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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 exploded 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.

1.0 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.

Financial performance is a subjective measure of how well a firm can use its assets for its primary business to generate revenues [6]. 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 [6].

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.

1.1 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.

1.2 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.

1.3 Review of Related Literature

Financial leverage is measured by the ratio of debt to debt plus equity [2]. It uses debt to increase the expected return on equity [2]. The greater the ratio of funds contributed by creditors compared to funds contributed by stockholders, the greater a firm's financial leverage [2]. Financial leverage magnifies changes in net income compared to changes in operating income [2]. Financial leverage can be aptly described as the extent to which a business or investor is using the borrowed money [3]. Business companies with high leverage are considered to be at risk of bankruptcy if, in case, they are not able to repay the debts, it might lead to difficulties in getting new lenders in future. It is not that financial leverage is always bad [3]. However, it can lead to an increased shareholders' return on investment. Also, very often, there are tax advantages related with borrowing, also known as leverage [3].

Brigham, (2004) 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. Hence, in any discussion on capital structure where debt is involved in the funding, leverage financing is as well brought in.

Modigliani and Miller, (1958) 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 [3].

1.4 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 [4].

1.5 Advantages of Higher Leverage: Take 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 [4].

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 [4].

1.6 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 [4].

Looking 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 [4].

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 [3]. 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 [3].

1.7 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 [3].

1.8 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 [6]. 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 [6]. 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 [5]. 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 [5].

1.9 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 [6].

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 [6].

1.10 Methodology

1.11 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.

1.12 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 31st December. Hence out of the remaining twenty, judgemental sampling technique was applied to select four (4) companies useful in the work. The list is available in appendix I.

1.13 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

1.14 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.

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

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

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

NPM is calculated as Pre Tax profit divided by sales

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

ATO is calculated as sales divided by capital employed

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

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.

1.15 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.

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

1.17 Decision Rule

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

1.18 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)  18.3420
NPM       -0.08010  0.140046  -0.5720  0.669  (-1.85955, 1.69935)   7.7942
ATO       -0.20682  0.122829  -1.6838  0.341  (-1.76751, 1.35387)  25.9852

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.

YEAR	NI	NO OF ES	NPAT	TE	TA	PBT	SALES	CE	STD	LTD	TD
2010	442463	108684000	5198978	1262420	2211001	2808547	4356608	3251001	786985	507364	948581
2011	227816	108684000	6933735	1427153	2475035	3669325	4774359	3453035	740118	549387	901714
2012	192009	108684000	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	Std. Error	Statistic
ROE	5	2.985	4.858	19.029	3.80587	.334127	.747131
ROA	5	1.611	2.801	10.802	2.16037	.199930	.447056
NPM	5	.735	1.027	4.293	.85866	.053278	.119134
ATO	5	1.122	1.383	6.279	1.25590	.048538	.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)  15.1607
NPM        1.69562  0.48550   3.49256  0.178  ( -4.4732,  7.8644)   1.0308
ATO        3.31488  1.28510   2.57948  0.235  (-13.0138, 19.6436)  15.0418

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

YEAR	NI	NO OF 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	Std. Error	Statistic
ROE	5	.074123	1.168246	4.427210	.88544207	.204342962	.456924754
ROA	5	.296744	.948858	3.816515	.76330301	.123491203	.276134725
NPM	5	.492115	1.438284	5.606727	1.12134535	.168434297	.376630538
ATO	5	1.020781	1.288289	5.558218	1.11164357	.046050988	.102973139
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

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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

YEAR	NI	NO OF ES	NPAT	TE	TA	NPBT	SALES	CE	STD	LTD	TD
2010	12537688	119438728	3601537	1835472	1753585	1400523	3834085	3762872	846397	605322	1066463
2011	13915099	164379273	3587953	2163578	2173479	1369325	3641037	3864510	834086	636098	1035982
2012	15125577	171089237	3499253	2437629	2364012	1284465	3378509	3871007	978969	583695	1274510
2013	15787111	207354196	3429753	2584726	2561658	1342767	3241568	4627748	830847	689353	1264830
2014	15119051	217520713	3306382	2838276	2784657	1358638	3098707	4406588	899347	664102	1128452

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 N (listwise)	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.

1.19 Test of Hypothesis One

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

1.20 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".

1.21 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.

1.22 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".

1.23 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.

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