

## Effect of Management of Liquidity in Packages Manufacturing Companies in Nigeria

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**Abstract:** This study examined the effect of liquidity management on the profitability of packages manufacturing companies in Nigeria. The variables studied include liquidity ratio, Debt ratio and Sales growth rate. Secondary sources of data were sourced from Annual Reports of three companies under packages Nigeria PLC; for the period 2000-2011. The hypotheses were tested with the use of generalized multiple Regression analytical tool. The findings of the study show that liquidity ratio had significant negative effect on corporate profitability while debt ratio had significant and positive effect on profitability. Sales growth rate had non-significant and also negative effect on the profitability of packages manufacturing companies in Nigeria.

**Key words:** Liquidity • Packages • Multiple Regression and Profitability

### INTRODUCTION

Liquidity management is necessary for all businesses, be it small or large. This means that cash has to be collected from customers so as not to have difficulty in paying short-term debts. Firms that have no liquidity of working capital always face high risk of being insolvent. When a business does not manage its liquidity well, it will have cash shortages and will face the problem of paying its debts. Firms must also take into consideration the issue of managing liquidity thereby ensuring that there is a balance between risk and returns. Firms with adequate liquidity related to their operational size have performed better than firms which have less liquidity in relation with their operational size, [1, 2, 3 and 4]. The liquidity position of any firm depends mainly on its accounts receivable collection and payable deferred policy as well [5 and 6]. In his study Ejelly (2004) [7], elucidated that efficient liquidity management involves planning and controlling current Assets and current liabilities in such a manner that eliminates the inability to meet short-term obligations. Due to the corporate failures prevailing in this country, Nigeria is used as the case study. Few Nigerians studied on this topic and this fills the gap. All the manufacturing firms are the population while companies under packages manufacturing companies quoted in Nigeria stock

exchange are used as the sample size, for the period of 2000-2011, a trend of twelve (12) years. The study examines the effect of liquidity management in corporate profitability of these companies under study.

Mukhopadhyay (2004) [8] states that firms are badly constrained to smoothly run the day-to-day operation if there is negative working capital and also difficult to settle short term obligation..

Singh (2004) states also that the liquidity position of any firm mainly depends upon accounts receivable collection and payable deferred policy as well as inventories conversion period of firms.

Enyi (2005) [9] studies the relative solvency level of 25 sample firms. The finding of the study revealed that the gap created by the inability of traditional liquidity measurement of solvency level, like current ratio, quick ratio and other solvency ratio, to effectively determine the proper size or volume of working capital is fulfilled by the relative solvency level model. In addition, the study revealed that the firms with adequate working capital related to their operational size have performed better than firms which have less working capital in relation with their operational size

Mehar (2001) [10] studies the impact of equity financing on liquidity of 255 firms listed in Karachi Stock exchange for the period 1980-1994 by using a pooled data.

The finding of the study depicted that equity financing plays an important role in determining the liquidity position of firms. From this finding it is concluded that equity and fixed assets have positive relationship with working capital, in the long term, however the liquidity position will be deteriorated with the increases in paid up capital.

[11], elucidates that efficient liquidity management involves planning and controlling current assets and currents liabilities in such a manner that eliminates the risk of inability to meet due short term obligation and avoids excise investment in these assets. Then relationship between profitability and liquidity was examined, as measured by current ratio and cash gap (cash conversion cycle) on a sample of joint stock companies in Saudi Arabia, using correlation and regression analysis. The study found that the cash conversion cycle was of more importance as a measure of liquidity than the current ratio that affect on profitability. The size variable was found to have significant effect on profitability at the industry level. The result was stable and had important implication for liquidity management in various Saudi companies. First, it was clear that there was a negative relationship between profitability and liquidity indicators such current ratio and cash gap in the Saudi sample examined. Secondly, the study also revealed that there was great variation among industries with respect to the significant measure of liquidity.

[12], in his study on the field of working capital management focuses on the routines employed by firms. The research showed that firms which focus on cash management were larger, with fewer cash sales, more seasonality and possibly more cash flow problems, while smaller firms focused more on stock management and less profitable firms were focused on credit management routine. It was suggested that high growth firms follow a more reluctant credit policy towards their customers, while they tie up more capital in the form of inventory. Account payables will increase due to better relations of suppliers with financial institutions which divert this advantage of financial cost to their client [13]. [14], carried out a study on the appraisal of the relationship between working capital and liquid Assets of Nigerian companies. A comparative study of ten selected companies. Specifically, the study seeks to find out whether most Nigerian companies suffer from inadequacy of liquid assets to meet their short term financial obligations. To determine this relationship descriptive approach was adopted coupled with the use of correlation coefficient to establish the nature of the relationship. He recommended that companies should

strive to maintain optimal level, short term bank facilities should be a last resort and companies are encouraged to exploit more cost-effective, finding rights issue to raise the needed working capital.

