



## **Effect of Cash Conversion Cycle on the Profitability of Public Listed Insurance Companies**

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### **ABSTRACT**

Cash conversion cycle (CCC) constitutes a powerful metric for discovering how efficiently a company manages its working capital. A company that possesses low CCC is more efficient as it turns its working capital over many times in one year and allows it to generate more sales for the cash invested. This paper sets out to investigate the effect of CCC on the return on assets (ROA) of selected Nigerian quoted insurance firms for the period (2000–2011). The ROA is used as a measure of profitability. Data were collected from the annual financial reports of sampled insurance companies. Multiple regression technique was used in analyzing the model for testing the hypotheses. ROA was used as the dependent variable. While CCC was presented as the explanatory variable, current ratio, debt asset ratio, fixed financial total asset ratio, Growth and Size were all incorporated in the model as control variables. The results indicated that CCC had negative and significant effect on profitability. Based on the findings, the study recommends that Nigerian insurance companies should endeavour to reduce their number of days in CCC always in order to enhance their profitability.

**Keywords:** Cash Conversion Cycle, Return on Assets, Working Capital, Profitability, Nigeria

**JEL Classifications:** G2, G22

### **1. INTRODUCTION**

The ongoing squeeze on cash and credit threatens the survival of enterprises world-wide bearing in mind that they are the sources of the companies' working assets and liabilities which are collectively captioned as "working capital" (Takon, 2013). The cardinal objective of managing working capital efficiently is understandingly to ensure that the firm is capable of continuing to function with sufficient cash flow. The latter enables it to pay maturing short-term debts and defray operational expenses. This involves taking important decisions on aspects like managing accounts receivable and payables, preserving a required level of inventories, as well as the investment of surplus cash.

A very important component of corporate finance is working capital management (WCM). WCM is essential because it affects the liquidity and profitability of a company directly (Murugesu, 2013; Appuhami and Ranji, 2008). Liquidity management is viewed as one of the most crucial financial management concerns because it involves some intense trade-offs between risks and

return which are associated with the management of short term assets and liabilities (Anser and Malik, 2013; Jose et al., 1996; Farris and Hutchison, 2002), Every organization, whether profit-oriented or not, and, irrespective of size and nature of its business, needs some measure of working capital. This is so because working capital constitutes the life-giving force for every economic unit. WCM is one of the most important functions of corporate managers (Achchuthan and Kajamanthan, 2013).

There are two basic means of assessing the WCM of a company, *viz.*,

- Balance sheet concept and studying current liabilities, and
- The concept of cash conversion cycle (CCC).

CCC is a useful and standard measure of a firm's efficiency in its management of its working capital (Attari and Raza, 2012). The CCC period is seen as one of the fundamental ingredients of WCM (Appuhami and Ranji, 2008; Keown et al., 2003; Bodie and Merton, 2000). It is useful as a comprehensive measure because

it effectively takes into consideration the time-lag between the disbursement for the acquisition or procurement of raw materials and the collection from the trade debtors on account of the sale of finished goods (Padachi, 2006). An effective and efficient handling of short-term assets and the corresponding payables is a question of life and death for the business enterprise and has much to do with its continued existence. Every corporate organization is concerned seriously about the best way to sustain and improve its profitability. Consequently, firms have to keep an eye on those factors which affect their profitability. Liquidity management is one of those factors one cannot afford to overlook because it has implications on corporate risks and returns. As a measure of WCM, CCC needs to be explored as to how it may affect the profitability of corporate bodies. Today, owing to the changing world's economic advancement of technology and increased competition among firms, each of the firms is making frantic efforts to enhance its profits. To achieve their profitability enhancement, firms now strive hard to bring their CCC at optimal level (Anser and Malik, 2013).

### 1.1. Purpose of Study

There are many researches focused on the impact of WCM on firm profitability. However, little is yet known regarding the CCC and its effect on the profitability of insurance companies. The purpose of this study, therefore, is to find out the effect of CCC on the profitability of the listed insurance companies in Nigeria.

### 1.2. Scope of the Study

This study focuses on 20 listed insurance companies in Nigeria. The data used for analysis are related to the period 2000–2011.

### 1.3. Significance of the Study

The results of this study will serve as a source of information to insurance companies. It will also be relevant to students of accounting, finance and other related courses for research purposes. To the general public, it will serve as a reference material while management practitioners will find the data and views expressed therein relevant to their day-to-day decision-making activities.

