Relative contribution of working capital management to corporate profitability and dividend payout ratio: Evidence from Nigeria

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ABSTRACT
Good working capital management is central to a firm’s profitability and profitability is essential for firm’s ability to pay dividends to stakeholders. This study examines the implications of a firm’s working capital management practice on its profitability and dividend payout ratio. The study focuses on the extent of the effects of working capital management (measured by the net trade cycle, current ratio and debt ratio) on the profitability and dividend payout ratio. Financial data were obtained from twelve manufacturing companies quoted on the Nigeria Stock Exchange over five years period (2002 to 2006). Using both the Pearson product moment correlation technique and ordinary least square (OLS) regression technique, we observed that shorter net trade cycle and debt ratio promote high corporate profitability. While the level of leverage has negative significant impact on corporate profitability, the impacts of working capital management on corporate profitability appear to be statistically insignificant at 5% confidence level. On the other hand, we observed that dividend payout ratio was influenced positively by profitability and net trade cycle but negatively by growth rate in earnings. The impacts of both corporate profitability and working management on the dividend payout ratio appear to be statistically insignificant at 5% confidence level.

INTRODUCTION
Organisations employ working capital to finance their trading activities. Working capital is the difference between current assets and current liabilities. Firms employ both the current assets and liabilities in their day to day operations to generate economic profit for the interests of all stakeholders. Stakeholders particularly the shareholders are usually interested in the returns on their investments. The returns on shareholders’ investments take the form of dividend payments. An organisation will be talking about dividend only when it has made profit and cash is readily available. This is why it is important that managers spend extra efforts and time in managing working capital, so as to ensure a balance between liquidity and profitability. Even after realising profit, the firm has to make serious decision as to whether to retain profit or not based on its dividend policy. Hence, different companies may adopt different dividend polices depending on their needs for financing investments. A mature company that has a few investment opportunities may prefer to have a high dividend payout ratio while a growing company on the other hand will have a low dividend payout ratio.

There are other things to consider in dividend policy. There is the issue of legal restriction. According to sections 379-382 of CAMA (2004) in Nigeria, dividend can only be paid out of distributable profits. There is the issue of liquidity, which is another constraint on paying...
dividend. Since dividend is a cash outflow, it therefore means that even if a company has made enough earnings or returns to be able to pay dividend but does not have sufficient cash, it cannot pay dividend in cash indicating clearly that as much as profitability is important, the cash position and liquidity of a firm is very important. To meet up with dividend demand of shareholders, firms must be liquid. To achieve growth and maintain survival, firms need to experience profitability as well.

Working capital is a connecting rod that affects the liquidity and profitability of any firm. However, there is a trade-off between liquidity and profitability of a firm. A firm needs profitability to achieve growth and success. A firm also requires some measure of liquidity to avert insolvency and liquidation problem. Osaze and Anao (1989) observed that the role a financial manager is to strike a balance between dividend payout and retention of earnings. Ross et al. (1996) observed that dividend policy has the objective of maximizing shareholders' return, which includes dividend and capital gains. Many organisations sometimes decide to employ other forms of dividend that include stock dividends, stock split, share repurchases apart from cash dividend (Pandey, 2001; Akinfure, 2006). While these alternatives can be considered, it is important to know that there may be investors such as retired individuals who would prefer current income to growth in stock value (Smith, 2008). How will a firm manage to achieve these varying and conflicting objectives? Does the answer lie in managing working capital? Can effective management of working capital translate to high profitability and dividends payout ratio?

This study examines the relationships between the working capital and corporate profitability on one hand and the relationship between the working capital and dividend payout on the other hand. We also consider the effects of working capital management on corporate profitability and dividend payout ratio respectively. The research hypotheses tested include that there is no significant relationship between corporate profitability and working capital management; and there is no significant relationship between working capital management and dividend payout ratio.

Others are that the corporate profitability does not depend significantly on the working capital management and that dividend payout ratio does not depend significantly on working capital management and corporate profitability respectively.

