# EFFECT OF MANAGEMENT OF RECEIVABLES RATIO ON CORPORATE PROFITABILITY OF INDUSTRIAL/DOMESTIC PRODUCTS IN NIGERIA

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**ABSTRACT:** *This study examines the effect of the management of accounts receivable ratio on the profitability of industrial/Domestic products manufacturing firms in Nigeria.*
*The variables of this study include accounts receivable ratio, debt ratio and sales growth rate. Only secondary sources of data were used for the period 2000-2011. The hypotheses were tested using the multiple regression technique. The results show that accounts receivable ratio, debt ratio and sales growth rate had positive and significant relationship with the profitability of the firms under study*

**KEYWORDS:** Management, Receivables Ratio, Corporate Profitability, Industrial and Domestic Products, Nigeria

## INTRODUCTION

Profit may only be called real profit after the receivables are turned into cash. The management of accounts receivable is largely influenced by the credit policy and collection procedure of a firm. A credit policy specifies requirement to value the worth of customers to a collection procedure provides guidelines to collect unpaid invoice that will reduce delays for customers who have not yet made payment for goods and services and outstanding receivable. Accounts receivable represent the rate at which the firms collect payments from its costumers (Falope and Ayilore, 2009, Basley and Brigham, 2005, Samiloglu and Damiqunes, 2008, and Sharma and Kumar, 2011. The objective of Debtor management is to minimize the time–lapse between completion of sale and receipts of payment. Excessive level of accounts receivable ratio on profitability may lead to negative effect. This is because if a firm has so many Debtors to pay, they may fall short of cash which may lead to difficulty in the smooth running of their activities, which may also create difficulty in settling their short – term financial obligations. In this study, Nigeria is used at the case study. And to the best knowledge of the researcher, only few Nigerians have studies on this topic and this fills the gap, Industrial /Domestic products manufacturing firms quoted in Nigeria stock exchanges (NSE) were used for a period of 2000-2011.

## Statement of Research Problem

In Nigerian, some workers are out of employment. Example Ajuokuta steel industry reduced their staff from 5000 to 1000 in 2007. Some manufacturing firms even when they are still in business, and are also listed in the Nigeria stock exchange cannot pay divided to their shareholders. It is on this note that the Researcher deemed it necessary to study on this topic: The effect of management of accounts receivable ratio on the corporate profitability of industrial/ Domestic products manufacturing firm in Nigeria from 2000-2011.

## Objectives of the Study.

The main objective of this study is to examine the effect of management of account receivable ratio on the profitability of industrial/ domestic products manufacturing firm in Nigeria.

  Specifically, the study shall be;

1.      To ascertain the effect of accounts receivable ratio on the profitability of the companies under study.
2.      To determine the effect of debt ratio on profitability.
3.      To examine the effect of sales growth rate on profitability of Industrial/Domestic product companies in Nigeria.

## Hypotheses

These hypotheses shall be proven so as to address the objectives of this study.

1.      There is no positive significant relationship between accounts receivable ratio and profitability of industrial/ domestic products manufacturing firms in Nigeria.
2.      There is no positive relationship between debt ratio  and profitability.
3.      Sales growth rate has no positive significant relationship with profitability.

## Review of Related Literature

Ramchanddra, and Janakiraman, (2009), Analyzed the relationship between working efficiency and earnings before interest and tax of the paper Industry in Indian capital management. The study revealed that cash conversion cycle and inventory days had negative correlation with earnings before interest and tax, while accounts payable days and accounts receivable days related positively with earnings before interest and tax. Grzeg m.m (2008) in his study a portfolio management approach in accounts receivable management, used portfolio management theory to determine the level of accounts receivable in a firm. He found out that there was an increase in level of accounts receivable in a firm, and that there was increase both in net working capital and cost of holding and managing account receivables.Jack and Matthew (1994) state in their article management of accounts receivable,that the  simplest  means  of recovering  your accounts receivable  is  to take active steps  to  avoid  the  process  entirely. Venkata  et al (2013), in their  study  impact  of receivables  management  on  working  capital  and profitability :  A  study  of selected cement companies in  Indian, collected  their data from the  Annual Reports of the  selected cement companies from 2001 -2010 the ratios which highlight the efficiency of receivables management viz, receivables to current assets ratio receivable to total assets ratio, receivable to sales ratio, receivable to turnover ratio, average collection period, working capital ratio profitability ratio have been completed using ANOVA  statistical tool to know the impact of working  capital  and profitability  of  the  selected  cement   companies.  Working  capital

management and profitability were considered as dependent variables. The investigation reveals that the receivable management across cement industry is efficient and showing significant impact on working capital and profitability

