EFFECTS OF DEBT USAGE ON THE PERFORMANCE OF SMALL SCALE MANUFACTURING FIRMS IN KOGI STATE OF NIGERIA

Onoja Emmanuel E, Ph.D
Department of Accounting, Kogi State University,
Anyigba, Kogi State, Nigeria
Email: onojaandco@ymail.com

Ovayioza Sarah Puke
Department of Accounting, Kogi State University,
Anyigba, Kogi State, Nigeria

ABSTRACT
This study, the effects of debt on the profitability of small manufacturing firms in Kogi State of Nigeria, was undertaken to find out if the use of debt (leverage) by small scale manufacturing firms (SMFs) resulted into an increase in the return and improvement in the value of the firm through capital structure. The profitability of the small scale manufacturing firms for this study is determined in terms of return on asset (ROA) and return on equity (ROE) and they are express as percentage. A total of 20 SMFs were randomly selected from total population of the study. Regression equation was used to determine the pattern and strength of the relationship that exists between leverage and value/profitability of a firm including a two-variable regression equation. The Main hypothesis of this study which used 95% confidence level to determine the capital significance of the test hinged on determining the relationship between debt usage and the value of a small scale manufacturing firms. The main finding from the result obtained confirmed the null hypothesis postulated namely that there is no significant relationship between debt usage and the value of a small scale manufacturing firms in Kogi State, Nigeria. The study recommended that tax incentives, concessional interest rate on loan and providing more equity funding for small scale manufacturing firms in Nigeria.

Keywords: Tax incentive, Small scale Enterprises, Profitability, Manufacturing Firm, Debt, Capital structure.

Introduction
The failure rate of small manufacturing firms (SMFs) in Nigeria is very high. About 75% of SMFs become insolvent within the first five years of operation. One of the primary reasons for the high failure rate of SMFs is the high cost of debt finance occasioned by the high interest rate. According to Coleman and Chon (2001), debt is one of the variables that can cause the non-performance/insolvency of small manufacturing firms (SMFs). Most of the empirical studies such as Coleman and Cohn (2001) and Eriots et al (2002) regarding the impact debt management on the performance of firms have focused primarily on large firms in developed countries. Of recent, there has been an increase in the recognition of the role played by small firms in national economies. Their contribution to job creation and poverty alleviation has been recognized by several governments of developing countries to the extent that they now include them in their development plans. Among the support structures include offering funding to the small firms’ sector, usually at concessionary rates. But whether the use of such debt improve firm’s performance, thereby enhancing sustainability, is not well known (Abor, 2005). Nigeria suffers from high unemployment with an official estimate of approximately 65% of the economically active population unemployed (Central statistic Office of Nigeria, 2006). One of the best ways to address unemployment is to leverage the employment creation potential of small businesses and to promote small business development. Small firms are expected to be an important vehicle to address the challenges of job creation, sustainable economic growth, equitable distribution of income and the overall stimulation of economic development Nigeria.

According to the Organization for Cooperation and Development (2006), small firms are now recognized worldwide to be key source of dynamism, innovation and flexibility. SMFs are responsible for most net job creation and they make an important contribution to productivity and economic growth. The manufacturing sector is very important to the economy of Nigeria. However, it is being constrained by lack of power supply, capacity under—utilization, inadequate research and development, lack of credit facility, price controls since 2001, shortage of foreign currency and fuel.
The metal fabrication sub-sector is affected, the dead of Nigeria steel Companies, garment production is affected by reduced crop whilst the food industry is being affected by the lower output from small steel companies. Access to finance is one of the major constraints (Mandiwanza, 2007).

The definition of a small manufacturing firm is based on the following quantitative factors; the numbers of employees, asset base and structures and the turnover levels or revenue (Ngwenya and Ndlovu, 2003). A small manufacturing firm is described as an enterprise whose total cost including but excluding cost of land is between one million five hundred thousand naira (1,500,000) and Ten Million naira (10,000,000) and/or work force between four (4) and seven (7) full-time workers and/or a turnover of not more than ten million naira (N10,000,000) in a year (Uche et al., 1997). For the purpose of the study, a small manufacturing firm refers to a business entity with a legal structure, employing workers between 4 and 10 and engaged in any of the following activities: food processing such as baking, oil processing and gain milling, metal fabrication, garment production, carpentry, beer brewing, pottery, brick-making and plastic production using recycled materials (Adeniyi et al. 1997). The study does not include firms that are informal and employ less than five full-time employees. The asset base is not used as a criterion for determining size as it is difficult to attach a fixed value to assets since the value is constantly changing due to high inflation rates prevailing in Nigeria.

