 1      | .996** | -.890* | .940*  |
|     | Sig. (2-tailed)     |        | .000   | .043   | .017   |
|     | N                   | 5      | 5      | 5      | 5      |
| ROA | Pearson Correlation | .996** | 1      | -.877  | .933*  |
|     | Sig. (2-tailed)     | .000   |        | .051   | .021   |
|     | N                   | 5      | 5      | 5      | 5      |
| NPM | Pearson Correlation | -.890* | -.877  | 1      | -.940* |
|     | Sig. (2-tailed)     | .043   | .051   |        | .017   |
|     | N                   | 5      | 5      | 5      | 5      |
| ATO | Pearson Correlation | .940*  | .933*  | -.940* | 1      |
|     | Sig. (2-tailed)     | .017   | .021   | .017   |        |
|     | N                   | 5      | 5      | 5      | 5      |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

The above correlation analysis reveals that financial leverage is significance to return of equity, return of assets, net profit margin and assets turnover.

**Test of Hypothesis One**

Ho - Thereis no significant relationship between financial leverage and return on equity.

Hi - There is significant relationship between financial leverage and return on equity.

The above hypothesis was tested using the analysis from table 1 & 5.

**Decision Rule**

As the rule states that if the calculated significant value is greater than the 0.05 significant level, we accept the null hypothesis otherwise we accept the alternative hypothesis. Since the two correlation value of the two stated tables mentioned above shows that the variables are significant to financial performance. This means we accept the alternative hypothesis which states that, “there is significant relationship between Financial Leverage and Return on Equity”.

**Test of Hypothesis Two**

Ho – There is no significant relationship between financial leverage and Return on Assets.

Hi – There is significant relationship between financial leverage and Return on Assets.

The above hypothesis was tested using the analysis from table 9 & 13.

**Decision Rule**

The null hypotheses will be accepted if the significant value is greater than 0.05 significant level,

otherwise, accept the alternative hypothesis. Since the two correlation value of the two stated tables mentioned above shows that the variables are significant to financial performance. This means we accept the alternative hypothesis which states that, “there is significant relationship between Financial Leverage and Return on Assets”.

**Summary of Findings**

From the above study, the researchers observed that Return on Equity is significant to return on Assets, Net Profit Margin and Assets Turnover. It was also observed that Return on Assets is significant to return on Equity, Net Profit Margin and Assets Turnover.

Net Profit Margin is also significant to Return on Equity, Return on Assets and Assets Turnover. Also Assets Turnover is significant to Return on Equity, Return to Assets and Net Profit Margin.

In conclusion, Return on Equity and Return on Assets are very vital and significant variables of financial leverage to financial performance. Financial leverage is a factor to measuring financial performance.

**REFERENCES**

1. Enekwe, C. I., Agu, C. I., & Eziedo, K. N. (2014). The effect of financial leverage on financial performance: evidence of quoted pharmaceutical companies in Nigeria. IOSR Journal of Economics and Finance (IOSR-JEF) 2321-5933,
2. Emekekwe, P.E (2008). Corporate Financial Management. 5th Revised ed; Kinshasha: African Bureau of Educational Sciences

3. Jelinek, K (2007). The effect of leverage increases on earnings management. *Journal of Business and Economic Studies* 13: 24 – 46
4. Akinmulegun, S.O (2012). The effect of financial leverage on corporate performance of some Selected companies in Nigeria Canadian Social Science 8(1): 85 – 91.
5. Brigham, E. F., & Daves, P. R. (2004). Mergers, LBO's, Divestures and Holding Companies. *Intermediate Financial Management (8th ed., pp. 866-915)*. USA: South-Western, Thomson Corporation.
6. Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American economic review*, 48(3), 261-297.
7. Financial Leverage (2016). The freedictionary.com/financial+leverage; Retrieved on 23<sup>rd</sup> June 2016.
8. Rehman, S.S (2013). Relationship between financial leverage and financial performance: Empirical Evidence of listed sugar companies of Pakistan. *Global Journal of management and Business Research finance* 13(8): 33 -40.
9. Kumar, V., Sahu, S. K., Pandey, B. D. (2010). Prospects for solvent extraction processes in the Indian context for the recovery of base metals. A review. *Hydrometallurgy*, 103(1), 45-53.