In ksenija (2013), he investigates how public companies listed at the regulated market in the republic of Serbia manage their accounts receivable during recession times. A sample of 108 firms is used. The accounts receivables polices are examined in the crisis period of 2008-2011. The short-term affects are tested and the study shows that between accounts receivables and two dependent variables on profitability, return on total asset and operating profit margin, there is a positive but no significant relation. This suggests that the impact of receivables on firm's profitability is changing in times of crisis.Research studied by Deloof, (2003), Laziridis and Tryfonidis, (2006),Garcia-Jeruel and Martinez-Solano, (2007), Samiloglu and Demrigunes, (2008), and Mathuva (2010), in belginm, Greece, U.S.A, Spain, turkey and Kenya respectively, all point out to a negative relation between accounts receivable and firm profitability. Contradicting evidence is found by Sharma and Kumar (2011) who found a positive relation between ROA and accounts receivable.

Singh and Pandey (2008) had an attempt to study the working capital components and its impact on profitability of Hildalco industries limited for a period 1990 to 2007. Results of the study showed that receivable turnover ratio had statistical significant impact on the profitability of Hildalco industries limited. Gill et al (2010) seek to extend Tryfonidis findings regarding the relationship between working capital management and profitability. A sample of 88 American firms listed on New York stock Exchange for a period of 3years from 2005-2007. They found statistically significant relationship between the cash conversion cycle and profitability. Sharma and Kumar[2011], in their study revealed that inventory number of days and number of days accounts receivable and cash conversion-period exhibit a positive relationship with corporate profitability.

## METHODOLOGY

This research work focuses on the empirical analysis of the effect of accounts receivable ratio on corporate profitability of some selected industrial/ domestic products manufacturing firms in Nigeria. The ex-post factor research design was used in this study. The records observed were from 2000 to 2011.

### Population and sample size
The population of this study is all the quoted manufacturing firms in Nigeria. The sample size is only companies in industrial & domestic products manufacturing firms, and it is dependent on data availability.

### Nature and Sources of Data
The study used secondary data that were extracted from the Annual Reports and statements of accounts of the selected industrial& domestic products manufacturing firms. The data for this study are profit before tax, debtor, total assets, sales and long term loan.

**Description of Variables**

Dependent variable (profitability) profitability is the dependent variable of this study. Return on total assets was used to analyze the effect the management of accounts receivable has on the profitability of firms under study, (Pandey, 2008)

Profitability $=$ $\dfrac{\text{PBT}}{\text{Total assets}}$

**Independent Variables**

**Accounts Receivable Ratio**: these are customers who have not yet made payment for goods or services which the firm has provided.

Therefore, accounts receivable is calculated as accounts receivable divided by sales. This variable represents the receivable that the firm will collect from its customers. (Samilogu and Demirqunes,2008).

Accounts Receivable $=$ $\dfrac{\text{Receivable (Debtor)}}{\text{Sales}}$

**Debt Ratio**

The debt we mean here is the long term loan which is borrowed from outside, example from banks with interest. They are assumed to be invested. Debt is measured as long term debt (loan) divided by total assets.

Debt $=$ $\dfrac{\text{Total Debt}}{\text{Total Assets}}$

**Sales Growth Rate**

This is the increase or decrease of annual sales measured as a percentage.

It is measured in this study as sales,-$sales_0$ Divided by $sales_0$.