This study assesses the business debt financing management and its impact on the performance/profitability of small manufacturing firms in Kogi State Nigeria. It is based on the theory of capital structure put forward by Franco Modigliani and Merton Miller in 1963. The purpose of the study was to determine if the use of debt (leverage) by small firms in Nigeria led to an increase in the returns generated by a firm with the intention of improving the value of the firms through capital structure. The performance of the small firms, for this study, is determined in terms of profitability ratios. The ratios that are used include return on assets (ROA) and return on equity (ROE) and they are expressed as structure of the small firms was determined by the use of debt ratios, thus, dividing total debt by the value of total assets of a firm.

Statement of the Problem
Business debt financing management has become imperative due to insufficient capital in the running of many small manufacturing firms in Nigeria. This sector is crucial to employment creation in Nigeria today. The loan has to be sourced and managed if the promoters’ of such firms desire growth/expansion.

Management of such firm must appreciate the implication of the use of debt in financing the business operation/growth as enough earnings must be generated to cover overhead cost; interests on capital employed and return to the shareholders. Management must employ appropriate strategy in order to achieve better performance. This is where the choice of use of debt financing is imperative because its advantages over others. The study aims at ascertaining how business debt financing management impacts a firm’s performance.

Objectives of the study
One of the key determinant of the firm’s ability to continue as a going concern is the ability of its management to provide needed fund for its operations. The choice of how, when and where to obtain the fund, is fundamental, because the cost of such fund must be considered. Most firms finance their business operations through borrowing/debt. Therefore the objective of this study is to highlight the impact of business debt financing on firm’s performance and offer recommendations that could assist in the appropriate business financing option.

Research Questions
The following questions were drawn to guide the study.

a) What is the relationship between debt usage and value of firm?

b) How has debt been managed for better performance?

Statement of Hypothesis
The study has as the principal objective of assessing business debt financing management and its impact of firm’s performance. The results of the previous researchers seem to suggest nearly negative relationship between the usage of debt and firms performance. However, despite these unclear findings,
it streamlines the focus of this study. Therefore, a test of the null hypothesis (which is the primary hypothesis) will permit an examination of the impact of debt financing on the firm’s performance.

**Ho:** There is no significant relationship between debt usage and the value of a small manufacturing firm.

**Scope and Limitations of the Study**
This study covered only small manufacturing firms in Kogi State, Nigeria. Gumede (2002) points out that the manufacturing sector is the most important sector of the Nigeria economy because of huge employment it generate although oil sector see to over shadow our reasoning due to huge revenue accruing from the sector. Furthermore, debt capital is limited to debt obtained by small manufacturing firms from commercial/Micro Finance banks. Coleman and Cohn (2001) revealed that commercial banks are the most significant source of debt for small firms, channeling more than sixty percent of their requests. The study did not include big manufacturing companies.

**Review of related Literature and Theoretical framework**
Studies on the impact of debt on returns have generated mixed results ranging from those supporting a positive relationship hypothesis to those opposing it. Some of the studies did not come up with any effect on returns, that is, they found that capital structures did not portray any relationship with the returns of a firm. Empirical studies such as Rullan and Zhou (2005) and Robb and Robinson (2009) agree with Miller and Modigliani (1963) that the gains from leverage are significant, and that the use of debt increases the market value of a firm.