**REVIEW OF LITERATURE**

**Studies on working capital and corporate profitability**

The essences of working capital management are to ensure an increase in the profitability of a company as well as the sufficient liquidity to meet short term obligations as they fall due. While the managers of a firm would be interested in achieving the goal of shareholder wealth maximization via increased profitability, they also would be interested in seeking the level of investment in current assets that would reduce the risk of insolvency as well as increased profitability. This level of investment is the optimum level of working capital. It is the level of investment, which is just appropriate for achieving combined objectives of profit maximization and risk minimization.

Thus, the managers have to contend with balancing the trade-off between liquidity and profitability. In ensuring that the trade-off between the two is minimized, the operating cash cycle of a firm is given attention. The operating cash cycle, which is the continuous flow of cash from suppliers to inventory, to account receivable and bank, and to cash can be said to be the heart of the working capital management. A lot of work has been done in the area of working capital management. In this section of this work an attempt is made to review some of the past work that are of importance to our study.

Agarwal (1978) examined the relationship between profitability (measured as profit / net worth and profit / net assets) and size (expressed as total sales) for seven Indian manufacturing companies for a period between 1962 and 1972.

A positive relationship was observed between profitability and size in five of the seven companies. In another related study by Neumann et al. (1979) examined the mean rates of return in terms of risk and market structure in 334 West Germany Joint Stock companies for a period between 1965 and 1973. The results showed that degree of concentration and product differentiation were positively related to profitability while export and import ratio exerted negative impact on the profitability. Smaller firms tended to exhibit greater chance for growth and profitability because of their flexibility than the bigger firms, thus showing inverse relationship between corporate size and profitability.

Asha (1981) examined the determinants of profitability of India manufacturing industries using price-cost margin as a measure of profitability. Cost factors emerged as significant determinants of profitability while the structural variables like concentration ratio, capacity utilization, growth and capacity intensity showed mixed pattern.

Ross et al. (1996) measured working capital as operating cycle. Operating cycle is a time period between the acquisitions of inventory and the collection of cash from disbursement and cash paid for inventory to cash receivable. They measured the operating cycle as follows:

\[
\text{Operating cycle} = \text{Inventory period} + \text{Account receivable period}
\]

Where,
They opined that the shorter the cash cycle, the lower the firm’s investment in inventories and receivables. This means that the firm’s total assets will be lower while the total turnover becomes higher and the higher the turnover the higher the profitability. Hence, we say that the shorter the cash cycle, the higher the profitability while the longer the cash cycle, the lesser the profitability. This therefore means that if a firm wishes to reduce the amount tied up in working capital, the financial manager will have to be interested in cash conversion cycle. This is so because the cash conversion cycle as discussed by Shin and Soenen (1998) is an additive measure of the number of days funds are committed to inventories and receivables less the number of days payments are deferred to suppliers. So, it will help the managers to keep track of how much is tied up in the items that make up the working capital.

Shin and Soenen (1998) considered efficient working capital management as an integral component of the overall corporate strategy to create shareholders value. Working capital is the time lag between the expenditure for the purchases of raw materials and the collection for sales of finished goods. This implies that working capital (period) covers a period of cash conversion cycle, which is the continuing flow of cash from suppliers of inventory to account receivable and back into cash. They opined therefore that the way working capital is managed can have significant effect on the liquidity and profitability of a company, of which there is a trade-off. They therefore examined the relationship between the firm’s efficiency in working capital management and profitability. They sought to find out whether a short cash conversion cycle is beneficial for a company’s profitability or otherwise. Using the Net Trade Cycle (NTC), the Current Ratio (CR), the Sales Growth (SG) and the debt ratio (DR) as measures of working capital management and the operating income plus the depreciation related to the total assets and net sales as measure of firm’s profitability, they found the relationship between corporate profitability and working capital management. Computing the Pearson and Spearman correlation coefficients of the variables and regressing corporate profitability on the length of net trade cycle and the risk adjusted stock return, the results showed a significant negative relationship between the firm’s net trade cycle and profitability but a positive relationship between net trade cycle and the return on sales. Thus, it was concluded that the shorter the net trade cycle the more efficient the firm would be in managing its working capital and the higher its financial performance.