### 1.4. Study Limitations

In this study, only sample data relating to the period 2000–2011 were used. It is envisaged that future researches would focus on the related aspects of liquidity management. This will enable one to gain deeper insight into the determinants and effect of CCC on firm profitability more comprehensively.

The remaining part of this paper follows thus:

Section two provides the review of the literature concerning CCC. Section Three presents the research methodology, Section four discusses and analyzes the findings of the study while the fifth and last section provides the recommendations and conclusion of the study.

## 2. LITERATURE REVIEW

Traditionally, the corporate finance literature focuses more of its attention towards the study of long-term financial decisions which include capital budgeting, capital structure and dividends (Attari

and Raza, 2012). However, it has become obvious that short-term assets and liabilities are very important components of total assets which require careful investigation, just as long-term financial decisions do. This is so because WCM plays a vital role in the firm's profitability, risk and value. Howorth (2003) and Deloof (2003) both argue that companies endeavour to keep optimal levels of working capital which maximize their value.

In the recent past, literature had explored the different variables which represent liquidity and their effects on profitability. It had investigated the relationship of accounts payable management, accounts receivable management and cash-to-cash cycle management with profitability management. The studies provided different and conflicting results with regard to how the length of Cash Cycle affects profitability, while using different proxies for profitability (Anser and Mallk, 2013; Deloof, 2003; Nobanee, 2005; Lazaridis and Tryfonidis, 2006; Raheman and Nasr, 2007; Demirgunes and Samiloglu, 2008; Enqvist et al., 2011; Stephanou et al., 2010; Raheman et al., 2010; Mathuva, 2010; Danuletiu, 2010; Alipour, 2011).

The concept of CCC was first introduced by Richards and Laughlin (1980) (Attari and Raza, 2012). It is used as a powerful tool for measuring how well a company employs its WCM practices. Gentry et al. (1990) posited that the firm's market worth is invariably associated with the CCC. When a firm manages its cash efficiently, that will translate to an increase in the net present value of its cash flows which would in turn result in the increase in its market value. In the same vein, a shorter CCC period would eventually result in a higher profitability of the firm. This is as a result of the fact that the cost of using the funds is decreased when the WCM practices are efficient. A shorter CCC period implies one, or all, of the following.

- i. A reduced inventory turnover period in days; that is, quicker processing of materials.
- ii. A reduced receivables turnover in days; that is, speedy collection from trade debtors.  
A reduced payables turnover in days; that is, slow payments to trade creditors (Attari and
- iii. Raza, 2012), Besley and Brigham (2005) defined CCC as: *"The length of time from the payment for the purchase of raw materials to manufacture a product until the collection of accounts receivable associated with the sale of the product."*

To account for the efficiency of a firm's cash management, researchers and practitioners use the CCC parameter. They do so by looking at the variables like inventory turnover, debtors turnover and the payables turnover. The CCC length in days is calculated as:  $CCC \text{ days} = \text{inventory turnover days} + \text{receivable turnover days} - \text{payables turnover days}$ . Given the equation above, it is evident that, in order to meet the fundamental objective of efficient cash management, it is necessary for firms to handle both the receivables side and payable side efficiently. The CCC figure can be either positive or negative. A positive CCC shows the number of days that management must arrange for or borrow cash or resort to its available liquid asset before receiving cash from its accounts receivables. On the contrary, a negative CCC can be

regarded as highly beneficial since it implies that the company has already received cash from its debtors by the number of days prior to discharging its obligation to its creditors (Hutchison et al., 2007; Uyar, 2009). In the interest of efficient financial management, therefore, firms should endeavour to keep their CCC days at a minimum level or, preferably, negative level. Uyar (2009) and Bodie and Merton (2000) both suggested that this objective can be achieved by either curtailing the firm's stock turnover days, quick collections from trade debtors or delaying the payment of current obligations, utility, etc.