Financial leverage has a positive effect on the firm’s return on equity provided that the earning powers of the firm’s assets (the ratio of earnings before interest and taxes to total assets) exceeds the average interest cost of debt to the firm. Abor (2005) conducted a study on the effect of debt on firms in Ghana which indicated a significantly positive association between total debt and total assets and return on equity. The results therefore portrayed a positive leverage. According to Berkevitch and Israel (1990), a firm’s debt level and its value is positively elated especially when shareholders have absolute control over the business of the firm and it is negatively related when debt holder have the power to influence the course of the business. The impact of debt on value of firms therefore, depends on the balance of power within a firm. If shareholders have more power, a positive leverage will prevail and if debt holders have more power, a negative leverage would take place. ROE refers to the return/monetary gain by shareholders in return for the capital they would have offered to firms. Debt is always desirable if a firm achieves relatively high profits as it results in higher returns to shareholders (positive leverage). If a firm incurs a detrimental as the firm won’t be able to cover the cost of debt (negative leverage), therefore management of such firm must exercise caution in their choice.

Other studies such as Negash (2001) and Phillips and Sipahioğlu (2004) conclude that the tax benefits of leverage are insignificant. Negash (2001), for instance finds that the use of debt has been found to have a negative impact on the profitability of the firms quoted on the Nigeria Stock Exchange. Negash (2001) further argues that, although the potential gains from leverage over an infinite period of time are significant and comparable to what is reported in studies from developed countries, in line with the theory of Modigliani and Miller of 1963. The actual gains, however, are not as implied by the 1963 theory since the effective rate tax for most firms in Nigeria is lower than the statutory rate. This is because non-debt tax minimization effort such as depreciation and amortization (investment and not debt related tax shields) reduce the significance of interest deductions and the tax advantages of debt.

Empirical studies on the static theory discussed above have focused mainly on large firms. Coleman and Cohn (2001) argue that some of the most interesting questions in SMFs finance relate to the extent to which the theories of corporate finance fit the SMFs finance relate to the extent to which the theories of corporate finance fit the SMFs. These researcher question whether these theories, which were developed within the context of large and publicly owned firms, actually work when they are applied to small firms. Rajan and Zingales (1995) indicate that although the study of the capital structure of listed and large firms may be the greatest importance to the financial community, the interest of academic are broader. Academics are interested in studying the whole universe of firms and not just large firms.

Daniel et al. (2006) point out that in the case of small firms, the expected costs of bankruptcy is quite high and the expected cost of financial distress may outweigh any potential benefits from tax
shield. Also, the advantage of the tax shield is limited for small firms. Many small firms have limited revenues and the variability of their operating income can be quite volatile. Therefore, potential benefits of tax shield of interest payments remain doubtful. This is consistent with the results of a study by Sogob (2002) which finds that the fiscal advantage of debt cannot be applied in the SMFs context because small firms are less likely to use debt in order to get shields.

Michaelas et al. (1999) in addition, revealed that minimization of the cost of capital and maximization of profitability through the use of debt finance might not hold for small firms. Small firms find it difficult to borrow from commercial banks for a variety of reasons such as risk. When they are able to borrow from banks, the costs of debt financing for small firms are usually higher than those of large enterprises due to their credit risk. The reliance on debt to finance investment purposes therefore negatively impacts on the performance of small manufacturing firms.

In Nigeria, interest rates on lending are very high compared to the rates in developed countries. According to Madera (2010) the huge appetite for funding and low liquidity levels since the crisis in the financial sector has resulted in punitive lending rates on the market. Companies’ thirst for credit to better the firm’s fortune from a business losses points to a situation of a sustained high interest rate environment relative to those prevailing in the country. Prevailing lending rates range between London interbank offered rate (Libor) plus 10 to 20% for 30 to 90-day paper. Labor is the world’s most widely used benchmark for short-term interest rates. It is the rate at which the world’s most preferred borrowers are able to borrow money. It is also the rate upon which rates for less preferred borrowers are bases. Rates are expected to continue oscillating within their current ranges, firming from current levels to ranges between Libor plus 10 to 25% for 30 to 90-day borrowings.

Therefore, it is more difficult for small manufacturing firms in Nigeria, to earn returns higher than the cost of debt compared to small firms in developed countries despite the existence of Micro-finance banks. Consequently, it is hypothesized that there is a negative relationship between the use of debt and the performance of small scale manufacturing firms in Kogi State of Nigeria.