Watson and Head (1998) give clues on how the working capital can be managed. One is by reducing the stock conversion by shortening the production cycle through effective planning and outsourcing parts of the production process to changing sales level. The second method is by reducing the debtors’ collection period and thirdly increasing the creditors deferred period.

Vijayakumar (2002) examined the effects of growth rate of sales, vertical integration and leverage on profitability. Regressing profitability on current ratio, operating expenses to sales ratio and inventory turnover ratio, it was observed that efficiency in inventory management and current assets are essential to improving profitability. Vijayakumar and Kadirvelu (2005) examined the effects of size (log of total assets), simple growth rate of assets, leverage, current ratio, inventory turnover ratio, operating expenses to sales ratio, fixed assets turnover ratio, vertical integration and ratio of depreciation to gross fixed assets on profitability. Profitability was expressed as return on total assets and profit margin on sales, which is a measure of the operational efficiency of the firm. Using the ordinary least square regression technique the results showed that the ratio of depreciation to gross fixed assets appeared to be the strongest determinant of profitability followed by operating expenses to sales ratio, leverage, fixed assets turnover ratio, inventory turnover ratio, size, current ratio, growth rate and vertical integration. Size, operating expenses to sales ratio, fixed assets turnover ratio had negative contributions while other variables had positive contributions to the variations in profit rates in the industries. Current ratio was found insignificant in explaining profitability. The results of the two profitability models were found to be similar.

On the importance of working capital management, Pedro and Pedro (2007) point out that working capital management has great impact on profitability as well as its value. They opined that while investment in current assets like inventory and trade credit is good, investing heavily in them could be detrimental to a firm’s profitability. Hence, it becomes important that each firm decides on how much to invest on debtors and inventory account and how much credit to accept from suppliers. This is important because the level of current assets is a key factor in a company’s liquidity position. A firm must generate or have in its reserve enough cash to meet its short term needs, if it is to continue in business. Focusing on the small and medium scale enterprises where most of them have their assets in the form of current assets, the authors examined the effects of working capital management on the firms’ profitability. Working capital management was measured as cash conversion cycle, which represents the average number of days between the date when the firm must start paying its suppliers and the date it begins to collect payment from its suppliers.

\[
\text{Inventory period} = \frac{365}{\text{Inventory turnover}}
\]

\[
\text{Account receivable} = \frac{365}{\text{Receivable turnover}}
\]
Firm’s profitability was measured by return on assets (ROA), which is a ratio of earnings before interest and tax to total assets. The correlation analysis showed negative relationships between the return on assets and the number of days of accounts receivable, days of inventory, number of days of accounts payable and the cash conversion cycle. The results showed that firm’s profitability can be enhanced by giving customers less time to make their payment, reducing the number of days of inventory and the number of days of accounts payable and then shortening the cash conversion cycle.

Charitou et al. (2010) empirically investigate the effect of working capital management on firm’s financial performance in an emerging market. It was hypothesized that working capital management leads to improved profitability. The data set consists of firms listed in the Cyprus Stock Exchange for the period of 1998 to 2007. Using multivariate regression analysis, the results support the hypothesis. Specifically, the results indicate that the cash conversion cycle and all its major components; namely, days in inventory, day’s sales outstanding and creditors’ payment period – were associated with the firm’s profitability.

Mathai (2012) examine the relationship between working capital variables and profitability of retail supermarket chains in Kenya. Using data collected from the financial statements of six retail supermarket chains in Kenya over a five-year period starting from 2005 to 2009, the data were analyzed using a multiple regression analysis. The study found that there exist a relationship between working capital management and profitability of retail supermarket chains in Kenya. The relationship between working capital variables and profitability disclosed both negative and positive associations. Average collection period was found to have a weak non-significant negative relationship with net operating profit (NOP), average payment period was found to have a non-significant negative relationship with NOP, cash conversion cycle (CCC) has a weak but significant positive relationship with NOP and Debt ratio was found to have a non-significant positive relationship with NOP.

