

Logical Consequence Of Liquidity Management On Firm Profitability

Authors: Ugwu, Ikechukwu Virginus Ph.D₁, Ekwochi, Eucharia Adaeze Ph.D₂, Ogbu, Cyril Gabriel, Ph.D₃

1. Department of Accountancy Chukwuemeka Odumegwu Ojukwu University (COOU), Igbariam Anambra State, Nigeria, Gmail: virginusugwu418@gmail.com
2. Department of Management Sciences, Enugu State University of Sciences and Technology, Agbani.
3. Department of Business Administration, Caritas University, Amorji Nike, Enugu, Enugu State.

Abstract: *Our study is on logical consequence of liquidity management on firm performance. Ex-post factor research design applied, and a purposive sampling technique dwelt on 20 consumer goods that have complete financial information from 2010 to 2019 in the Nigerian Stock Exchange Fact Book, 2020. The analyses techniques adopted Panel data design using: descriptive statistics; Pearson's product moment correlation coefficient; Variance Inflation Factor VIF Test, (Multicollinearity) and multiple regressions. Results indicate that the dependent variable is 56%, jointly explained by the independent variables; while the F-statistics value and P-value show that the regression model is statistically significant. Finally, the four explanatory variables of our study show that: Current ratio management CRM is negatively significant; Quick ratio management QRM is positively insignificant; Cash conversion cycle management CCCM is positively significant; and Operating cash flow OCFM is positively insignificant on the ROA of the polled firms in Nigeria. We recommend, that firm management policy makers, should focus on how to sustain and increase profitability, by properly managing these independent factors; our contributions includes the enormous, rich literature for academia and the modernised model applied for the study. The implication, indicate that some liquidity management components improve firm performance if they are properly managed. However, the efficiency of management policy determines the logical consequence of each of the variables applied on ROA.*

Keywords: Current Ratio Management, Liquidity Management, Quick Ratio, Operating Cash Flow, Cash Conversion Cycle.

Background to the Study

Liquidity management is an important tool for the management of organizations and also a vital aspect of a firm's financial management. It depicts the effective and efficient operation, sustainability, a going concern status of any firm and also determines the quantity of profit that results and shows the value of shareholders wealth, (Ben-Caleb, 2008). Investors have an interest in the liquidity position of a firm as this bears a significant role in business sustenance. Liquidity of a firm portrays the amount of money that is available for investment. It helps a company to 'ride out' of liquidation and other accompanying problems of selling assets at distressed prices as a result of the inability to discharge obligations when necessary (Effiong & Enya, 2020). In another context, liquidity is viewed as the ability of any firm to pay its financial obligations in a timely manner without reducing its financial flexibility. A study of liquidity provides both internal and external forecast and privilege to understand the close relationship existing in the daily operations of a business (Muriithi & Waweru, 2017). Liquidity comprises of capital measurement of inflow and outflow of cash through the acquisition of a firm's product, periodic payments on purchases made and collection processes, with which asset can be transformed into cash without affecting other major liquid assets; while carrying out a business transaction, the company should keep a balance between liquidity and profitability, (Bhunia, 2010). Also it is "a day-to-day activity in an organization that provides a thorough valuation of the coverage and timing of cash inflows and outflows over preceding periods to reduce the threat of insufficient cash. It further consists of the capacity to meet up with the financial needs of the company as they fall due and ensuring that there are adequate funds at all times" Basse, Basse, & Ekwere, (2016). In another form Galling and Healey said that Liquidity analysis and management preferred to think of working capital management as liquidity management. According to them liquidity management is a more descriptive and accurate title of the responsibility associated with short-term financial decisions. To them it is the allocation of liquid resources over time for payments of obligations due for various investments that management undertakes to maximize shareholders' wealth. However, a firm in order to survive must remain liquid, as failure to meet its obligations in due time results in bad credit rating by the short term creditors, reduction in the value of goodwill in the market and may ultimately lead to liquidation (Bhavet, 2011). Again, an important aspect of liquidity management is the cash flow. Cash flow permits a firm to expand its operations, replace needed assets, take advantage of opportunities and pay dividends to its owners. Thus a healthy cash flow is fundamental to the profitability and survival of a business, and a firm with good return but poor cash flow may have its operations grounded. Short-term financial management directly affects the liquidity of the corporation. There is a Traditional short-term financial management, called working capital management and this takes care of the management of current assets and current liabilities. Again there is a Networking capital management (or as it is popularly known, short-term financial management) and is a subset of liquidity management. It is through liquidity management that net working capital management is linked with long-term financial management and wealth maximization for shareholders. The major fundamental objective of liquidity management is to ensure corporate solvency. Solvency is known as a dynamic task and a function of the allocation of resources, the rate of conversion of assets into cash, the