**Theoretical Framework**

According to Andree and Kullberg (2008) the genesis of modern capital structure theory lies in the work of Modigliani and Miller (1958) in their famous proposition often referred to as the “irrelevance theorem”. The theorem suggests that, as an implication of equilibrium in perfect capital markets, the choice of capital structure does not affect a firm’s market value. Modigliani and Miller (1958) based their irrelevance theorem on certain perfect market assumptions. These assumptions include no corporate taxes, no brokerage or floatation cost for securities, and symmetrical information which implies that investors and managers have the same information about a firm’s prospects and that individuals and firms can borrow at the same rates of interest. It is, therefore, the assets of a firm that determine the value of the firm and not the way by which these assets are financed.

The initial perfect market assumptions, on which the 1958 theory of Modigliani and Miller was based, were later reviewed in 1963 with the introduction of the tax benefits of debt. This is attributed to the fact that a perfect market does not exist in the real world. Since interest on debt is tax deductible, thereby creating tax savings for the borrower, it becomes possible for firms to minimize their costs of capital and maximize shareholders’ wealth by using debt. The tax advantage of debt makes it cheaper than equity. The mixture of cheap debt with relatively investment acceptance decisions is known as the leverage effect of debt, and refers to the use of debt capital to minimize a firms’ cost of capital and maximize its profitability. The tax advantage of debt substantially reduces the cost of debt in a firm’s capital structure. With a corporate tax rate of 5% tax half that of equity. Therefore, debt contributes to the attainment of higher return on equity, Modigliani and Miller (1963).

Therefore, the Modigliani and Miller theory assumes that a firm’s value is maximized when it employs more of debt in its capital structure than equity. When debt is used in the capital structure, the average cost of capital is reduced and profitability enhanced, Modigliani and Miller (1963). Leverage is a financing strategy designed to increase the rate of return on owner’s investment by generating a greater return on borrowed funds than the cost of using the funds. Leverage would be positive if return on assets (ROA) is greater than the before-tax interest rate paid on debt. Negative leverage occurs when a firm generates a ROA that is less than the marginal tax rate proportion. The actual cost of debt would therefore be:

\[ K_d = (1-t) \]
Where
\( K_d = \) cost of debt
\( I = \) interest rate payable (Market interest rate)
\( t = \) the marginal tax rate.
(Correia et al., 2005)

The use of debt therefore reduces the amount of tax to be paid by a firm and increases the return to shareholders whilst use of equity does not enjoy such a benefit. Besides the tax advantage, the cost of debt is generally low as compared to equity due to the lower risk associated with debt as debt holders has the first claim in the case of insolvency, Damodran (1999). Debt also makes planning easy because interest cost on debt is usually fixed which allows efficient planning as the cost will be known. As long as the interest on debt is lower than the return that can be earned on the funds supplied by creditors, this excess return accrues to the owners of the firms as their benefit of using debt Bernstein (1993). Though debt has its fair portion of benefits, it does not come without costs. The major costs associated with debt include bankruptcy, agency costs and loss of flexibility (Damodaran, 1999).

Methodology
Value of a firm refers to the worth of a firm and its futuristic concept, that is, value is derived from a firm’s future benefits. Value of a firm to the owners of a firm is the worth of their equity in the firm. Together, owners and lenders view value as the total worth of the firm’s assets. This therefore entails that the value of a firm is equal to the total capital employed which is also equal to the employment of that capital. Any decisions that are made within a firm should be done to maximize the value of a firm and minimize the risk of the firm. Decisions that maximize the value of firm result in greater returns being generated by the firm (Kriek et al., 2005). In other words, it can be deduced that a change in the value of a firm can be determined by comparing returns to shareholders. An increase in returns to shareholders implies an increase in the value of a firm and a decrease implies a decrease in value, all things being constant.

Data collection
A quantitative research method of data collection was followed in conjunction with a descriptive research methodology which refers to a research methodology that is used to describe a problem or opportunity in detail. Self-administered questionnaires were used to gather primary data. The questionnaires were given to owners/managers of small manufacturing firms to complete and a fieldworker assisted with any misinterpretations. Self-administered questionnaires are free from interviewer bias and the respondents enjoy the convenience of completing the questionnaires at their own pace. In addition, respondents who were otherwise inaccessible were accessed.