Haresh (2012) provides empirical evidence about the effects of working capital management on profitability performance of CNX pharmaceutical companies listed on National Stock Exchange of India. Using data collected for a period of 5 years (2005-06 and 2009-10), the results showed a negative relationship between account receivable and corporate profitability. Thus, managers can create value for their shareholders by reducing the number of days for accounts receivables and less profitable firms could pursue a decrease of their account receivable to reduce their cash gap in the cash conversion cycle.

Kuau and Singh (2013) analysed the working capital performance of 164 manufacturing BSE 200 companies classified into 19 industries over the period of 2000–2010 based on working capital score calculated by using normalized values of cash conversion efficiency, days operating cycle and days working capital. This study tested the relationship between the working capital score and profitability measured by income to current assets and income to average total assets. The results corroborated earlier studies that efficient management of working capital significantly affects profitability.

From the foregoing studies, there is the need to examine the relationship between the corporate profitability and working capital management in Nigeria; hence, this study was carried out.

Studies on working capital and dividend payout ratio

Studies on determinants of dividend payout have considered many factors but no one to the best of our knowledge has considered the effect of working capital management on the firm’s payout ratio. Hexter et al. (1998) considered the relationship between the dividend policy decisions and the investment decisions of firms. It was hypothesized that both non-stakeholders and capital suppliers have influence on a firm’s dividend policy. This study considered the following as the determinants of dividend payout ratio: firm size, number of lines of business of a firm, agency cost, and degree of free cash flow available. The study revealed that corporate focus is negatively related to dividend payout ratio. Thus, firms with fewer lines of business and smaller firms tend to have lower payout ratios than those with many lines of business and larger firms. The degree of insider-ownership, which is a measure of agency cost, also impacted negatively on the payout ratio. Thus, the greater the degree of insider-ownership the lower the payout ratio while the larger the number of external shareholders the higher the dividend payout ratio. Free cash flow also impacts positively on dividend payout ratio. Thus, the greater the free cash flow the higher the dividend payout ratio.

Saxena (1999) developed a model to explain dividend payout ratios of firms. Several variables employed in literature were utilized as possible determinants of dividend policy with the aim of finding if any of these determinants differed between regulated and unregulated firms. For the unregulated sub-sample, results compared with earlier studies. The study showed that a firm’s dividend policy would depend upon its past growth rate, future growth rate, systematic risk, the percentage of common stocks held by insiders and the number of common stockholders. Moreover, the relationship was inverse in all cases except the number of common stockholders. These relationships were comparable to Rozeff’s (1982) and other earlier studies on unregulated firms. More importantly, however, some of the determinants of dividend policy were different for
regulated and unregulated firms. Specifically, the percentage of common stock held by insiders and expected future growth rate did not play a key role in a regulated firm's payout ratio.

Adelegan (2003) examined the relationship between the dividend changes and cash flow on a sample of 63 quoted firms in Nigeria over a period, from 1984 to 1997. Using the modified Lintner-Brittain model as adopted in Charitou and Vefeas (1998) on pooled cross sectional / time series data, the results of the OLS method showed that there was a significant relationship between cash flows and dividend changes, which depended substantively on the level of growth, the capital structure choice, size of each firm and economic policy changes.

Kamat (2009) examined the cross-sectional trends in dividends at an aggregate level of ownership (that is, closely/largely held and regulated firms) and at disaggregate level across 20 industries to examine how Indian Private Corporate Sector appropriated its profits over 1961-2007 periods. Alternatively, it is examined whether internal funds are a significant source of finance and the dynamics of relation between dividends relative to earnings across type of companies and industries. Indian corporate sector pays relatively more equity dividends than preference dividends. Other things being equal, the probability of paying cash dividends decreases with share holder concentration and the regulated companies pay relatively larger dividends. Dividend payouts for all type of firms decline, and such tendency is more pronounced after liberalization periods indicating a greater choice of internal financing through retained earnings. The analysis of inter-corporate and inter-industry variations reveals that dividends interplays differently with exogenous factors.