Sales $=$ $\dfrac{Sales_1 - Sales_0}{Sales_0}$

**Technique for test of hypotheses**

The data collected were analyzed using the four functional models of multiple regressions and the best-fitted model to the analysis was selected. The four multiple regression models employed in this study are;-

a)      Linear regression model:

Profitability= $Bo + B1(AR)\ B2(DT)\ + B3(SL) + Ui$

b)      Semi log regression model:

Profitability= $LogBo + LogB1(AR) + LogB2(DT) + LogB3(SL) + Ui$

c)      Double log regression model:

Log Profitability= $LogBo + LogB1(AR) + LogB2(DT) + LogB3(SL) + Ui$

d)      Exponential regression model:

Log Profitability= $Bo + B1(AR) + B2(DT) + B3(SL) + Ui$

**Data Presentation**

Raw Data for Aluminum and Extrusion Company Plc.

| Years | Return on Asset Ratio | Accounts Receivable Ratio | Debt Ratio | Sales Growth Rate (%) |
|---|---|---|---|---|
| 2000 | -0.17457 | 0.029729 | 0.132355 | 149.3861 |
| 2001 | 0.027075 | 0.012892 | 0.129362 | 107.6118 |
| 2002 | NA | 0.030048 | 0 | -9.3444 |
| 2003 | -0.10002 | 4.18E-08 | 0.158807 | 0.055333 |
| 2004 | -0.00359 | 0.020822 | 0.574492 | 46.18196 |
| 2005 | 0.025307 | 0.017938 | 0.489302 | 19.34508 |
| 2006 | 0.069129 | 5.012375 | 0 | -99.8891 |
| 2007 | 0.123379 | 2.240985 | 0.089315 | 20.60725 |
| 2008 | 0.132689 | 0.003673 | 0.066074 | 25.85389 |
| 2009 | 0.183129 | 0.00763 | 0.022846 | 15.72687 |
| 2010 | 0.107863 | 0.00465 | 0.030635 | 6.168729 |
| 2011 | 0.08267 | 0.002038 | 0.043248 | 7.461922 |

Source: Author's Computation from Annual Accounts of Firm 2000-2011.

This company did not make enough profit especially in 2002 where they made no profit. They have up to 5.012 as their receivable ratio in 2006 and lowest of 0.002 in 2011.They did not borrow in 2002 and 2006. Their sales growth rate was high except in 2002 and 2006.

**Raw Data for BOC Cases Plc.**

| Years | Return on Asset Ratio | Accounts Receivable Ratio | Debt Ratio | Sales Growth Rate (%) |
|---|---|---|---|---|
| 2000 | 0.189275 | 0.129458 | 0 | -65.9259 |
| 2001 | 0.168305 | 0.113898 | 0 | 23.40414 |
| 2002 | 0.22658 | 0.138085 | 0 | 16.84696 |
| 2003 | 0.204921 | 0.172972 | 0 | 5.95848 |
| 2004 | 0.105303 | 0.132226 | 0.026881 | 11.35017 |
| 2005 | 0.070344 | 0.164616 | 0.021972 | 12.39635 |
| 2006 | 0.114355 | 0.191811 | 0 | 16.88493 |
| 2007 | 0.148103 | 0.181155 | 0.021285 | 41.95916 |
| 2008 | 1.608196 | 0.180411 | 0 | 7.075497 |
| 2009 | 2.137864 | 1.921697 | 0 | -88.9498 |
| 2010 | 0.244451 | 0.154894 | 0 | 944.6215 |
| 2011 | 0.230765 | 0.227649 | 0 | 2.030441 |

Source: Author's Computation from Annual Accounts of Firm 2000-2011.

BOC Cases Plc did well in 2009 because it made more profit and in other years it did not do well. The highest receivable ratio is 1.921 while they borrowed only in 2004, 2005 and 2007, but did not borrow in other years. They made the highest sales in 2010, followed by 2007 and 2001 while their sales of 2009 were too low.