The population of the small manufacturing firms for the research study was 50 adhering to the definition applied to this study (Federal Office of statistics of Nigeria, 2006). The database for the selection of respondents was provided by the Ministry of Commerce and industry of Kogi State. The study period is ten years covering 1999 to 2009. The participants were selected using the probability sampling method is used (Roberts-Lombard, 2006).

\[ n \geq N / (1 + Nd^2/10000) \]

Where:
\( N = \) Total population
\( d = \) error estimate with a confidence interval of 96% statistical error
\( n = \) sample size.
Therefore, \( n \geq 20 / (1 + 100(5)/2/10000) \) which implies that \( n \geq 20 \).

Data Presentation and Results
This initial stage for data analysis was to determine ROA, ROE and debt ratio. ROA was used to determine the effect of debt on performance whilst the debt ratio was to determine the capital structure. ROA was calculated by dividing income before interest and tax by average total assets and then...
multiplied by 100 to get the percentage. ROE was calculated by dividing net income with equity and multiplied by 100. Debt ratio is total debt divided by total assets/capital (Damodaran, 1999).

An increase in ROE therefore reflects an increase in the value of a business. It should be noted that debt in the capital structure increases risk and can only benefit the value of the firm if EBIT total assets are greater than before tax interest rate on debt. If not, leverage is negative and the value of the firm is negatively affected. The data collected was analyzed initially by the use of profitability ratios (ROE and ROA). The debt and profitability ratios were further regressed to determine the statistical significance of the relationship between debt and profitability of small manufacturing firms.

### Table 0: Population of Study.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Company</th>
<th>Asset (N) million</th>
<th>Debt (N) million</th>
<th>Income (N) million</th>
<th>Year of registration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paint, electrical &amp; Furniture</td>
<td>Obasion Nig Ltd</td>
<td>3.0</td>
<td>2.0</td>
<td>4.0</td>
<td>2002</td>
</tr>
<tr>
<td></td>
<td>ABC Nig. Ltd</td>
<td>4.0</td>
<td>3.0</td>
<td>2.0</td>
<td>1999</td>
</tr>
<tr>
<td></td>
<td>BACy Paint ltd</td>
<td>3.8</td>
<td>2.90</td>
<td>3.0</td>
<td>2003</td>
</tr>
<tr>
<td></td>
<td>Bytre Nig. Ltd</td>
<td>4.6</td>
<td>2.9</td>
<td>3.2</td>
<td>2001</td>
</tr>
<tr>
<td></td>
<td>Odichuks ltd</td>
<td>4.3</td>
<td>3.4</td>
<td>2.67</td>
<td>2004</td>
</tr>
<tr>
<td></td>
<td>Ojyty Nig Ltd</td>
<td>3.9</td>
<td>2.1</td>
<td>2.0</td>
<td>2001</td>
</tr>
<tr>
<td></td>
<td>Aluminum Nig. Ltd</td>
<td>3.7</td>
<td>3.9</td>
<td>5.8</td>
<td>2002</td>
</tr>
<tr>
<td></td>
<td>Highmoon Ltd</td>
<td>4.8</td>
<td>4.0</td>
<td>5.0</td>
<td>2000</td>
</tr>
<tr>
<td></td>
<td>Lincy Nig. Ltd</td>
<td>4.3</td>
<td>2.0</td>
<td>3.8</td>
<td>2001</td>
</tr>
<tr>
<td></td>
<td>Harpary Nig. Ltd</td>
<td>2.6</td>
<td>3.0</td>
<td>3.0</td>
<td>2002</td>
</tr>
<tr>
<td></td>
<td>TVpy Nig. Ltd</td>
<td>5.0</td>
<td>3.0</td>
<td>3.0</td>
<td>2005</td>
</tr>
<tr>
<td></td>
<td>Diamond Res. Ltd</td>
<td>5.0</td>
<td>5.4</td>
<td>5.4</td>
<td>2001</td>
</tr>
<tr>
<td>Food and Beverages</td>
<td>Lvuy Nig. Ltd</td>
<td>5.0</td>
<td>6.3</td>
<td>6.3</td>
<td>1999</td>
</tr>
<tr>
<td></td>
<td>Niger Paints Ltd</td>
<td>3.0</td>
<td>2.6</td>
<td>2.6</td>
<td>1999</td>
</tr>
<tr>
<td></td>
<td>Tarts Nig. Ltd</td>
<td>4.5</td>
<td>6.0</td>
<td>6.0</td>
<td>2001</td>
</tr>
<tr>
<td></td>
<td>Comfort Nig. Ltd</td>
<td>3.3</td>
<td>2.1</td>
<td>2.1</td>
<td>2000</td>
</tr>
<tr>
<td></td>
<td>Marcry Nit. Ltd</td>
<td>4.5</td>
<td>3.8</td>
<td>3.8</td>
<td>2002</td>
</tr>
<tr>
<td></td>
<td>Bluered Nig. Ltd</td>
<td>5.0</td>
<td>5.1</td>
<td>5.1</td>
<td>1999</td>
</tr>
<tr>
<td></td>
<td>Abdul Enterprises</td>
<td>3.7</td>
<td>6.9</td>
<td>6.9</td>
<td>1999</td>
</tr>
<tr>
<td></td>
<td>Henifex Enterprises</td>
<td>4.6</td>
<td>3.7</td>
<td>3.7</td>
<td>1999</td>
</tr>
</tbody>
</table>