Since the introduction of the CCC concept, many researchers have ventured to investigate its importance. Schilling (1996) observed that an increase in CCC would occasion an increase in the minimum liquidity requirement of the firm; and, vice versa. Schilling (1996) also posited that the optimal level of liquidity position is achieved at its minimum level and that the optimal liquidity level moves up and down in the same direction as the CCC. For Shin and Soenen (1998), there is a significant impact of efficient CCC on the profitability and liquidity of firms. Lyrouti and Lazardis (2000) opined that, while profitability depends on WCM, CCC affects the liquidity of the firm significantly. It is the contention of Filbeck and Krueger (2003) that some other factors, like interest rate, also have an impact on WCM. If the interest rate rises, it will make the CCC period longer. While Deloof (2003) argued that the time duration for the collection of receivables ought to be shortened for better performance, Nobanee et al. (2004) maintained that it is the inventory days that the firm has to shorten for better performance. Eljelly (2004) observed a significant inverse relationship and linkage between liquidity and profitability. Padachi (2006) found out that a higher investment in inventories by a firm will diminish the optimal level and will make the profit go down. Garcia-Teruel and Martinez-Solano (2007) discovered that firm's profitability would be enhanced by reducing the days in receivables, days in inventories and the length of CCC. It suggested that firms should delay in making payment to ensure efficient performance. Both Hutchison et al. (2007) and Dong and Su (2010) observed a significant association between CCC and the return on investment of firms. They observed an inverse relationship between CCC and firm's profitability, Raheman and Nasr (2007) observed a significant and negative association of the components of liquidity with profitability and posited that, for better performance, the time duration for the collection of receivables should be shortened. Appuhami and Ranji (2008) indicated that operating cash flows have some significant effect on a firm's WCM. Koumanakos (2008) noted that the lower the rate of return the higher the average inventories are conserved. While Afza and Nazir (2009) discovered a significant positive relationship between WCM and profitability, Sharma and Kumar (2010) saw a positive relationship between the length of CCC and profitability. Luo et al. (2009) stated that when the value of the firm increase, the cash cycle will decrease. Gill et al. (2010) and Karaduman et al. (2011) argued that if a firm maintains its accounts receivable, accounts payable and inventories optimally, it will generate maximum profit. According to the view of Ebaid (2011), current cash flows have significant impact on firm profitability. Randall and Farris (2010) opined that, by implementing a collaborative cash-to-cash management cycle via the adoption of weighted

average cost of capital, firm profitability would be enhanced. Johnson and Templar (2011) asserted that return on capital and length of cash cycle would be increased by some change of proxy. According to Demirgunes and Samiloglu (2008), the companies having shorter CCC may not require external financing. They would have less borrowing cost and, hence, increased profitability. Chiou et al. (2006) asserted that efficient CCC helps a firm to source capital externally with ease in order to invest in other business ventures.

### 3. RESEARCH METHODOLOGY

The purpose of this research is to contribute towards a very important aspect of financial management as it relates to the insurance industry in Nigeria. Earlier literature indicates mixed results on the relationship between CCC and firm profitability. Consequently, it was deemed necessary to investigate further the relationship under a different setting in order to generalize the results better for further propositions in this direction.

This study investigated whether or not CCC has a significant impact on the ROA of listed Nigerian insurance firms. The study completely relied on historical accounting data extracted from the annual financial statements of 20 insurance firms listed on the Nigerian stock exchange (NSE) for the period 2000–2011. Ex post facto research design was adopted. Audited annual financial reports were deemed to be most authoritative, accessible and reliable documents for assessing the performance of the affected firms. The data generated were used to run both cross-section and time series regression. The multiple regression technique was used for analyzing the model. The model was stated after ensuring the stationarity of the time series data and after testing for multi-collinearity problems. Regression analysis used because of the statistical dependence of one variable (ROA) on the independent variable (CCC). Current ratio, debt asset ratio, fixed financial total asset ratio, size and growth were introduced in the model as control variables. The study explained how insurance companies can boost their revenue and generate higher profits by using their available resources optimally. The variables studied are calculated thus:

- a.  $CCC = \text{Receivable collection period} - \text{payables payment period}$   
(This study excluded inventory period from the calculation of the CCC since, according to Waweru (2011), insurance is in the service industry which does not keep stock).
- b.  $\text{Return on assets} = \frac{\text{net profit after tax}}{\text{average total assets}}$
- c.  $\text{Current ratio} = \frac{\text{current assets}}{\text{current liabilities}}$
- d.  $\text{Fixed financial total assets ratio} = \frac{\text{fixed financial assets}}{\text{average total assets}}$
- e.  $\text{Debt asset ratio} = \frac{\text{average total debts}}{\text{average total asset}}$
- f.  $\text{Growth (per capita gross domestic product growth rate [GDPGR])} = \frac{\text{growth rate in the previous year for insurance firm } i \text{ in time } t}{\text{growth rate in the previous year for insurance firm } i \text{ in time } t}$
- g.  $\text{Size} = \text{natural logarithm of total assets for insurance firm } i \text{ in time } t$

Return on assets (ROA) was also used as a measure of profitability in studies like firms Afza and Nazir (2009). Van-Horne and Wachowicz (2005) viewed ROA as a measure of the overall effectiveness of the



firm in generating profit with the available assets. The measure of ROA used here, which is most often used in the literature owing to its simplicity, is defined as  $ROA = \frac{\text{net income after taxes}}{\text{average book value of assets}}$  (Demirgunes and Samilogu, 2008; Falope and Ajilore, 2009; Afza and Nazir, 2009). CCC is a proxy for WCM efficiency.

