

EFFECTIVE WORKING CAPITAL MANAGEMENT AND THE PROFITABILITY OF QUOTED BANKS IN NIGERIA

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ABSTRACT: *This study examines the effects of working capital management on the profitability of Deposit Money Banks (DMBs) quoted on the Nigerian Stock Exchange for single period of year 2013. The paper adopts Returns on Equity (ROE) and Returns on Assets (ROA) as dependent variables for profitability while Current ratio (CRR), Profit before taxation to current liabilities (PCL), Operating cash flow to current liabilities (OCL) and Cash balance to total liabilities (CTL) are proxies for working capital and as well independent variables. The annual account and report of all the eleven banks quoted on the Nigerian Stock exchange as at 2013 served as the sources of data, regression was used to determine the relationship between the dependent and the independent variables, and the study finds that significant and positive relationship exist between the working capital management and the profitability of the DMBs in Nigeria. The findings indicate that the two profitability proxies are positively affected by all the elements of working capital management. The paper noted variety of components of working capital and profitability; this therefore means that banks are to ensure that appropriate management of working capital is essential for achieving its objective of maximizing the profitability.*

KEYWORDS: Working Capital Management, Profitability, Deposit Money Banks.

INTRODUCTION

The term cash includes coins, currency and cheques held by firms and balances in their banks account, whereas fund differ in the sense that, it is a broader term than cash. It is simply interpreted as the sum of cash at hand and in bank as well as cash equivalents. (e.g, investments held as current assets). Most firms therefore describe fund as working capital, which is the excess of current assets over currents liabilities. From the forgoing, working capital can simply be put as the cash available at hand for the day to day running of the firm. It is therefore important that firms should ensure sufficient working capital since shortage may undermine operations and on the other hand, excessive working capital may not result in optimal profitability. This therefore calls for efficient management of working capital so as to maintain a sound working capital position of a firm.

Kaur (2010) describes Working Capital Management as all management decisions and actions that ordinarily influence the size and effectiveness of the working capital. Kaur further asserts that, it is concerned with the most effective choice of working capital sources and the determination of appropriate levels of the current assets and their use. This clearly focuses attention to the managing of current assets, current liabilities and the relationships that exist between them. The basic objective of working capital management is to manage firm's current assets and current liabilities,

in such a way, that working capital are maintained, at a satisfactory level. The working capital should neither be more nor less, but just adequate.

According to Smith (1980), working capital management plays an important role in a firm's profitability and risk as well as its value. There are a lot of reasons for the importance of working capital management. Efficient management of working capital plays an important role of overall corporate strategy in order to create shareholder value (Dong and Su, 2010). The way of working capital management can have a significant impact on both the liquidity and profitability of the company (Shin and Soenen, 1998).

Few studies (Adenikinju and Ayorinde, 2001 and Sanda, Mikailu and Garba, 2005) have been conducted so far on the Nigerian business environment; hence the study intends to reduce the knowledge gap by concentrating on the banking sector. This work is empirical in nature and will utilize data of all the Deposit Money Banks quoted on the Nigerian Stock Exchange as at December 2013.

The rest of the paper was organized as follows: Section 2 discusses on the literature review, where both theoretical and empirical studies on previous works are looked into. It also incorporates the effects of working capital management on firms' profitability in Nigeria. In section 3, the methodology of this study is considered. Empirical results and discussions are made in section 4, while section 5 concludes the study and make recommendation.

The Study Objectives

This research is focus on the effectiveness of working capital management and its impacts on profitability of quoted Deposit Money Banks in Nigeria. This can be achieved when the following specific objectives are met.

1. To identify the components of working capital management of the Deposit Money Banks quoted on the floor of the Nigeria Stock Exchange.
2. To examine the relationship of different components of working capital management on profitability of Deposit Money Banks quoted on the floor of the Nigeria Stock Exchange.

The Study Hypotheses

For the purpose of this study, the following null hypothesis was tested:

H₀: There is no significant relationship between the different components of working capital management and profitability of Deposit Money Banks quoted on the Nigeria Stock Exchange.

LITERATURE REVIEW AND CONCEPTUAL FRAME WORK

Many research works have been undertaken by various authors on working capital management: The followings are interesting and useful for this research: Eljelly (2004), examined the relation between profitability and liquidity, 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 affects profitability. The size variable was found to have significant effect on profitability at the industry level. The results were stable and had important implications for liquidity management in various Saudi companies. First, it was clear that there

was a negative relationship between profitability and liquidity indicators such as current ratio and cash gap in the Saudi sample examined.

Deloof (2003) assesses the relationship between working capital management and profitability. Using correlation and regression tests he found a significant negative relationship between gross operating income and the number of days accounts receivable, inventories and accounts payable of Belgian firms. On basis of these results he suggested that managers could create value for their shareholders by reducing the number of days' accounts receivable and inventories to a reasonable minimum. The negative relationship between accounts payable and profitability is consistent with the view that less profitable firms wait longer to pay their bills (Raheman and Nasr, 2007).