profitability of the firm, and the firm's credit worthiness and debt paying ability, (Owolabi, & Obida, 2012). Liquidity management also affects the firm's profitability in two ways. Firstly is the long-term interest rate that has historically exceeded short-term rates. This over reliance on long-term borrowings creates greater interest expenses. Second, short-term financial management deals with inventory, receivables and cash management; excessive balances in any of these components of current assets with no corresponding increase in income results in a greater level of total assets which reduces the firm's return on assets (ROA) and creates a greater need for financing thereby increasing financial costs. Thus the analysis of liquidity requires the understanding of cash flows both to the business and from the business. The study on liquidity will seek to reconsider the traditional analytical techniques and to investigate new approaches to liquidity management decision processes. Effiong and Enya, (2020) stated that consumer goods companies contribute significantly to the living standards of every consumer, and in the creation of value chain and economic expansion. But, without the proper management of liquidity of any sector or industry; be it banking, financial, production, consumer etc, the firm will naturally phase out from the competitive business environment and global financial challenges. Problems of liquidity management arises when one tries to provide answers to the question of how much is to be invested in the categories of current assets and how to finance investment (Eljelly,2004), would it be short-term or long-term financial management; how would the firm maintain sufficient cash and other near cash assets to meet any normal predictable expenses without resorting to costly emergency measures; avoid over investment in cash and other current assets as would be invested elsewhere in securities and long-term deposits and what of if there is inflation such that any fund invested on monetary assets is losing value (Owolabi, & Obida, 2012). Thus the key to the management of cash and other current assets is therefore a matter of striking a balance between risk and profitability, (Beb, 2009). Business financing, especially at the wake of the global financial crisis, has become a major source of concern for business managers as loans services are increasing as a result of tightening of both the local and international financial market and the reluctance of the public to invest in the share of companies sequel to the crash of the capital market, (Bhumia & Brahuma, 2011). Some manufacturing firms cannot pay dividend to their shareholders (Duru, Okpe & Oleka, 2014). Several works have been done on liquidity management and profitability, but mainly on banking sector as in (Amengor, 2010; Olagunji et al., 2011; Osborne et al., 2012; Nzotta (1997; Eichengreen and Gibson; 2001) and (Imad et al., (2011) significant in banks' profitability; Bourke, (1989) found a positive relation; Kehinde, (2013) found that liquidity has significant positive effect on return on asset (ROA); Idowu et al., (2017), found statistically significant relationship on banks' liquidity, return on assets (ROA) and return on equity (ROE); Heibati, et al., 2009 found significant relationship; Eichengreen & Gibson, 2001 and Al-Yatama, et al., (2020) did not find any effect on the financial performance; Molyneux and Thornton, (1992) and Goddard et al., (2004), found evidence of negative relationship. Only few works have been done in liquidity management and profitability of other sector such as consumer goods as found in (Duru, Okpe & Oleka, 2014 and Effiong & Enya, 2020). This work focuses on the possible logical consequence of liquidity management of firm profitability that are listed in the Nigeria Stock Exchange NSE as at 2019.

This study considers the possible logical consequence of liquidity management on firm profitability of firms in Nigeria. Other specific objectives are to determine the possible logical consequence of: current ratio; cash conversion cycle; quick ratio and operating cash flow ratio on profitability of firms in Nigeria.

The Research Questions are the possible consequences of: current ratio; cash conversion cycle; quick ratio and operating cash flow ratio on profitability of firms in Nigeria?

The Posited Hypotheses of this study are:

H₀₁: There is no possible logical consequence of current ratio on;

H₀₂: There is no possible logical consequence of cash conversion cycle on;

H₀₃: There is no possible logical consequence of quick ratio on; and

H₀₄: There is no possible logical consequence of operating cash ratio on profitability of firms in Nigeria.

The study Scope covers listed (20) manufacturing firms listed in Nigerian stock Exchange 2010-2019.