Current ratio, which is a measure of liquidity, was also used by studies like Shin and Soenen (1998) and Sharma and Kumar (2001). It is a measure of a firm's short term solvency.

Debt asset ratio, a proxy for leverage, was also used in the studies like Raheman and Nasr (2007); Shin and Soenen (1998). Fixed financial total asset ratio was equally used as a control variable by studies like Deloof (2003); Raheman and Nasr (2007), Dong and Su (2010); Lazaridis and Tryfonidis (2006) and Mathuva (2010).

Size, which is proxied by the natural logarithm of total assets (NLTA) was also used by Gill et al. (2010), Padachi (2006) and Alipour (2011) to control for economies of scale, growth, which is represented by GDPGR, was also used by Mathuva (2010) and Enqvist et al. (2004) to control for inflationary pressures which affect working capital components.

**3.1. Research Model**

This study used the Uyar (2009) model. The general form of the model for a multiple regression analysis is given in the following form:  $Y = b_0 + b_1x_1 + b_2x_2 + \dots + b_nx_n$  (1)

On the basis of the review of the related literature the following relationships have been predicted and further tested statistically in order to conclude the results of the study:

$$ROA_{it} = b_0 + b_1(CCC_{it}) + b_2(CR_{it}) + b_3(FFTAR_{it}) + b_4(DAR_{it}) + b_5(GDPGR_{it}) + b_6(NLTA_{it}) + e_{it}$$

Where,

ROA=Return on assets

CCC=Cash conversion cycle

CR=Current ratio

FFTAR=Fixed financial total asset ratio

GDPGR=Per capita gross domestic product growth rate

DAR=Debt asset ratio

NLTA=Natural logarithm of total assets

$b_0$ =The intercept of the equation

$b$ =The coefficient of the variables

$i$ =Insurance firm 1, 2, 3---20<sup>th</sup>

$t$ =year 1, 2, 3 12<sup>th</sup>

$e$ =Error term.

Table 1 shows the expected signs of the coefficients of the key variables in the model. based on the WCM theory.

**3.2. Population and Sampling**

For the purpose of this study, the data of the insurance companies quoted on the NSE were used to measure the effect of CCC on the profitability of listed insurance companies in Nigeria. The population is made up of all the quoted insurance companies, a sample of 20 was selected on the basis of availability of information for the period of study. The study made use of 12 years financial statement of the sampled firms (2000–2011).

**3.3. Data Collection**

Secondary data were extracted from the financial statements obtained from the websites of the national insurance commission, the securities and exchange commission and from the corporate headquarters of the sampled firms.

**3.4. Hypothesis**

This is stated as follow:  $H_0$ : CCC does not have a significant effect on the profitability of listed Nigerian insurance companies.

**4. DATA ANALYSIS AND DISCUSSION OF RESULTS**

Descriptive statistics of the study for 20 insurance firms (2000–2011) with observations of 240 firm years are presented in Table 2. The statistics depict that the mean value of the variable (ROA) is around 10 per cent with standard deviation of ±0.21. The mean value of CCC of all the listed insurance companies as sampled is around minus 0.8 days. Hence it may be concluded that on the average, listed insurance companies in Nigeria faced low profitability during the period under review as represented by their ROA. On the average, the insurance firms had good CCC but the high standard deviation of ±9870.866 implies that the companies are dispersed widely on it.

**Table 1: Key variables and their expected effects on return on assets**

Variable	Type	Expect sign of coefficient	Rationale
CCC	Independent variable	Negative	CCC ROA ↑ → ↓ →
CR	Control variable	Positive	CR ROA ↑ → ↓ →
FFTAR	Control variable	Positive	FFTAR ROA ↑ → ↓ →
GDPGR	Control variable	Positive	GDPGR ROA ↑ → ↓ →
DAR	Control variable	Positive	DAR ROA ↑ → ↓ →
NLTA	Control variable	Positive	NLTA ROA ↑ → ↓ →

ROA: Return on assets, CCC: Cash conversion cycle, CR: Current ratio, FFTAR: Fixed financial total asset ratio, GDPGR: Per capita gross domestic product growth rate, DAR: Debt asset ratio, NLTA: Natural logarithm of total assets

The mean  $\pm$  standard deviation for the control variables such as CR, FFTAR, GDPGR, DAR and NLTA were  $6.000 \pm 9.2229$ ;  $4.601 \pm 62.869$ ;  $774.745 \pm 434, 608$ ;  $0.659 \pm 1.694$  and  $68930, 96 \pm 51338.45$  respectively.