Source: Lokoja LTO-FIRS Annual account returns and Ministry of Commerce and Industry Kogi State.

### Regression equation

A regression equation was used to determine the pattern and strength of the relationship that exist between leverage and value/performance of a small firm. To determine the impact of debt on profitability of a firm, a two – variable regression equation was used. The regression equation that was used is outlined below:

\[ P = a + \beta \text{ Debt ratio} + \epsilon \]

Where P refers to performance; a is constant; \( \beta \) measures association between performance (p) and dept ratio thus, amount by which p changes on average when debt ratio changes by one unit \( \epsilon \) is the...
error or disturbance term. If captures the influence of all other variables affecting performance, except the ones noted in the regression equation (Gujarati, 2003).

RESULTS
The results were generated through the use of ratio analysis. These results are discussed in the sections that follow.

Ratio analysis

Return on Assets (ROA)
ROA was calculated by dividing the firms’ operating profit (earnings before interest and taxes) by total assets. This ratio is often referred to as return on investment (RIO). It measures the overall effectiveness of management in generating profits with its available assets, (Gitman, 2006). In determining whether the use of debt (leverage) is positive, this percentage was compared to the before-tax interest rate on debt, it means that performance of a firm is being magnified consequently creating positive leverage. For this study, the average ROA, calculated by dividing the total of all the ROAs for each firm that participated in the survey by the number of these participants was 69.8.

Return on equity
This refers to the returned on the ordinary shareholders’ investment in the firm (Gitman, 2006). This ratio is also expressed as a percentage and calculated by dividing were calculated by subtracting interest and tax from operating profit. This figure was then divided by shareholders capital. The average ROE for this study was 41.50%.

Debt ratio
Debt ratio measured the proportion of total assets financed by a firm’s creditors. The higher this ratio, the greater the amount of debt used to generate profits (Gitman, 2006). Debt ratio was calculated by dividing total debt by total assets. For the study at hand, the average debt ratio for the respondents was 0.17 (17%).

Hypothesis testing
Hypothesis testing refers to the determination of whether the null hypothesis is accepted or rejected. This section tested the primary hypothesis (null hypothesis) of the study which stated that there is no significant relationship between debt usage and the value of a small manufacturing firm. Before the tests, were implemented a test of the model to determine if its significance was done. The model was as follows:

\[ P = a + \beta_1 \text{Debt ratio} + \epsilon \]

The test was administered to determine if the model measured a real life scenario. Table 1 shows the results of the test.

This study used a 95% confidence level to determine the significance of the test. This means that for the tests to be accepted, the P values had to be less than 0.05. The P value (Pr>F) for the model was 0.001 which is less than 0.05, indicating that the model was statistically significant. Correlation testing was also done to determine if there was a relationship between variables. An extract of the correction testing is highlighted in Tables 3 that follows.