Al-Kuwari (2009) examined the determinants of dividend policies for firms listed on Gulf Cooperation Council (GCC) country stock exchanges. Using a panel dataset of non-financial firms listed on the GCC country stock exchange between the year 1999 and 2003. The results showed that the main characteristics of firm dividend payout policy were that dividend payments related strongly and directly to government ownership, firm size and firm profitability but negatively to the leverage ratio. Firms paid dividends to reduce the agency problem and maintaining firm reputation. Firm’s dividend policy depended heavily on firm profitability. The GCC countries altered their dividend policy frequently and did not adopt a long-run target dividend policy.

Gill et al. (2010) considered the determinants of dividend payout in American service and manufacturing firms. They observed for the entire sample that dividend payout ratio was a function of profit margin, sales growth, debt-to-equity ratio and tax. The dividend payout ratio for the service industry was a function of profit margin, sales growth and debt-to-equity ratio while dividend payout ratio for the manufacturing industry was a function of profit margin, tax and market-to-book ratio.

Bokpin (2011) examines the interaction between ownership structure, corporate governance and dividend performance on the Ghana Stock Exchange (GSE). Panel data covering a period from 2002 to 2007 for 23 firms were analyzed within the framework of fixed effects techniques. The study shows that foreign share ownership significantly and positively influences dividend payment among firms on the GSE. He found board size to have a statistically positive effect on dividend payment among the corporate governance variables. He did not, however, find a significant relationship between inside ownership, board independence, board intensity, CEO duality and dividend performance. The results also indicate that highly leveraged firms will significantly reduce dividend payments. Finally, age and income volatility were found to be significant determinants of dividend performance on the GSE.

Imran (2011) empirically investigated the factors determining the dividend payout decisions in the case of Pakistan’s engineering sector by using the data of thirty six firms listed on Karachi Stock Exchange from the period of 1996 to 2008. Using the fixed and random effects of panel data techniques, the results showed that the previous dividend per share, earnings per share, profitability, cash flow, sales growth and size of the firm were the most critical factors determining dividend policy in the engineering sector of Pakistan.

Hashemijoo et al. (2012) examined the relationship between dividend policy and share price volatility with a focus on consumer product companies listed in Malaysian stock market. For this purpose, a sample of 84 companies from 142 consumer product companies listed in main market of Bursa Malaysia were selected and the relationship between share price volatility with two main measurements of dividend policy, dividend yield and payout, were examined by applying multiple regression for a period of six years, from 2005 to 2010. The primarily regression model was expanded by adding control variables including size, earning volatility, leverage, debt and growth. The empirical results of this study showed significant negative relationship between share price volatility with two main measurements of dividend, policy which are dividend yield and dividend payout. Moreover, a significant negative relationship between share price volatility and size was found. Based on findings of this study, dividend yield and size have the most impact on share price volatility amongst predictor variables.

Hamill (2012) investigated the determinants of the dividend payout ratio for a sample of Jordanian listed firms. Consistent with the agency cost hypothesis, the level of institutional ownership significantly influenced the dividend payout ratio. Firm size was significant in supporting the transaction-cost hypothesis but no significant evidence to support the signaling hypothesis.

Aizomaia and Al-Khadhiri (2013) examined the factors
determining dividend represented by dividend per share for companies in the Saudi Arabia stock exchanges. The study used a regression model and a panel data covering the period of 2004 to 2010 for 105 non-financial firms listed in the stock market. The model investigates the impact of earnings per share, previous dividends represented by dividends per share for last year, growth, debt to equity ratio, beta and capital size on dividend per share. The results consistently supported that Saudi listed non-financial firms rely on current earnings per share and past dividend per share of the company to set their dividend payments.

Chauhan and Bhayani (2013) assess the dividend payout policies of Indian Companies. For the purpose of study BSE Sensex -30 companies have been selected as sample for the study. To study impact of profitability, liquidity and size of business on dividend payout regression, analyses were carried out. An attempt has also been made to calculate estimated dividend payout based on regression results. The result of the study indicates dividend policies of Indian companies were highly influenced by profitability and liquidity of the firm. The major companies follow conservative dividend policy. From the foregoing, we observed that studies on determinants of dividend payout have considered many factors but no one to the best of our knowledge has considered the effect of working capital management on the firm’s payout ratio. This is reason for this study.