#### 4.1. Correlation Analysis

Table 3 shows the Pearsons correlation matrix and shows how the CCC correlated with the ROA As evident on Table 3 CCC has a strong negative relationship with ROA ( $r = 0.680$ ) at 0.01 level of significance.

#### 4.2. Collinearity Statistics

##### 4.2.1. Source SPSS output on firms annual report (2000–2011)

The collinearity statistics in Table 4 show that the tolerances are far away from 0, thereby indicating the absence of multicollinearity. This implies that the predictors are not highly inter correlated.

**Table 2: Descriptive statistics**

Variables	Obs	Mean	SD	Minimum	Maximum
ROA	240	0.103363	0.211776	0.0000	2.590000
CCC	240	-0.830182	9870,866	-116950.6	37984,48
CR	240	6.000311	9.228802	0.020000	62.9000
FFTAR	240	4.6000575	62.8658	0.0000	945.5300
GD (GR)	240	774.7500	434.6076	125.0000	1984.000
DAR	240	0.659823	1.694071	0.0000	23.21000
NLTA	240	68930.96	51338.46	0.0000	608492

Source: Computed from the data obtained from the annual reports of quoted insurance companies. ROA: Return on assets, CCC: Cash conversion cycle, CR: Current ratio, FFTAR: Fixed financial total asset ratio, GDPGR: Per capita gross domestic product growth rate, DAR: Debt asset ratio, NLTA: Natural logarithm of total assets, SD: Standard deviation

**Table 3: Correlation matrix**

Table	Matrix	Statistics	ROA	CCC	CR	FFTAK	GDPGR	DAR	NLTA
ROA	Pearson	r	1	-680	018**	0.784	-003	0.781**	0.015
	Correlation	P-value		0.008	0.791	0.000	0.969	0.000	0.826
	Sig (2 tailed)	n		219	225	226	226	226	226
CCC	Person	r		1	-0.208**	0.002	0.047	0.112	0.069
	Correlation	P-value			0.002	0.975	0.491	0.098	0.311
	Sig (2 tailed)	n			218	219	220	219	220
CR	Pearson	r			1	-0.017	-0.061	-0.008	0.006
	Correlation	P-value				0.805	0.364	0.901	0.929
	Sig (2 tailed)	n				225	225	255	225
FFTAR	Pearson	r				1	-0.011	889	-0.1003
	Correlation	P-value					0.867	0.000	0.968
	Sig (2-tailed)	n					226	226	226
GDPGR	Pearson	r					1	-1032	-024
	Correlation	P-value						629	0.724
	Sig (2 tailed)	n						226	228
DAR	Pearson	r						1	-0.005
	Correlation	P-value							0.936
	Sig (2 tailed)	n							226
NALTA	Pearson	r							1
	Correlation	P-value							
	Sig (2 tailed)	n							

\*\*Correlation is significant at the 0.01 level (2-tailed). \*Correlation is significant at the 0.05 (2-tailed). Source SPSS output on firms' annual reports (2000–2011). ROA: Return on assets, CCC: Cash conversion cycle, CR: Current ratio, FFTAR: Fixed financial total asset ratio, GDPGR: Per capita gross domestic product growth rate, DAR: Debt asset ratio, NLTA: Natural logarithm of total assets, SD: Standard deviation

The partial correlation coefficients indicate the contribution of the independent and control variables to ROA.

#### 4.3. Regression Analysis

In order to check the relationship between the studied variables, regression analysis was used. This was done after adjusting for the heteroskedasticity of the data to minimize the effects of outliers.

ROA was regressed with the independent and control variables to obtain the outcome of the predicted relationship.

As earlier stated, the null hypothesis for this study is CCC does not have a significance effect on ROA of the listed Nigerian insurance companies.

#### 4.4. Decision Rule

1. Accept  $H_0$  and reject  $H_a$  if the probability value of the t-statistic is  $>0.05$  level of significance
2. Reject  $H_0$  and accept  $H_a$  if the probability value of the t statistic is  $\leq 0.5$  level of significance.