The correlation testing used obtained a figure 0.12836 which portrayed a weak relationship between performance and amount of debt in the capital structure of small firms in Kogi State, Nigeria. A relationship of 12.8% obtained portrays a weak relationship between performance and debt. Table 3 is an extract of the regression procedure used to test the primary hypothesis.

Table 3 is an extract of the regression results used to test the impact of debt usage on the performance of small manufacturing firms the parameter estimate for the equation to determine the impact of debt on performance of small manufacturing firms in Kogi State was -0.00077596. Since the parameter was negative, it implied that the variables (debt and performance) and a negative relationship which means that if the amount of debt in a firm’s capital increases, the performance of the firm would be decreasing. The parameter estimate was negative and statistically significant. This implies that, a dollar increase in profitability. The null hypothesis which stated that there is a negative relationship
between the use of debt and the performance of small manufacturing firms in Nigeria cannot be rejected.

Debt was further broken down into short-term debt and long-term debt and the impact of both on the performance of small manufacturing firms was investigated using the regression equation below:

\[ P = A + B_1 \text{short-term debt} + E_1 \]

### Table 1. Significance of the model on the impact of debt on performance

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Sum of squares</th>
<th>Means square</th>
<th>F-value</th>
<th>Pr&gt;F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>1</td>
<td>34,55659</td>
<td>11.51886</td>
<td>34.78</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>83</td>
<td>27.48695</td>
<td>0.33117</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected</td>
<td>86</td>
<td>62.04255</td>
<td>0.0001</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 2. An extraction on Pearson correcting testing

<table>
<thead>
<tr>
<th>Return on equity</th>
<th>Debt</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on equity</td>
<td>1.00000</td>
<td>0.12836</td>
</tr>
<tr>
<td>Debt</td>
<td>-0.12836</td>
<td>1.00000</td>
</tr>
<tr>
<td></td>
<td>0.2361</td>
<td></td>
</tr>
</tbody>
</table>

### Table 3. Parameter estimate for the regression results.

| Variable       | DF | Parameter estimate | Standard error | t-value | pr>|t| |
|----------------|----|--------------------|----------------|---------|------|
| Intercept      | 1  | 0.50808            | 0.11967        | 4.25    |      |
| Debt           | 1  | -0.00092595        | 0.00077596     | -1.19   | 0.001|

### Table 4. Regression extracts on short-term debt and performance.

| Variable       | DF | Parameter estimate | Standard error | t-value | pr>|t| |
|----------------|----|--------------------|----------------|---------|------|
| Intercept      | 1  | 0.50700            | 0.12522        | 4.05    | <.001|
| Debt           | 1  | -0.00132           | 0.00123        | -1.07   | 0.004|

### Table 5. Regression extracts on long-term debt and performance.

| Variable       | DF | Parameter estimate | Standard error | t-value | pr>|t| |
|----------------|----|--------------------|----------------|---------|------|
| Intercept      | 1  | 0.48932            | 0.10579        | 4.63    | <.0001|
| Long-term Debt | 1  | -0.00242           | 0.00178        | -1.36   | 0.001|

Using the above equation as presented in Table 4 and 5, the result is the same as the test for the relationship between performance and total debt. The impact of short-term debt on performance is the
same as for long-term debt has statistically significant negative relationship with performance. This means that the use of either short-term debt or long-term debt leads to negative relationship with performance. This means that the use of either short-term debt or long-term debt leads to negative leverage as shown by the parameter estimates which are negative.

These results are consistent with several studies that were done in developing countries. These studies found a negative relationship between debt usage and performance of small firms. Such studies include Fataki (2006), Kehle and Shastri (2004), Raji and Sutthisit (2003) and Zou and Xiao (2006). The use of debt was found to reduce the profitability of small firms, in other words, a negative leverage was experienced. The findings of this study does not support the theoretical foundation of this study as was put forward by Modigliani and Miller in 1958 and corrected in 1963. The theory suggested that the use of debt leads to an increase in the value of a firm by reducing the cost of capital and magnifying returns to owners. The inconsistency can be attributed to high interest rates and high cost of funds.