### Raw Data for First Aluminum Plc.

| Years | Return on Asset Ratio | Accounts Receivable Ratio | Debt Ratio | Sales Growth Rate (%) |
|---|---|---|---|---|
| 2000 | 0.034205 | 0.132706 | 0.017556 | 37.45874 |
| 2001 | -0.05427 | 0.166345 | 0.097599 | 21.64458 |
| 2002 | -0.07504 | 0.219035 | 0.037068 | 3.929083 |
| 2003 | 0.060228 | 0.224367 | 0 | 17.73386 |
| 2004 | 0.029809 | 0.14952 | 0.067587 | 32.34261 |
| 2005 | 0.039676 | 0.141898 | 0.038525 | 26.70396 |
| 2006 | 0.00423 | 1.475335 | 0.035696 | -89.3193 |
| 2007 | 0.013302 | 0.152696 | 0.032279 | 906.843 |
| 2008 | 0.054515 | 0.110184 | 0.023784 | -7.2634 |
| 2009 | 0.005564 | 0.110547 | 0.02233 | 2.598037 |
| 2010 | -0.02837 | 0.068609 | 0 | 5.675414 |
| 2011 | -0.02823 | 0.049816 | 0 | 0.33763 |

Source: Author's Computation from Annual Accounts of Firm 2000-2011.

This company did not make enough profit. The highest return on asset ratio is 0.034 in 2000. The receivable ratio is low. The company did not borrow in 2003, 2010 and 2011. Generally, their sales growth ratio is high. They made huge sales still they could not make enough profit. This is surprising.

### Raw Data for Nigeria Enamelware Plc.

| Years | Return on Asset Ratio | Accounts Receivable Ratio | Debt Ratio | Sales Growth Rate (%) |
|---|---|---|---|---|
| 2000 | 0.055609 | 0.01741 | 0 | -85.3937 |
| 2001 | 0.046812 | 0.019345 | 0 | 29.50315 |
| 2002 | 0.044657 | 0.06316 | 0 | 0.647805 |
| 2003 | 0.035341 | 0.11977 | 0 | 6.281947 |
| 2004 | 0.027997 | 2.796533 | 0 | -90.7981 |
| 2005 | 0.040731 | 0.202927 | 0 | 985.5856 |
| 2006 | 0.037447 | 0.09133 | 0 | -11.4427 |
| 2007 | 0.031938 | 0.055467 | 0 | -0.28251 |
| 2008 | 0.032037 | 0.016147 | 0 | -3.75639 |
| 2009 | 0.091262 | 0.114505 | 0 | 59.79402 |
| 2010 | 0.087434 | 0.013886 | 0 | -2.3203 |
| 2011 | 0.121361 | 0.021459 | 0 | 0.345576 |

Source: Author's Computation from Annual Accounts of Firm 2000-2011.

The return of asset ratio of this company is low, None of the companies got up to 20% of profit. They have more to receive then to pay. They did not borrow at all in the years under study. The highest sales growth ratio is 985.58 in 2005 and they had low ratios in other years.

**Raw Data for VitaFoam Nigeria Plc.**

| Years | Return on Asset Ratio | Accounts Receivable Ratio | Debt Ratio | Sales Growth Rate (%) |
|---|---|---|---|---|
| 2000 | 4.91608 | 0.019497 | 3.169866 | -2.55417 |
| 2001 | 0.790495 | 0.029334 | 0.428224 | 45.97292 |
| 2002 | 0.705918 | 0.701703 | 0.493476 | -88.9543 |
| 2003 | 0.696921 | 0.069525 | 0.499186 | 946.024 |
| 2004 | 0.267607 | 0.070609 | 0.2291 | -6.07238 |
| 2005 | 0.089483 | 0.072786 | 0.170737 | -3.4377 |
| 2006 | 0.125305 | 0.071339 | 0.095042 | 15.18871 |
| 2007 | 0.172302 | 0.044743 | 0.088006 | 51.43039 |
| 2008 | 0.089192 | 0.045076 | 0.136418 | 26.35814 |
| 2009 | 0.101853 | 0.048116 | 0.070708 | 1.79639 |
| 2010 | 0.134751 | 0.071099 | 0.003727 | 34.31674 |
| 2011 | 0.140849 | 0.063647 | 0.006186 | 21.39204 |

Source: Author's Computation from Annual Accounts of Firm 2000-2011.