Bhunia, (2007)[15], studies on liquidity management of public sector iron and steel enterprises in India. He has found out that the actual values of working capital was lower than the estimated value of working capital for both companies under study and poor liquidity position in case of both companies.

[16], studied the impact of working capital management policies on corporate performance of Indian consumer Electronic industry by implementing simple correlation and regression models. They found that no established relationship between liquidity and profitability exist for depicted different types of relationship between liquidity and profitability although majority of the companies revealed positive association between liquidity and profitability.

[15] and [16], in their study liquidity management efficiency of Indian steel companies stated that liquidity management is of crucial importance in financial management division. They went on to say that the optimal of liquidity management could be achieved by company that manages the trade-off between profitability and liquidity management. The paper analyzed the association between the liquidity management and profitability of 230 India private sectors, steel companies obtained from CMIE database. Liquidity management indicators and profitability indicators over the period from 2002 to 2010 were modeled as a linear regression system in multiple correlation and regression analysis. Evidence of petite association between those variables was found. A descriptive statistic disclosed that liquidity and solvency position was very satisfactory and relatively efficient liquidity management was found. Multiple regression test confirmed a lower degree of association between the liquidity management and profitability.

**Statement of Research Problem:** Some manufacturing firms cannot pay dividend to their shareholders; some of these companies listed in Nigeria stock exchange are merged because they cannot stand alone. Many Nigeria manufacturing firms have thrown some of their workers into the unemployment market and they live at the mercy of friends and relatives. It is on this note that the researcher deemed it necessary to go on into this study, to examine the effect of liquidity management on corporate profitability of packages manufacturing companies in Nigeria.

**Objectives of the Study:** The main objective of this study is to examine the effect of liquidity management on corporate profitability of packages manufacturing companies in Nigeria.

Specifically, the study seeks:

- To examine the effect of liquidity ration on corporate liquidity.
  - To ascertain the effect of debt ratio on profitability.
  - To determine the effect of sales growth rate on the profitability of packages manufacturing companies in Nigeria.

**Hypotheses:** The following hypotheses shall be tested:

- There is no relationship between liquidity and profitability.
  - The debt ratio has no relationship with profitability.
  - Sales growth rate has no relationship with the profitability of packages manufacturing companies in Nigeria.

## MATERIALS AND METHODOLOGY

**Research Design:** The research design used in this study is ex-post factor research design. This is because this study involves events that have taken place in the past.

**Population and Sample Size:** The population of this study is all the manufacturing firms in Nigeria, while sample size is only the firms that are under packages manufacturing firms in Nigeria. The sample size is also dependent on data availability.

**Nature and Sources of Data:** Secondary sources of data were used in this study. They were extracted from the Annual Reports and statements of Account of selected packages manufacturing firms in Nigeria. The data for that study include, profit before tax, total Assets, current Assets, current liabilities, long term loan, among others.

## Description of Variables

**Dependent Variables (Profitability):** The dependent variable of this study is firms' profitability. In order to analyze the effect of liquidity management on the firms' profitability, the return on Asset was used because it is an indicator of managerial efficiency (Sing, 2009), Deloof (2003) among others.

$$\text{Profitability} = \frac{\text{PBT}}{\text{Total Assets}}$$

**Independent Variables:** Liquidity Ratio: Liquidity is necessary for on-going concern. It is measured by using current ratio to provide the positive of a business at a particular time.

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

**Debt Ratio:** It has the assumption that when external funds are borrowed from banks at a fixed rate, that they can be invested in the company and a higher interest paid to the bank is gained. It is measured by long term loan/debt to assets.

$$\text{Debt ratio} = \frac{\text{Total debts}}{\text{Total Assets}}$$

**Sales Growth Rate:** This is the increase or decrease of annual sales measured as a percentage of annual sales. In this study sales growth rate was measured as sales<sub>t</sub> - sales<sub>t-1</sub> divided by sales<sub>t-1</sub>.

$$\text{Sales} = \frac{\text{Sales1} - \text{Sales0}}{\text{Sales0}}$$

## **Technique for the Test of Hypothesis**

**Model Specification:** In this study, the independent and dependent variables are used into an equation called multiple regressions. To express the model of multiple regressions in equation modified to suit the respective hypotheses. This study is a time series study that covers 2000-2011.

$$Y = B_0 + B_1 + B_2 \cdot B_3 + U_i \dots$$

where.