Ghosh & Maji (2003), made an attempt to examine the efficiency of working capital management of the Indian cement companies during 1992 – 1993 to 2001 – 2002. For measuring the efficiency of working capital management, performance, utilization, and overall efficiency indices were calculated instead of using some common working capital management ratios. Setting industry norms as target-efficiency levels of the individual firms, this paper also tested the speed of achieving that target level of efficiency by an individual firm during the period of study. Findings of the study indicated that the Indian Cement Industry as a whole did not perform remarkably well during this period.

Shin & Soenen (1998) have highlighted that efficient Working Capital Management is very important for creating value for the shareholders. The way working capital is being managed makes it effective and had a significant impact on both profitability and liquidity. The relationship between the length of Net Trading Cycle, corporate profitability and risk adjusted stock return was examined using correlation and regression analysis, by industry and capital intensity. They found a strong negative relationship between lengths of the firm's net trading Cycle and its profitability. In addition, shorter net trade cycles were associated with higher risk adjusted stock returns.

Smith & Begemann (1997) emphasized that those who promoted working capital theory shared that profitability and liquidity comprised the salient goals of effective working capital. The problem arose because the maximization of the firm's returns could seriously threaten its liquidity, and the pursuit of liquidity had a tendency to dilute returns. This article evaluated the association between traditional and alternative working capital measures and return on investment (ROI), specifically in industrial firms listed on the Johannesburg Stock Exchange (JSE). The problem under investigation was to establish whether the more recently developed alternative working capital concepts showed improved association with return on investment to that of traditional working capital ratios or not. Results indicated that there were no significant differences amongst the years with respect to the independent variables. The results of their stepwise regression corroborated that total current liabilities divided by funds flow accounted for most of the variability in Return on Investment (ROI). The statistical test results showed that a traditional working capital leverage ratio, current liabilities divided by funds flow, displayed the greatest associations with return on investment. Well known liquidity concepts such as the current and quick ratios registered insignificant

All the above studies provided a solid base and gives idea regarding working capital management and its components. They also gives the results and conclusions of those researches already conducted on the same area for different countries and environment from different aspects. Because of the fact that these researches were done in different countries, this study has developed a methodology that will suit the peculiarities of Nigerian environment which the study base.

Bank Profitability

The term profitability refers to the ability of the business organization to maintain its profit year after year. Profitability, according to Sanni, (2006) is a situation where the income generated during a given period exceeds the expenses incurred over the same length of time for the sole purpose of generating income. Athanasoglou, Brissimis & Delis (2005) on their own part defined bank profitability as the ability of a bank to generate revenue in excess of cost, in relation to the bank's capital base. They further assert that, a sound and profitable banking sector is better able to withstand negative shocks and contribute to the stability of the financial system. Although variously, authors have given different definition, basically it is about sustaining the ability of having excess income over expenses. Profitability is therefore importance because it is the main (purpose) of business.

Working Capital Management

A number of authors have given meaning to Working capital management, Machiraju (2001) Understand working capital management as that which involves the administration of current assets and current liabilities which consists of optimizing the level of current assets in partial equilibrium context. Working capital management involves the relationship between a firm's short-term assets and its short-term liabilities. According to Khan & Jain (2007) working capital management is concerned with the problems that arise in attempting to manage the current assets, the current liabilities and the interrelationship that exists between them. Van Horne (2000) posits that working capital management is the administration of current assets in the name of cash, marketable securities, receivables, inventories and Block & Hirt (1992) are of the view that, working capital management involves the financing and management of the current assets of the firm.

All the views about working capital management mentioned above have either directly and or indirectly involved the management of current assets and the ratio of current assets to current liabilities. The study by this defined Working Capital Management as the relationship between a firm's short-term assets and short-term liabilities. It is therefore set to ensure that a firm is able to continue its operations and that it has sufficient ability to satisfy both maturing short-term debt and upcoming operational expenses.

In bank, such short term expenses may differ from other firms because of the peculiarity in the nature of business. Beside other day-to-day expenses, banks are expected to meet depositors' demand of withdrawal. This therefore means that working capital management in banks is to ensure that the banks are able to continue their operations by having sufficient cash flow to satisfy both maturing short-term debt and upcoming operational expenses.

METHODOLOGY

This study primarily examines the relationship between working capital management and the profitability of quoted Deposit Money Banks (DMBs) in Nigeria. It was achieved by developing a similar empirical framework to those used by Deloof (2003) and the subsequent work of Raheman & Nasr (2007). Secondary data were used in this study. Data were extracted from the audited annual reports and account of all the DMBs quoted on the floor of the Nigerian Stock Exchange (NSE) for a single period of one (1) year during 2013. All the banks were used based on the fact that the number is small and using the entire population will give a more acceptable result. The data were analysed by applying the ordinary least square regression using SPSS 17.