**Summary, Conclusion and Recommendations**

The purpose of the paper was to examine the effects of debt usage on the performance small scale manufacturing firms in Kogi State of Nigeria. To determine whether leverage was positive or negative, regression analysis was used. The results of regression analysis indicated that the use of debt by small manufacturing firms resulted in negative leverage. The results obtained confirmed the null hypothesis postulated namely that there was a negative relationship between debt usage and the value of a small manufacturing firm in Kogi State. Nigeria.

This study did not find any significant positive relationship between debt and performance of a firm. The results are inconsistent with the capital structure theory by Modigliani and Miller ([1963] which formed the basis for this study. The theory argues that firms can use debt to lower their cost of capital and maximize the firm’s value. Based on the results, the following are some recommendations pertaining to the use of debt business financing by the management of small manufacturing firms.

**Use of debt**

Selection of debt as a source of capital finance should be done in line with the costs benefits associated with its use (debt). Cost such as interest charges. Bankruptcy cost and agency cost should be weighed against the tax benefits of debt. The initial phase to assess the impact of using debt on firms’ performance should start by comparing expected ROA to the estimated cost of debt. If the return on assets is higher than the before-tax interest on debt (interest rate), small business owners/managers can then go on to assess any other costs presented as a result of using debt. The reason for not using debt when the before-tax interest on debt is higher than the return on assets in that the use of debt would lead to a decrease in value/ performance (negative leverage) of a firm if sales decline. This can lead to bankruptcy because the firm will not be able to repay its debt.

**Creation of a secondary security exchange**

If the firms cannot merge to enjoy favorable leverage, alternatives to fund rising should be searched. Since the majority of these firms are so small that they cannot obtain funds from the public through a public share issue on the Nigeria Stock Exchange a secondary stock exchange should be established. This is a duty for the government and the SMEs Ministry since the small firms cannot do it themselves. This option was mentioned by the government but it needs to be implemented as soon as possible in order to assist the firms that are already in viable businesses if implemented, small firms should therefore make use of this facility.

**Long-term funding**

Several small firms use short-term debt in their funding overdraft to be specific (according to the findings of this study), which are usually expensive. The loans that offered by government are also supposed to be repaid in 6 months, which is relatively short. Instead of offering loan with a high concession, government can alternatively offer long-term loans at prevailing market rates. This can give SMFs time to stabilize and concentrate on the business rather than thinking about repayment of loans. Offering of short term loans do not promote investments that have longer payback periods even if they are lucrative. Banks perceive small firms to be risky and therefore offer them short-term debt and to counteract that challenge, government should chip in and offer long-term debt is relatively cheap; therefore accessibility of long-term debt can improve on the impact of debt on performance. It is
a cheering new to note the recent Government effort in providing $500m (75bn) through the Bank of industries for the development of SMEs and SGBs. This effort if correctly managed can significantly impact positively on the performance of the small manufacturing firms in the country. (SGBs = Small growing businesses)

Tax incentives
Since the study established that the use of debt, either short-term or long-term did not lead to positive leverage, the small business owners and the government should look at other ways that can lead to an increase in the value of firms. This is because the tax advantages of debt are being outweighed by the costs associated with it. To promote the prosperity of the small businesses, government should offer some financial incentives to promote entrepreneurship. Currently, the government is giving tax incentives to small manufacturing firms located in export processing zone in form of tax holidays, instead of paying 30% tax rate. These types of incentives should be offered to all small manufacturing firms regardless of their location for the creation of a fair business environment.

From the findings of this study, it was found that all SMFs that are making use of cheap government debt are enjoying positive leverage whilst SMFs that are making use of other sourced of debt have negative leverage. This is unfair to all firms that do enjoy the benefits of government debt. The government should therefore, substitute finance subsided for other types of non-financial assistance such as training and red tape reduction. Not providing financial assistance to some firms in the same sector creates an environment for fair competition to all assistance; it should give it at the market rate and reduce extra costs that are incurred by small business owners. Besides being unfair, offering cheap debt also leads to less innovation, less competition, slow growth and few new job creations. By creating a fair playing ground, the government can promote fair competition and growth which can in turn lead to growth and more contributions to unemployment reduction and economic growth.

REFERENCES
Damodaran A (1999). Applied Corporate Finance. New York: John Willey and Sons, inc