**Y = profitability**

$B_1 = \text{Liquidity}[LO]$

$$B_2 = \text{Debt Ratio}[DT]$$

### B3 Sales Growth Rate [SL]

$B_0$  = the intercept of the regression line,

U1 = the error term

To test the competing views on the ( liquidity, Debt and Sales Growth) in Nigeria, we modify the multiple linear regression in equation

$$\text{Profitability} = B_0 + B_1(LQ) + B_2(DT) B_3(SGR) U_i \dots$$

where,

profitability is financial performance, LQ is liquidity, Debt is DT, while Sales Rate is SL.

To ascertain the net impact of working capital management on the corporate profitability in Nigeria, we will control other variables that might impact on profitability. The controlled variables are debt leverage and sales. Thus equation is written as:

$$\text{Profitability} = B_0 + B_1(LQ)i + B_2(DT)ii + B_3(SL)iii + U_i \dots$$

where,

Liquidity is current assets divided by current liability, DT is Debt/Leverage as a ratio of total Assets and SL is sales as a percentage of decrease or increase of the annual sales. The same multiple regressions will be used to estimate the profitability model.

**Computing the Multiple Regression Analyses:** First, values of critical indices in the management of the working capital of the two packages manufacturing firms in Nigeria obtained from Nigeria Stock Exchange were recalculated using the formulae listed in above to achieve the final data used for this study. Secondly the computed data were further subjected to multiple regression analysis. In analyzing the computed data for the variables involved in the study, it was necessary to employ four functional models of multiple regressions in order to determine and select the model that best fitted the analysis. Thus the four multiple regression models employed in the analysis include the linear, semi log, double log and exponential regression models. They are implicitly expressed as follows:

#### **Linear Regression Model:**

$$\text{Profitability} = B_0 + B_1(LQ) + B_2(DT) + B_3(SL) + U_i \dots$$

#### **Semi Log Regression Model:**

$$\text{Profitability} = \text{Log}B_0 + \text{Log}B_1(LQ) + \text{Log}B_2(DT) + \text{Log}B_3(SL) + U_i \dots$$

#### **Double Log Regression Model:**

$$\text{Log Profitability} = \text{Log}B_0 + \text{Log}B_1(LQ) + \text{Log}B_2(DT) + \text{Log}B_3(SL) + U_i \dots$$

#### **Exponential Regression Model:**

$$\text{Log Profitability} = B_0 + B_1(LQ) + B_2(DT) + B_3(SL) + U_i \dots$$

After obtaining the results of the four functional multiple regression models, decisions were therefore taken on which among them should be chosen as the best fit model in the analysis. The choice models were then used in the interpretation of the results. Decision and choice of the best fit model were fundamentally based on the following: a) the one with highest number of significant variables b) significance of F-ratio which measures the fitness of a model in using the independent variables to explain the dependent variable c) the magnitude of the coefficient of multiple determinations ( $R^2$ ). Although decisions on the choice of models were based mostly on ones with highest number significant variables, result of the analysis must necessarily show significant F-ratio. The coefficients of multiple determination ( $R^2$ ) were employed in the study to quantify extent of variation in the dependent variable (profitability ratio) caused by the explanatory (independent) variables considered in the study. Furthermore, the analysis were conducted at 1%, 5% and 10% levels of significance respectively denoted as \*\*\*, \*\* and \* signs against the coefficient values in the result. Again, the two manufacturing firms were computed, analyzed and presented as representative of the sector.

## **RESULTS AND DISCUSSION**

This company has low profit, but higher liquidity ratio, they borrowed in all the years under study but the ratio is low. Their sales growth rate is not too encouraging especially 2000, 2002, 2005 and 2008.

Beta Glass has the highest return on asset of 0.345. In fact, the company did not do well at all. They have highest liquidity ratio of 2.399 in 2011 and lowest of 0.106 in 2009. They did better from 2008 – 2011 than in other years. They only borrowed from 2004 to 2009. They did not borrow in other years. They also made huge sales, but did not make any sale in 2009.