The Study Population

The population of the study is all the eleven (11) DMBs quoted on the Nigeria Stock Exchange as at 31st December, 2013. Quoted banks can be described in this study as those banks whose issued shares of stock are traded on the Nigerian Stock Exchange, while those banks whose share of stock are not traded at the Stock Exchange are referred to as the unquoted banks.

Description and Measurement of Variables

For the purpose of this study, Return on Equity (ROE) and Return on Assets (ROA) are the proxies for profitability and as well as the dependent variables. In banking business, Berger & Humphrey (1997); Altunbas & Ibanez (2004); Athanasoglou, Delis & Staikouras (2006) and Alexious & Sofoklis (2009) have identified Return on Equity (ROE) and Return on Assets (ROA) as measures for profitability. Whereas, a good number of variables were adopted by various authors, (Salawu and Alao, 2014; Abbadi and Abbadi, 2013) as elements of effective working capital, however, because of the peculiar nature of banking business, working capital is measured in the study by the following independent variables: Current ratio (current assets/current liability), Profit before taxation to current liabilities (Profit before taxation/current liabilities), Operating cash flow to current liabilities (Operating cash flow/current liabilities) and Cash balance to total liabilities (cash balance/total liabilities).

Table 1 in the appendix presents the summary of the data derived from the annual reports and accounts of the 11 DMBs. However, the equations below represent the relationship between working capital management and the profitability of Deposit Money Banks quoted on Nigeria Stock Exchange.

$$ROE_{it} = \beta_0 + \beta_1 CRR_{it} + \beta_2 PBT/CL_{it} + \beta_3 OC/CL_{it} + \beta_4 CB/TLL_{it} + \mu_{it} \text{-----1}$$

$$ROA_{it} = \beta_0 + \beta_1 CRR_{it} + \beta_2 PBT/CL_{it} + \beta_3 OC/CL_{it} + \beta_4 CB/TLL_{it} + \mu_{it} \text{-----2}$$

Where:

ROE_{it} = Return on Equity for Bank i at time t .

ROA_{it} = Return on Assets for Bank i at time t .

β_0 = Intercept

$\beta_1 CRR_{it}$ = Impact of Current Ratio for Bank i at time t .

$\beta_2 PCL_{it}$ = Impact of Profit before Tax to Current Liabilities for bank i at time t .

$\beta_3 OCL_{it}$ = Impact of Operating Cash flow to Current Liabilities for bank i at time t .

$\beta_4 CTL_{it}$ = Impact of Cash Balance to Total Liabilities i at time t .

μ_{it} = Error term of the model

Results and Findings

The study, used regression to tests the null hypothesis; which states that no relationship between effective working capital and the profitability of DMBs relating the effective working capital variables (CRR, PCL, OCL and CTL) to the two profitability variables (ROE & ROA).

Regression Results on Return on Equity (ROE) as Dependent Variable.

Table 4.1a in the appendix revealed that the P value = $0.033 < 0.05$, this is highly significant and therefore cause the rejection of the null hypothesis. It therefore implies that efficient working capital management significantly relates to the profitability of Deposit Money Banks quoted on the Nigeria Stock Exchange. The existence of good working capital will cause a significant change in the value of returns to the equity shareholdings of the banks.

From Table 4.1b, the beta coefficients for CRR, PCL, OCL & CTL depicts -0.185, 0.115, 0.122 & 0.061 with a significant level of 0.005, 0.102, 0.006 & 0.030 respectively. This therefore means that effective working capital management (PCL, OCL & CTL) affects banks profitability (ROE) positively except for the CRR which indicates an opposite relationship.

Regression Results on Return on Assets (ROA) as dependent variable.

Table 4.2a shows that the P value = $0.016 < 0.05$, this is also significant. By this, the null hypothesis is rejected which means that the various elements of effective working capital relate significantly to the profitability of Deposit Money Banks quoted on The Nigeria Stock Exchange. A well-managed working capital will cause a significant change in the value of returns on asset of the banks and other wise.

Table 4.2b, depicts that, beta coefficients for CRR, PCL, OCL & CTL (0.005, 0.055, 0.172 & 0.032) positively relates to banks profitability with a significant level of 0.012, 0.071, 0.103 & 0.150 respectively. All the elements of effective working capital significantly relates to (ROE) positively.