METHODOLOGY

Working capital and corporate profitability model

The effect of working capital management on the firm’s profitability has been modeled by many researchers. In this study, we adopted Shin and Soenen (1998) model of profitability which expresses the relationship between corporate profitability and working capital management. Here, the profitability is expressed as a function of net trade cycle, current ratio, debt ratio and sales growth, which are the measures of working capital management. This is mathematically expressed as follows:

\[ P_t = \beta_0 + \beta_1NTC + \beta_2CR + \beta_3DR + \beta_4SG \]

Where, \( P_t \), Corporate profitability; NTC, net trade cycle (in number of days); CR, current ratio; DR, debt ratio; SG, sales growth. The variables are estimated as follows:

\[ P_t = \frac{\text{Operating income + Deprecation}}{\text{Total assets}} \]

\[ NTC = \frac{(\text{Inventory + Account receivable - Account payable})}{\text{Sales}} \times 365 \]

\[ CR = \frac{\text{Current asset}}{\text{Current liabilities}} \]

\[ SG = \frac{(\text{Current year’s sales}) - 1}{(\text{Previous year’s sales})} \]

\[ DR = \frac{\text{Total Debt}}{\text{Total Asset}} \]

The a-priori signs are shown below.

\[ B_0, B_4 > 0 \text{ while } B_1, B_2, B_3 < 0 \]

Working capital and dividend payout model

Many studies have modeled dividend payout ratio (Rozef, 1982; Hexter et al., 1998). To the best of our knowledge, no existing study model the effect of working capital management on the firm’s dividend payout policy. In this study, we model dividend payout as a function of working capital management. We control the effect of corporate profitability and growth of earnings. Thus, we regress dividend payout ratio of a firm on its working capital management represented by NTC, profitability and growth rate of earnings. This is mathematically expressed as follows:

\[ D_p = \beta_0 + \beta_1P_t + \beta_2NTC + \beta_3GR \]

Where, \( D_p \), Dividend payout ratio; \( P_t \), profitability; NTC, net trade cycle (in number of days); GR, growth rate of earnings. These are estimated as follows:

\[ D_p = \frac{\text{Dividend per share}}{\text{Earnings per share}} \]

\[ P_t = \frac{\text{Operating income + Deprecation}}{\text{Total assets}} \]

\[ NTC = \frac{(\text{Inventory + Account receivable - Account payable})}{\text{Sales}} \times 365 \]

\[ GR = \frac{(1 - D_p)}{\text{Net-worth (Equity)}} \times \frac{\text{Profit after tax}}{\text{Sales}} \]

The a-priori signs are shown below.

\[ B_0, B_1, B_2, B_3 > 0 \]

Method of data collection

There were 145 non-financial institutions listed on the
Nigerian Stock Exchange between 2002 and 2006. These constitute the population for the study. About 128 of the listed companies were into manufacturing activities which is the basis of this study. This constitutes our sampling frame. Due to the problem of inaccessibility to most of the company's data, 12 out of the 128 firms which we could gather complete data on the variables needed, were used for this study. This constitutes our sample size. Financial data were collected from the financial statements of these 12 organisations over five year period between 2002 and 2006. This presents us with pooled data of 60 dataset. Data obtained from corporate annual reports included account receivables, account payable, inventory, operating income, net worth, current assets, current liabilities, sales, total debt, depreciation, dividend per share, total asset, earnings per share and profit after tax.

Methods of data analysis

The two hypotheses in this study were tested using Pearson product moment correlation technique and ordinary least square regression technique. The first two hypotheses were tested using Pearson product moment correlation analysis while the last two hypotheses were tested using ordinary least square regression analysis. The data collected were analysed using the SPSS version 16.

DATA ANALYSES AND INTERPRETATION OF RESULTS

The results of the data analysis in this study are presented in this section.