**Packages Sub-Sector:** Based on data availability the two (2) firms under this sub-sector were selected. They firms include: Avon Crown caps and containers Plc and Beta Glass Plc.

It could be seen that sales growth rate is more than 100% even when their receivable is low. This sub-sector did not do well in the results of their operation

Table 1: Raw Data for AVON Nigeria Plc.

Years	Return on Asset Ratio	Liquidity Ratio	Debt Ratio	Sales Growth Rate (%)
2000	0.054965	1.31452	0.055777	-88.4762
2001	0.032087	1.784638	0.008413	5.584376
2000	0.054965	1.31452	0.055777	-5.28902
2001	0.032087	1.784638	0.008413	5.584376
2002	0.034374	1.400889	0.462862	27.76296
2003	0.090574	1.160882	1.085291	17.55113
2004	0.223693	0.617504	0.037123	-95.1786
2005	0.572117	3.365619	0.034906	-32.7802
2006	0.057896	1.147865	0.001356	5224.027
2007	0.066702	1.212119	0.006041	0.373878
2008	0.059838	11.33401	0.043699	-5.78091
2009	0.054331	1.211586	0.009772	34.5
2010	0.019567	1.193709	0.033012	42.184
2011	0.024522	1.264542	0.014386	5.670915

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

Table 2: Raw Data for BETA GLASS Nigeria Plc.

Years	Return on Asset Ratio	Liquidity Ratio	Debt Ratio	Sales Growth Rate (%)
2000	0.34548	0.802416	0	-88.9941
2001	0.078735	0.734279	0	37.17858
2000	0.34548	0.802416	0	-27.1023
2001	0.078735	0.734279	0	37.17858
2002	-0.20646	0.78736	0	7.764795
2003	-0.02561	0.59046	0	72.72593
2004	0.157362	0.838901	0.024207	167196.2
2005	0.060098	0.833077	0.011074	6.973513
2006	-0.00129	0.63737	0	7.744265
2007	0.018956	0.836468	0.001097	26.1771
2008	0.191068	1.13941	0.072007	47.56765
2009	0.236358	1.106158	0.051679	0
2010	0.113309	2.168452	0	-99.9059
2011	0.114813	2.399884	0	13.95163

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

Table 3: Descriptive statistics showing minimum, maximum, mean, standard deviation and variance values of variables for the Packages Sector

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Profit	24	-.2065	.5721	.098400	.1459366	.021
LIQUIDITY	24	.5905	11.3340	1.669695	2.1691181	4.705
DEBT	24	.0000	1.0853	.081367	.2332144	.054
SALES GROWTH	24	-99.9059	167196.1000	7193.965443	3.4096905E4	1.163E9
Valid N (listwise)	24					

Source: computed from Handpicked Data from the Annual Reports and Accounts of 2 quoted companies, 2000 - 2011, and the Fact book, 2010/2011 for firms in the Packages Sector

Table 4: A Cross section comparison of minimum, maximum and mean values of variables in the Packages sub-sector

Variables	Measures	Avon Plc	BETA GLASS Plc
Profitability	MeanMaximumMinimum	0.10750.57210.0196	0.08920.3455-0.2065
Liquidity	MeanMaximumMinimum	2.266511.33400.6175	1.07282.39990.5905
Debt	MeanMaximumMinimum	0.14931.08530.0014	0.010.00.0
Sales Growth Rate.	MeanMaximumMinimum	4.90435224.00-9.18	1.394302E4167196.10-99.9059

Source: Researchers Compilation based on SPSS computation, Version 17.1 Analytical software

(profitability) mean = .0984, in spite of the fact that they have a liquidity ratio of 1.67 approximately 2. This shows that they have cash to settle their obligations. Their external long term debt is minimal.

Companies under packages sub-sector did not perform well in the results of their operation (profitability). Avon made the highest sales mean of 4,91 while Beta Plc made mean of 1.40. Even though Avon did not make enough profit, it is liquid enough to settle its obligations with liquidity mean of 2.27. This is very comfortable. This Sub-sector did not borrow. Beta Plc did not do well in so many areas. For instance it, did not make enough profit, it is not liquid enough to settle its obligations and it owes up to 83%, to his creditors.

**Result of Regression Analysis:** Multiple Regression analysis showing the relationship between profitability ratio, LQ, DT and SL of Avon Nigeria PLC.