Vita foam Plc made enough profit of 4.914 in 2000 but little in other years. It also had more o pay than more to receive. They borrowed in all the years under study. The sales growth rate is high from 2006 to 2011 and also in 2001.

**Raw Data for Vono Products Plc.**

| Years | Return on Asset Ratio | Accounts Receivable Ratio | Debt Ratio | Sales Growth Rate (%) |
|---|---|---|---|---|
| 2000 | 0.049152 | 0.320705 | 0 | -97.5338 |
| 2001 | 0.009833 | 0.364824 | 0 | -1.62607 |
| 2002 | 0.056677 | 0.185077 | 0 | 21.44706 |
| 2003 | 0.06283 | 0.151616 | 0 | 15.80251 |
| 2004 | -0.80435 | 0.402993 | 0 | -35.5932 |
| 2005 | -0.21107 | 0.079839 | 0 | -6.63423 |
| 2006 | 0.035496 | 0.092677 | 0 | 14.03441 |
| 2007 | -0.48964 | 0.108948 | 0 | 365.3164 |
| 2008 | -0.12629 | 0.097411 | 0 | -55.1426 |
| 2009 | -0.12209 | 0.247299 | 0 | -28.894 |
| 2010 | -0.18286 | 0.206023 | 0.192664 | -2.34065 |

| 2011 | -0.13616 | 0.222578 | 0 | 23.37397 |

Source: Author's Computation from Annual Accounts of Firm 2000-2011.

This company did not make profit in 2004, 2006, 2007 and2008 but made little profit in other years. The company had more to pay than to receive. There was no borrowing in the year 2000 -2011, sales growth rate was higher in 2007 followed by 2011, while this sales rate in many years are negative.

**Results of Regression Analysis**

**Multiple Regression Analysis showing the effect AR, DT and SL has on Profitability ratio of Aluminum Extrusion Nigeria PLC**

| Variables | Linear Regression | Semi Log Regression | Double Log Regression | Exponential Regression |
|---|---|---|---|---|
| Constant | 0.262*** (4.788) | -0.232** (-3.844) | -0.036 (-0.049) | -1.465*** (-5.495) |
| Accounts Receivable Ratio (AR) | 0.198 (1.557) | 0.081 (0.819) | 0.639 (1.175) | -0.829 (-1.334) |
| Debt Ratio (DT) | -0.032 (-0.207) | -0.046 (-0.371) | -1.571 (-1.035) | 1.114 (1.458) |
| Sales Growth Rate (SL) | 0.001 (1.389) | 0.059 (0.815) | -1.325 (-1.495) | -0.002 (-1.058) |
| $R^2$ | 0.922 | 0.896 | 0.593 | 0.929 |
| Adjusted $R^2$ | 0.786 | 0.714 | -0.120 | 0.805 |
| F-Ratio | 6.774* | 4.929* | 0.832 | 7.482** |

NB*: 1.Profitability=Bo + B1 (AR) + B2(DT)+ B2(SL)+ U*i

 *2. Also, 1%, 5%, 10% levels of significance are represented by   ***; ** and * respectively*
*3. Values in brackets are coefficients while those outside brackets are t-values of the variables*

Specifically the results showed that AR had significant negative relationship with the company's profitability ratio at 1% level of significance. This implies that unit increase in the variable shall bring about corresponding decrease in the profitability ratio of Aluminum Extrusion PLC.Debt ratio had negative and non-significant effect on profitability, while sales growth rate had positive and significant effect on the profitability of the above company.