Corporate profitability and working capital management

The results of OLS regression model, which regresses the corporate profitability on the four measures of working capital management, are presented in Table 1. The model is mathematically expressed as follows.

\[ P_t = 0.19 - 0.05NTC - 0.08CR - 0.55DR + 0.03SG \]

The results showed \( R^2 \) value of 0.12, meaning that 12% systematic variations in profitability could be explained by the four measures of working capital management considered in this study. This indicates that there are more variables that explain corporate profitability other than only the four measures of working capital management considered in this study. The F value which is the overall goodness of fit is 1.86 and is very low when compared to the critical value of 2.76 on the F-table at 5% level of significance. Therefore, it fails the test of significance at 5% level showing that there is no significant linear relationship between profitability and the measures of working capital management.

It was expected that there will be a negative relationship between corporate profitability and NTC, CR, DR and positive relationship with SG. All the independent variables (working capital management measures) including the constant are correctly signed. However, only DR has its t-test above 2.0 and passes the t-test at 5% level of significance. This shows that DR is the most significant factor influencing corporate profitability. This is because DR has a t-value of 2.18 which is greater than the critical t-value of 2.05. Furthermore, a unit rise in NTC would result in a 0.05 negative change in profitability (\( P_t \)), a unit rise in CR and DR respectively would cause 0.08 and 0.55 negative changes in profitability (\( P_t \)). However, a unit rise in SG would result into a 0.03 positive change in profitability (\( P_t \)).

In conformity with Shin and Soenen (1998), this study reveals that a negative regression coefficient for NTC implies that when a firm has short net trade cycle, it is more profitable. This is because the firm is able to convert its goods into cash easily and makes profit out of its stocks. Although for this to be a lot easy, the firm needs to have a reasonable share of the market and a.

Table 1. Coefficients for profitability model.

<table>
<thead>
<tr>
<th>Regression</th>
<th>Profitability (unstandardised coefficients)</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Standard error</td>
</tr>
<tr>
<td>Constant</td>
<td>0.19</td>
<td>0.103</td>
</tr>
<tr>
<td>Net trade cycle (NTC)</td>
<td>-0.052</td>
<td>0.041</td>
</tr>
<tr>
<td>Current ratio (CR)</td>
<td>-0.082</td>
<td>0.182</td>
</tr>
<tr>
<td>Debt ratio (DR)</td>
<td>-0.549</td>
<td>0.252</td>
</tr>
<tr>
<td>Sales growth (SG)</td>
<td>0.032</td>
<td>0.27</td>
</tr>
</tbody>
</table>

*Significant at 5 % level. \( R^2 = 0.12 \) and \( F = 1.86 \). The F-value, d.f (3, 55)=2.76 and Durbin Watson Statistics=2.04.
good bargaining relationship with suppliers and customers. Current ratio, which is negatively related to profitability shows that the higher the current ratio the lower the profitability. Hence, to achieve higher profitability, liquidity has to be reduced. There is a trade-off between liquidity and profitability. The fact that debt ratio is negatively related to corporate profitability indicates that an increase in leverage will lead to a decline in profitability. This is so because debt ratio shows the extent of borrowing that is employed in a business and the higher it is, the higher the interest paid, which has only one ability-reducing the profit of a firm. The positive relationship of sales growth with profitability only reflects that growth opportunities lead to higher opportunity. This conforms to the results of the study of Pedro and Pedro (2007).

**Dividend payout ratio, corporate profitability and working capital management**

The results of OLS regression model which regresses the dividend payout ratio on the corporate profitability (P), NTC as measure of working capital management and growth rate in earnings (GR) are presented in Table 2. The model is shown below.

\[
D_p = \beta_0 + \beta_1P_t + \beta_2NTC + \beta_3GR
\]

From Table 1, we have the following regression equation.

\[
D_p = 0.07 + 2.19P_t + 0.002NTC - 0.01GR
\]

The results show the relationship between dividend payout ratio and profitability, net trade cycle and growth rate in earnings. The \(R^2\) of 0.03 shows that 3% of the total variations in dividend payout ratio can be explained by the variations in corporate profitability, net trade cycle (working capital management) and growth rate in earnings, while 97% of the variations cannot be explained by the variables under consideration.