## AVON

The results of multiple regression analysis for the variable influencing the profitability ratio of Avon Nigeria PLC were summarized. From the results presented above and out of the four functional models of the multiple regression calculated, the Double log Regression model

was chosen because it has the highest number of significant variables as well as a very significant F-ratio (22.851\*\*\*) value which indicated that the choice model fitted the analysis. Furthermore, the results of the analysis revealed an R<sup>2</sup> value of 0.975 thus indicating that 97.5% variation in the profitability ratio (dependent variable) of Avon Nigeria PLC was accounted for by the explanatory (independent) variables considered in the analysis. Specifically the results showed that LQ had significant but negative relationships with the profitability ratio at 1% levels of significance. This means that unit increases in the variables shall bring about corresponding decreases in the profitability ratio of the industries in Nigeria. Debt ratio had positive and significant relationship while sales growth rate had negative but significant relationship with the profitability of the company under study.

The results of multiple regression analysis for the variable influencing the profitability ratio of Beta Nigeria PLC were summarized above. From the results presented above and out of the four functional models of the multiple regression calculated, the Double log model was chosen because it has the highest number of significant variables as well as a very significant F-ratio (1.331\*\*\*) value which indicated that the choice model fitted the analysis.

Table 5: Multiple Regression Analysis showing the relationship between Profitability ratio and AR, STO, AP, CCC, LQ, DT and SL of Avon Nigeria PLC

Variables	Linear Regression	Semi Log Regression	Double Log Regression	Exponential Regression
Constant	0.344(1.316)	0.105(1.142)	-1.010(-5.179)	-1.144**(-3.021)
Liquidity Ratio (LQ)	0.007(0.521)	0.062(1.018)	-0.044(0.344)	0.013(0.623)
Debt Ratio (DT)	0.186(0.913)	0.058(2.033)	0.1001.656]	0.321(1.088)
Sales Growth Rate (SL)	-1.943E-5(-0.841)	0.007(0.483)	-0.014(-0.453)	-3.264E-5(-0.974)
R2	0.825	0.962	0.975	0.947
Adjusted R2	0.520	0.896	0.932	0.853
F-Ratio	2.702	14.565**	22.851***	10.122**

NB: 1. Profitability=Bo + B1(LQ)i + B2[DT]j + B2[SL]ji + Ui

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

Table 6: Multiple Regression Analysis showing the relationship between profitability and LQ, DT and SL of Beta Nigeria PLC

Variables	Linear Regression	Semi Log Regression	Double Log Regression	Exponential Regression
Constant	0.035(0.038)	0.048(0.051)	-1.290(-0.577)	1.972(0.582)
Liquidity Ratio (LQ)	0.194(0.359)	0.553(0.491)	-2.449(-0.917)	-1.904(-0.971)
Debt Ratio (DT)	1.449(0.249)	-0.011(-0.160)	0.3732.259]	9.827(0.464)
Sales Growth Rate (SL)	1.229E-7(0.072)	-0.019(-0.345)	-0.012(-0.094)	8.502E-7(0.137)
R2	0.296	0.240	0.700	0.347
Adjusted R2	-0.935	-1.090	0.174	-0.797
F-Ratio	0.241	0.180	1.331	0.303

NB: 1. Profitability=Bo + B1(LQ)i + B2[DT]ji + B2[SL]ji + Ui

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

Furthermore, the results of the analysis revealed an  $R^2$  value of 0.700 thus indicating that 70.0% variation in the profitability ratio (dependent variable) of Beta Nigeria PLC was accounted for by the explanatory (independent) variables considered in the analysis. Specifically the results showed that LQ had significant negative relationships with the industries'

profitability ratio at 1% level of significance. This implies that a unit decrease in the variable shall bring about corresponding decrease in the profitability ratio of Beta Nigeria PLC. Debt ratio had positive relationship while sales growth rate had negative and non significant relationship with the Profitability ratio of Beta Glass industries in Nigeria.

### Test of Hypotheses

#### Hypothesis 1:

$H_0$ : There is no relationship between liquidity and corporate profitability.

$H_i$ : There is a relationship between liquidity and corporate profitability.