**B.O.C CASE**

**Multiple Regression Analysis showing the effect AR, DT and SL has on Profitability ratio of B.O.C Case Nigeria PLC**

| Variables | Linear Regression | Semi Log Regression | Double Log Regression | Exponential Regression |
|---|---|---|---|---|
| Constant | -0.551 (-1.668) | 0.351* (2.382) | -0.638** (-2.914) | -1.335 (-0.435) |
| Accounts Receivable Ratio (AR) | 0.001*** (12.202) | 0.131** (2.886) | 0.122 (1.800) | 4.383E-5 (0.088) |
| Debt Ratio (DT) | -9.821** (-3.064) | 0.176* (2.271) | 0.195 (1.702) | 14.032 (0.471) |
| Sales Growth Rate (SL) | 0.000 (1.287) | 0.102 (1.377) | 0.073 (0.664) | 0.000 (0.189) |
| $R^2$ | 0.995 | 0.985 | 0.924 | 0.294 |
| Adjusted $R^2$ | 0.987 | 0.959 | 0.790 | -0.941 |
| F-Ratio | 118.302*** | 37.311*** | 6.921** | 0.238 |

NB*: 1.Profitability=Bo + B1(AR) + B2(DT) + B2(SL) + U*i

*2. Also, 1%, 5%, 10% levels of significance are represented by ***; ** and * respectively*
*3. Values in brackets are coefficients while those outside brackets are t-values of the variables*

While AR had positive but non-significant relationship with the industries profitability, Debt ratio had negative but significant effect on profitability. Sales growth rate had positive and also significant effect on the profitability of the company under study.

**ENAMELWARE**

**Multiple Regression Analysis showing the effect AR, DT and SL has on Profitability ratio of Enamelware Nigerian PLC**

| Variables | Linear Regression | Semi Log Regression | Double Log Regression | Exponential Regression |
|---|---|---|---|---|
| Constant | 0.115** (2.629) | -0.022 (-0.415) | -1.980*** (-6.217) | -0.389 (-0.533) |
| Accounts Receivable Ratio (AR) | 0.023 (0.633) | -0.002 (-0.163) | 0.137 (0.165) | 0.464 (0.757) |
| Debt Ratio Rate (DT) | NA | NA | NA | NA |
| Sales Growth (SL) | -2.177E-7 (-0.008) | 0.463 (0.004) | 0.039 (0.819) | 0.000 (0.772) |
| $R^2$ | 0.704 | 0.693 | 0.765 | 0.350 |
| Adjusted $R^2$ | 0.349 | 0.324 | 0.482 | -0.429 |
| F-Ratio | 1.983 | 1.880 | 2.709 | 0.450 |

NB*: 1.Profitability=Bo + Bi (AR)ii + Bi(STO)ii+ Bi(AP)ii+ Bi(CCC)ii + Bi(LQ)ii + B2DT(control)2i + B2SL(control)2i + U*i

*2. Also, 1%, 5%, 10% levels of significance are represented by ***; ** and * respectively*
*3. Values in brackets are coefficients while those outside brackets are t-values of the variables*

Specifically the results showed that AR had significant positive relationships with the company's profitability ratio at 1% level of significance. This implies that a unit increase in AR shall bring about corresponding increase in the profitability ratio of Enamelware Nigeria PLC.

**VTA FOAM**
**Multiple Regression Analysis showing the effect AR, DT and SL has on Profitability ratio of Vita Foam PLC**

| Variables | Linear Regression | Semi Log Regression | Double Log Regression | Exponential Regression |
|---|---|---|---|---|
| Constant | 0.963 (1.808) | 2.663 (1.606) | 0.658 (1.328) | 2.457* (2.225) |
| Accounts Receivable Ratio (AR) | 0.227 (0.830) | -1.952* (-2.253) | -0.294 (-1.278) | -3.659*** (-6.449) |
| Debt Ratio (DT) | 1.507*** (32.220) | 0.0650 (1.461) | 0.384 0.133 | 0.051 0.527 |
| Sales Growth Rate (SL) | 0.000 (-0.950) | -0.677 (-1.813) | -0.084 (-0.753) | 0.000 (-1.896) |
| $R^2$ | 0.998 | 0.867 | 0.922 | 0.951 |
| Adjusted $R^2$ | 0.995 | 0.633 | 0.786 | 0.886 |
| F-Ratio | 347.90 | 3.712 | 6.768** | 11.190** |