The regression result in Table 5 discloses that the probability value (0.021) of the t-statistic is  $<0.05$  level of significance for the variable (CCC) tested, Consequently, the null hypothesis is hereby rejected and the alternative hypotheses is accepted.

The regression coefficient ( $-1.10.1 \times 10^7$ ) is negative. This implies that CCC has a significant negative effect on the profitability of listed Nigerian insurance companies. It therefore means that an increase in CCC will occasion a decrease in the profitability of

**Table 4: Collinearity statistics**

Model	Correlation	Collinearity		Statistics	
	Zero order	Partial	Part	Tolerance	vif
Constant					
CCC	048	0.006	0.004	0.896	1.116
CR	0.019	6.049	0.028	953	1.049
FFTA	1786	0.309	192	899	1.028
DAR	0.782	287	177	996	1.098
GDPGR	008	0.022	0.013	992	1.008
NLTA	016	0.022	0.013	994	1.006

CCC: Cash conversion cycle, CR: Current ratio, FFTA: Fixed financial total asset, GDPGR: Per capita gross domestic product growth rate, NLTA: Natural logarithm of total assets

**Table 5: Regression table result of equation of cash conversion cycle with dependent valuable (ROA)**

Dependant variable: ROA				
Method: Panel least squares				
Date: 04/20/15 time 08.26				
Sample 1228				
Included observations: 240				
Excluded observations: `10				
Cross sections included: 20				
White heteroskedasticity. Consistent standard. Errors and covariance				
Variable	Coefficient	Std error	t-statistic	Prob.
C	0.59983	0.031149	1.925672	0.0555
CCC	-1.01E-07	8.98E-07	0.113044	0.0021
CR	0.000655	0.000455	1.441642	0.1509
FFTAR	0.001452	0.001124	1.291413	0.1980
DAR	0.049651	0.046736	1.062401	0.2893
GDPGR	6.68E-06	1.75E-05	0.381972	0.7029
NLTA	-5.24E-08	1.26E-07	-0.416034	0.6778
R <sup>2</sup>	0.650702			
Adjusted R <sup>2</sup>	0.640769			
S.E of regression	3.507369			
Sum squared Log likelihood	140,8009			
Durbin-Watson stat	1.817920			
Mean dependent var	0.105505			
S.D dependent var.	0.216111			
Akaike in to criterion	1.227532			
Schwarz criterion	1.118855			
F-statistic	65.51145			
Prob (f. static)	0.00000			

Source: SPSS output on firm's annual reports (2000–2011). ROA: Return on assets, CCC: Cash conversion cycle, CR: Current ratio, FFTAR: Fixed financial total asset ratio, GDPGR: Per capita gross domestic product growth rate, DAR: Debt asset ratio, NLTA: Natural logarithm of total assets, SD: Standard deviation

a listed insurance firm in Nigeria as indicated by the negative regression coefficient. The coefficient of determination ( $R^2 = 0.65$ ) indicates that more than half of the variations in ROA is explained by the model. The Durbin Waston statistic is close to 2. This means that there are no autocorrelation problems. Hence the model:

$$ROA = 0.059 - 1.01E-07 CCC + 0.0006CR + 0.001 FFTAR + 0.05DAR + 6.68E-06GDPGR - 5.24E-08NLTA.$$

From the results above, it is evident that when the CCC is relatively shorter, the insurance company may not require external financing. This results in incurring less borrowing cost, thereby making room for profitability. This agrees with the findings of DeLoof (2003), Uyar (2009), Padachi (2006), Shin and Soenen (1998), Jose et al. (1996), Raheman and Nasr (2007). This also demonstrates the fact that CCC decrease is one of the key and most important factors for profitability increases as well as increase in corporate value. An implication for the negative relationship between CCC and ROA can be explained by the fact that minimizing the investments in current assets is capable of helping to enhance profitability. This ensures that liquid assets are not kept in the business for too long and that they are utilized in generating profit for the company (Mathuva, 2010).

## 5. CONCLUSION AND RECOMMENDATIONS

This study empirically analyzed the effect of CCC on the profitability of the listed Nigeria insurance companies. The results showed that CCC had a significant negative effect on ROA, implying that the decrease in CCC would lead to an increase in the profitability of a listed Nigerian insurance company. It is recommended that further studies involving all insurance companies in Nigeria should be attempted. In addition, further studies on the topic should make use of more variables and extend the period of the study for the purpose of generalization of results.

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