### Packaging Firms:

Table 7: Multiple Regression Analysis showing the relationship between Profitability and LQ, DT and SL of Packaging firms in Nigeria

Variables	Linear Regression	Semi Log Regression	Double Log Regression	Exponential Regression
Constant	0.375***(3.230)	-0.045(-0.289)	-0.504(-1.236)	-0.608(-1.540)
Liquidity Ratio (LQ)	0.014(0.867)	0.189(1.452)	0.027(0.078)	0.039(0.494)
Debt Ratio (DT)	0.160(0.963)	-0.012(-0.347)	0.277****(2.986)	0.303(0.536)
Sales Growth Rate (SL)	3.054E-7(.355)	-0.009(-0.336)	-0.014(-0.205)	-5.342E-7(-0.183)
R <sup>2</sup>	0.372	0.339	0.649	0.443
Adjusted R <sup>2</sup>	0.097	0.050	0.495	0.200
F-Ratio	1.354	1.174	4.220***	1.822

NB: 1. Profitability =  $B_0 + B_1(LQ)i + B_2(DT)ii + B_3(SL)iii + U_i$

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

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

### DECISION

Result shows that Liquidity ratio had positive and non significant relationship with the company's profitability ratio. This means that the null hypothesis is rejected.

#### Hypothesis 2:

$H_0$ : Debt ratio has no effect on corporate profitability.

$H_i$ : Debt ratio has effect on corporate profitability.

Table 8: Multiple Regression Analysis showing the relationship between Profitability and LQ, DT and SL of Packaging firms in Nigeria

Variables	Linear Regression	Semi Log Regression	Double Log Regression	Exponential Regression
Constant	0.375***(3.230)	-0.045(-0.289)	-0.504(-1.236)	-0.608(-1.540)
Liquidity Ratio (LQ)	0.014(0.867)	0.189(1.452)	0.027(0.078)	0.039(0.494)
Debt Ratio (DT)	0.160(0.963)	-0.012(-0.347)	0.277****(2.986)	0.303(0.536)
Sales Growth Rate (SL)	3.054E-7(.355)	-0.009(-0.336)	-0.014(-0.205)	-5.342E-7(-0.183)
R <sup>2</sup>	0.372	0.339	0.443	
Adjusted R <sup>2</sup>	0.097	0.050	0.495	0.200
F-Ratio	1.354	1.174	4.220***	1.822

NB: 1. Profitability =  $B_0 + B_1(LQ)i + B_2(DT)ii + B_3(SL)iii + U_i$

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

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

## DECISION

This was used to test the long term debt of the companies under study, whether what the borrowed had any effect on their profitability. The result showed that Debt ratio had positive and significant effect on the profitability of these companies this means that they borrowed but still they could not make enough profit. Null hypothesis should be rejected.

### **Hypothesis 3:**

$H_o$ : Sales growth rate has no effect on profitability of packages manufacturing companies in Nigeria

$H_i$ : Sales growth rate has effect on profitability of packages manufacturing companies in Nigeria

Table 9: Multiple Regression Analysis showing the relationship between profitability and LQ, DT and SL of Packaging firms in Nigeria

Variables	Linear Regression	Semi Log Regression	Double Log Regression	Exponential Regression
Constant	0.375***(3.230)	-0.045(-0.289)	-0.504(-1.236)	-0.608(-1.540)
Liquidity Ratio (LQ)	0.014(0.867)	0.189(1.452)	0.027(0.078)	0.039(0.494)
Debt Ratio (DT)	0.160(0.963)	-0.012(-0.347)	0.277*** (2.986)	0.303(0.536)
Sales Growth Rate (SL)	3.054E-7(.355)	-0.009(-0.336)	-0.014(-0.205)	-5.342E-7(-0.183)
R <sup>2</sup>	0.372	0.339	0.649	0.443
Adjusted R <sup>2</sup>	0.097	0.050	0.495	0.200
F-Ratio	1.354	1.174	4.220***	1.822

NB: 1. Profitability =  $B_0 + B_1(LQ)ii + B_2(DT)i + B_3(SL)iii + U_i$

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

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

## DECISION

From the results, it was found out that sales growth rate had negative and significant effect on the company's profitability. This indicates that notwithstanding the huge sales they had, they did not have significant effect on the profit of the companies under packages companies in Nigeria.

## CONCLUSION

Liquidity Management is very important in financial management. This study examined critically the effect of liquidity management on the profitability of selected quoted packages manufacturing companies in Nigeria. Generalized multiple regression technique was used to test the hypotheses and it is observed that liquidity ratio had significant and negative effect on corporate profitability, while debt ratio had significant and positive relationship with the profitability of firms. Sales growth rate had non-significant and negative effect on the profitability of packages manufacturing companies in Nigeria.

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