NB: *1.Profitability=Bo + Bi (AR)+ B2(DT) + B2(SL) + U*i
*2. Also, 1%, 5%, 10% levels of significance are represented by ***; ** and * respectively*
*3. Values in brackets are coefficients while those outside brackets are t-values of the variables*

The results of multiple regression analysis for the variable influencing the profitability ratio of Vita foam PLC were summarized. From the results presented above and out of the four functional models of the multiple regression calculated, the Linear Regression model was chosen because it has the highest number of significant variables. Furthermore, the results of the analysis revealed an $R^2$ value of 0.998 thus indicating that 99.3% variation in the profitability ratio (dependent variable) of Vita foam PLC was accounted for by the explanatory (independent) variables considered in the analysis. Specifically the results showed that AR had significant positive effect on the company's profitability ratio at 1% level of significance. Debt ratio had significant positive effect, while sales growth rate had significant but negative effect on firms' profitability.

**Vono products**

**Multiple Regression Analysis showing the effect AR, DT and SL has on Profitability ratio of Vono Product Nigeria PLC**

| Variables | Linear Regression | Semi Log Regression | Double Log Regression | Exponential Regression |
|---|---|---|---|---|
| Constant | -0.166 (-1.894) | -0.080 (-0.662) | -0.413 (-0.737) | 0.014 (0.020) |
| Accounts Receivable Ratio (AR) | -0.488** (-3.621) | -0.351 (-1.847) | 1.417 (1.610) | 1.385 (1.224) |
| Debt Ratio (DT) | 0.257 (0.376) | 0.082 (0.351) | -0.614 -0.572 | 1.202 0.209 |
| Sales Growth Rate (SL) | -0.001 (-4.402) | -0.124 (-2.011) | 0.064 (0.226) | 0.001 (0.450) |
| $R^2$ | 0.924 | 0.769 | 0.789 | 0.620 |
| Adjusted $R^2$ | 0.791 | 0.365 | 0.420 | -0.045 |
| F-Ratio | 6.938** | 1.902 | 2.140 | 0.932 |

NB: *1.Profitability=Bo + Bi (AR) + B2(DT)+ B2(SL)+ U*i

*2. Also, 1%, 5%, 10% levels of significance are represented by  ***; ** and * respectively*

*3. Values in brackets are coefficients while those outside brackets are t-values of the variables*

**TEST OF HYPOTHESES**

**Hypotheses 1**

$H_o$ there is no positive significant relationship between accounts receivable and profitability of industrial/domestic products manufacturing firm in Nigeria

$H_i$ there is positive and significant relationship between accounts receivable and profitability of industrial/domestic products manufacturing firms in Nigeria.

**Multiple Regression Analysis showing the effect AR, DT and SL has on Profitability ratio of Industrial and Domestic Products firms in Nigeria**

| Variables | Linear Regression | Semi Log Regression | Double Log Regression | Exponential Regression |
|---|---|---|---|---|
| Constant | -0.143** (-2.580) | 0.234 (1.262) | -0.622*** (-3.428) | -0.753*** (-7.273) |
| Accounts Receivable Ratio (AR) | 0.001*** (5.371) | 0.026 (0.234) | 0.081 (0.754) | 0.000 (1.317) |
| Debt Ratio (DT) | 1.469*** (17.395) | 0.126 (1.057) | .286** (2.449) | 0.125 (0.793) |
| Sales Growth Rate (SL) | 5.505E-5 (0.396) | -0.044 (-0.462) | 0.006 (0.069) | 0.000 (0.399) |
| $R^2$ | 0.846 | 0.113 | 0.143 | 0.133 |
| Adjusted $R^2$ | 0.830 | 0.016 | 0.049 | 0.038 |
| F-Ratio | 50.357*** | 1.161 | 1.524 | 1.406 |

NB: *1.Profitability=Bo + Bi1(AR)+ B2(DT)+ B3(SL)+ U*i

*2. Also, 1%, 5%, 10% levels of significance are represented by  ***; ** and * respectively*

*3. Values in brackets are coefficients while those outside brackets are t-values of the variables*

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Ratio results show that accounts receivable had positive significant effect on the industries profitability ratio. This implies that a unit increase in the value of accounts receivable shall bring about a corresponding increase in the profitability ratio of industrial/domestic products firm in Nigeria. This means that the null hypothesis is accepted.