DISCUSSION

Summarily, the regression results from the two equations corroborated, as both indicates significant relationship between working capital management and profitability of the deposit money banks in Nigeria. This has agreed with results of other researches that relates to this study. Lazardidis & Tryfonidis (2006), Nazir & Afza (2009), Agyie & Yeboah (2011) and Onwumere, Ibe & Ugbam, (2012). All finds a positive relationship as they examined relationship between working capital management and firms performance, this paper is peculiar to the banking firms hence the variables for working capital differs. However, the following authors find negative relationship, this research believed on the fact that various elements and or components of working capital were adopted hence the cause of the difference between its result and those of Haitam, Nobani, Abdollatif & Alhajjar (2010) and Chatreji (2010) whose results depicts negative relationship.

CONCLUSION AND RECOMMENDATION

Understanding the fact that a number of studies have been conducted on working capital management theory and practice in the non-financial institutions, this study however aimed at contributing to existing literature on working capital management by extending it to financial institutions; that is the Nigerian Deposits Money Banks. The study undertakes to ascertain the relationship between working capital management and the profitability of DMBs in Nigeria. The study results depict positive relationship between Returns on Equity (ROE), Returns on Assets (ROA) and the elements of working capital management.

In conclusion, good management of working capital would promote increase in banks profitability. However, for the purpose of further research, attention should be given to research on the determination of the more appropriate way of management of working capital in the banks.

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APPENDIX

Table 1 Computed Financial Summary of the 11 DMBs for year 2013

Banks	Profitability		Elements of Effectiveness of Working Capital			
	ROE	ROA	CRR	PCL	OCL	CTL
Access Bank Plc	0.1069	0.1538	8.9228	0.0234	0.0325	0.2713
Diamond Bank Plc	0.1791	0.0209	1.1072	0.0279	0.0211	0.3168
Ecobank Plc	0.0692	0.0065	1.0313	0.0110	0.0193	0.0010
Fidelity Bank Plc	0.0472	0.0071	1.2333	0.0107	0.0179	0.2264
Guarantee Trust Bank Plc	0.2595	0.0449	1.1585	0.0758	0.0137	0.1451
Skye Bank Plc	0.1340	0.0143	1.0929	0.0172	0.0204	0.1456
Sterling Bank Plc	0.1303	0.0116	9.9226	0.0152	0.0072	0.1503
United Bank for Africa Plc	0.1790	0.0209	2.7971	0.0279	0.0210	0.3168
Union Bank Plc	0.0172	0.0036	0.5215	0.0065	0.0384	0.0765
Wema Bank Plc	0.0385	0.0048	0.7175	0.0087	0.0555	0.1081
Zenith Bank Plc	0.1764	0.0289	1.2288	0.0411	0.0269	0.2442
Total	1.3373	0.3173	29.7335	0.2654	0.2739	2.0021
Means	0.1216	0.0288	2.7030	0.0241	0.0249	0.1820

Source: Annual report and accounts of the various DMBs for year 2013

Calculation of variables: the variables are computed as thus:

ROE = Ratio of net profit to Equity.

ROA = Ratio of net profit to Assets

CRR = Current Assets/Current Liabilities

PCL = Profit before taxation/current liabilities

OCL = Operating cash flow/current liabilities

CTL = Cash balance/total liabilities

Table 2a ANOVA – ROE as dependent variable

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	394256.038	2	197128.019	1.001	0.033 ^a
Residual	308658.175	2	154329.088		
Total	702914.213	4			

a. Predictors: (Constant), CRR,PCL,OCL,CTL

b. Dependent Variable: ROE

Table 2a ANOVA – ROE as dependent variable

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	394256.038	2	197128.019	1.001	0.033 ^a
Residual	308658.175	2	154329.088		
Total	702914.213	4			

Table 2b Coefficients of Regression for ROE as dependent variable

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std error	Beta		
1 (Constant)	11719.86	10144.87	-	1.155	0.367
CRR	-7749.30	5345.77	-0.185	0.650	0.005
PCL	-6065.50	5505.55	0.115	-0.615	0.102
OCL	1100.20	12055.56	0.122	-0.723	0.006
CTL	-3945.87	6393.29	0.061	-0.385	0.030

a. Dependent Variable: ROE

Table 3b ANOVA – ROA as dependent variable

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	224123.017	2	112061.51	0.501	0.116 ^a
Residual	154324.097	2	77162.05		
Total	378447.104	4			

a. Predictors: (Constant), CRR,PCL,OCL,CTL

b. Dependent Variable: ROA

Table 3b Coefficients of Regression for ROA as dependent variable

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std error	Beta		
1 (Constant)	6364.43	5522.43	-	1.152	0.135
CRR	3824.15	2723.38	0.005	0.375	0.002

Table 2a ANOVA – ROE as dependent variable

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	394256.038	2	197128.019	1.001	0.033 ^a
Residual	308658.175	2	154329.088		
Total	702914.213	4			
PCL	-3033.25	2703.28	0.055	-0.308	0.071
OCL	-550.10	6028.28	0.072	-0.371	0.003
CTL	2022.44	3446.15	0.032	-0.385	0.150

a. Dependent Variable: ROA