When we compared the F-value of 0.58 with the critical value of 3.15 at 5% level of significance, the F-value was low. All the regressors except growth rate in GR passed their a-priori signs. The corporate profitability (P) and NTC are both positively related to the dividend payout ratio while the growth rate in GR is negatively related to the dividend payout ratio. This agrees with the result of Saxena (1999), which sees growth rate of earnings as having a negative relationship with dividend payout. This is usually because, when earnings are made in a firm (or in case of future earnings), most organizations would be preoccupied with the thoughts of how to retain the earnings for further growth and how much to pay out as dividend.

To the best of our knowledge, there is no study that has examined the relationship between NTC and dividend payout ratio \((D_p)\). Hence, in this study, the relationship between the two was examined. The result shows that a unit rise in profitability will lead to 2.19 unit increase in dividend payout ratio, while a unit rise in NTC will lead to 0.002 unit increase in the dividend payout ratio \((D_p)\). This is quite low and insignificant, indicating that NTC is not really a major determining factor of dividend payout ratio \((D_p)\). A unit increase in growth rate in GR will lead to a 0.01 unit fall in dividend payout ratio therefore indicating clearly that for more dividends to be paid out in a firm, less of its earnings will be retained, because where earnings are retained, growth is promoted while dividend payout ratio is reduced. The value of Durbin Watson statistics (2.05) shows that, there is no auto-correlation.

**SUMMARY OF RESEARCH FINDINGS, CONCLUSION AND POLICY IMPLICATIONS**

**Summary of research findings**

In this study, we observed that there is a negative relationship between corporate profitability and working capital management (as measured by net trade cycle, current ratio and debt ratio). This is in conformity with our research hypothesis one. However, DR appears as the most significant relationship with corporate profitability. We also observed a positive relationship between corporate profitability and dividend payout ratio on one hand and a positive relationship between dividend payout ratio and working capital management (measured by net
trade cycle), NTC on the other hand. However, the relationships were statically insignificant at 5% level. Dividend payout ratio is not greatly influenced by profitability, working capital management (represented by net trade cycle) and growth in earnings.

**Policy implications**

The fact that the NTC is negatively related to profitability shows that the shorter the trade cycle of a firm, the higher the profitability. Again, positive relationship between the NTC and the dividend payout ratio showed that the higher the working capital management the higher the dividend payout ratio. A shorter trade cycle will mean a reduction in liquidity but an increase in profitability and dividend payout, because dividends are to be paid only out of distributable profits (sections 379-382 of CAMA, 2004) but payment of dividends also would mean less retained earnings to finance future trade.

However from our findings, we therefore recommend that firms should lower their leverage level as well as the investment in inventories and receivables so that total assets become reduced while turnover and profitability increase. The shareholders’ value can also be maximized if net trade cycle is reasonably reduced. Firms should also lower their investment in inventories and receivables so that their total assets becomes reduced, while turnover and profitability increase; and at the same time, consider other forms of dividend payment other than cash dividends if good dividend payout ratio is to be maintained at the same time. The shareholders value can also be maximized if net trade cycle is reasonably reduced.

**Conclusion**

In conclusion, good management of working capital would promote increase in corporate profitability. However, special consideration should be given to debt ratio if good level of corporate profitability is to be maintained. Growth in earnings should also be maintained to attract good level of corporate profitability. Thus, effective working capital management is sine qua non for good corporate profitability. Going by small sample size of this study, we advise that future research should increase the sample size and see whether working capital measures can become significant in explaining corporate profitability in Nigeria. The positive relationship between working capital management (proxied by net trade cycle) and dividend payout ratio shows that good working capital management (evidenced by shorter net trade cycle) would lower the dividend payout ratio. Thus, effective working capital management is sine qua non for good corporate profitability as well as the dividend payout ratio.

**REFERENCES**