**Hypothesis 2**

$H_o$ there is no positive and significant relationship between debt ratio and profitability.

$H_i$ there is positive and significant relationship between debt ratio and profitability.

**Multiple Regression Analysis showing the effect AR, DT and SL has on Profitability ratio of Industrial and Domestic Products firms in Nigeria**

| Variables | Linear Regression | Semi Log Regression | Double Log Regression | Exponential Regression |
|---|---|---|---|---|
| Constant | -0.143** (-2.580) | 0.234 (1.262) | -0.622*** (-3.428) | -0.753*** (-7.273) |
| Accounts Receivable Ratio (AR) | 0.001*** (5.371) | 0.026 (0.234) | 0.081 (0.754) | 0.000 (1.317) |
| Debt Ratio (DT) | 1.469*** (17.395) | 0.126 (1.057) | .286** (2.449) | 0.125 (0.793) |
| Sales Growth Rate (SL) | 5.505E-5 (0.396) | -0.044 (-0.462) | 0.006 (0.069) | 0.000 (0.399) |
| $R^2$ | 0.846 | 0.113 | 0.143 | 0.133 |
| Adjusted $R^2$ | 0.830 | 0.016 | 0.049 | 0.038 |
| F-Ratio | 50.357*** | 1.161 | 1.524 | 1.406 |

NB*: 1.Profitability=Bo + Bi (AR)+ B2(DT)+ B3(SL) + U*i

 *2. Also, 1%, 5%, 10% levels of significance are represented by  ***; ** and * respectively*

*3. Values in brackets are coefficients while those outside brackets are t-values of the variables*

From the results, we can see that there is positive and significant effect of debt ratio on profitability. This also shows that the null hypothesis should be accepted and alternate rejected..

**Multiple Regression Analysis showing the effect AR, DT and SL has on Profitability ratio of Industrial and Domestic Products firms in Nigeria**

| Variables | Linear Regression | Semi Log Regression | Double Log Regression | Exponential Regression |
|---|---|---|---|---|
| Constant | -0.143** (-2.580) | 0.234 (1.262) | -0.622*** (-3.428) | -0.753*** (-7.273) |
| Accounts Receivable Ratio (AR) | 0.001*** (5.371) | 0.026 (0.234) | 0.081 (0.754) | 0.000 (1.317) |

| | | | | |
|---|---|---|---|---|
| Debt Ratio (DT) (Control) | 1.469*** (17.395) | 0.126 (1.057) | .286** (2.449) | 0.125 (0.793) |
| Sales Growth Rate (SL) (Control) | 5.505E-5 (0.396) | -0.044 (-0.462) | 0.006 (0.069) | 0.000 (0.399) |
| $R^2$ | 0.846 | 0.113 | 0.143 | 0.133 |
| Adjusted $R^2$ | 0.830 | 0.016 | 0.049 | 0.038 |
| F-Ratio | 50.357*** | 1.161 | 1.524 | 1.406 |

NB: *1.Profitability=Bo + B1(AR) + B2(DT) + B3(SL) + U*i

 *2. Also, 1%, 5%, 10% levels of significance are represented by   ***; ** and * respectively*

*3. Values in brackets are coefficients while those outside brackets are t-values of the variables*

The results show that sales growth rate has also positive and significant relationship with industries profitability. This means that as the variables increase, it has a corresponding increase in the profitability ratio of the companies under study.

## CONCLUSION

Accounts receivable is an important facet of financial management, and its adequate management brings continuous growth and survival of firms. The purpose of this study is to examine accounts receivable management on corporate profitability of industrial/Domestic products manufacturing firms in Nigeria. Multiple regression technique was used to test the hypothesis and it was found out that both accounts receivable ratio, debt ratio and sales growth rate had positive significant relationship with the profitability of industrial/Domestic products manufacturing firms in Nigeria.

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