Conceptual Views

Liquidity Management

Nwaezeaku, (2008) defined liquidity as the degree of convertibility to cash or in other words, the ease with which any assets can be en-cashed or converted to cash is called liquidity in financial literature. He also added that assets must be sold at a fair market price. Dalgard, (2009) explained that liquidity is the degree to which an asset or security can be bought or sold in the market without affecting the asset's price. He further explains that a liquid asset is characterized by a high level of trading activity and plays a vital role in the functioning of financial markets. Markets are liquid when those who have assets holdings can sell them at prices that do not involve considerable losses so as to gain the finance they need to fulfil other commitments (Amihud, 2002). Liquidity by its implications has ratios and they include: current ratio, liquid ratio extracted from balance analysis and operating cash flow ratio extracted from cash flow analysis. In the explanation of Bolek and Wolski, (2012) the capacity of organization to meet its current liabilities are measured by different financial ratios. The firm can get together its debt and give its client long time payments, (Arif & Anees, 2012). Liquidity difficulties may deleteriously affect a certain bank's earnings and capital. Prior literatures like Raykov, (2017), Abubakar, et al., (2018), Lyndon and Paymaster, (2016); Syed, (2015) and Ejike and Agha (2018) saw liquidity as the ability of a firm to defray its short-term money-related commitments in a convenient way. Derived from these

authors' views, high volumes of available cash imply that organisations are in a position to honour their financial obligations, when they fall due without a default. Further, the types of assets held by corporations and the ease by which those assets could be easily turned into cash indicates how liquid the assets are as indicated in (Onyekwelu, et al., 2018; Mulyana & Zuraida, 2018; Mohd & Asif, 2018; Raykov, 2017; Abubakar et al., 2018; Lyndon & Paymaster; 2016; Syed, 2015 and Ejike & Agha, 2018) . Conversely, Liquidity management refers to the ability of a firm to trade an asset, such as stock or bond, at its current price: and to financial institutions, it refers to their ability to meet cash and collateral obligations without incurring substantial losses. Thus, liquidity management describes the effort of investors or managers to reduce liquidity risk exposure. Strategies which can be adapted within the firm to improve liquidity and cash flows concern the management of working capital, areas which are usually neglected in times of favourable business conditions (Pass & Pike, 1984). Also, liquidity management describes the effort of the investors or managers to reduce liquidity risk exposure. It implies conversion of assets into cash during the normal course of business and to have regular uninterrupted flow of cash. The concept of liquidity management in companies has two dimensions; quantitative and qualitative. The quantitative aspect includes the quantum, structure and utilization of liquid assets. The qualitative aspect emphasizes upon the ability of a firm to meet all present and potential demands on cash in a manner that minimize cost and maximize the value of the business. Raheman, (2007) said that liquidity plays a significant role in the successful operation of firms and therefore should ensure that it does not suffer from lack-of or excess liquidity to meet its short-term obligations. Firms with glowing long term prospects and healthy bottom lines do not remain solvent without good liquidity management (Jose, et al., 1996). A firm's liquidity is measured with the use of some financial terminologies known as liquidity ratios. Some of these ratios indicate the extent of liquidity or non-liquidity; Receivable Collection Period (RCP), Cash Flow Ratio and Operating Cash Flow Ratio on profitability.

Current Ratio

Current ratio is a ratio that measures the ability of the business to settle its short term obligations when due. Current ratio is firm's ability to meet up with the short term obligations that are due within one year. The pictures of current ratio in financial statement depict how a company maximize the current assets on its balance sheet to settle current debt and other payables. Current Ratio is the ratio between current assets with current liabilities (Mamduh & Halim, 2014). Current ratio is a true indicator of corporate liquidity, since the calculation considers the relative relationship between current assets and current liabilities for each company (Wibowo & Pujiati, 2011). Current Ratio high can provide good information to potential investors. This will have an effect on investor interest in investing, resulting in increased current assets. The higher the current ratio shows the higher profit change (Kuswadi, 2005). Current ratio is a measure of the liquidity or solvency of a firm. A solvent firm is one which can conveniently meet all maturing obligations as and when due. A firm is said to be solvent if its current assets when realised is more than sufficient to pay off all of the firm's current liabilities. Current ratio is calculated by dividing current asset with current liabilities. One of the indications of this ratio is that it shows much cash that a company owns, and all the asset that can be converted to cash within a year as compared to its total liabilities that will mature in short term(not more than 1 year). Sofyan, (2009) is of the view that a higher (current ratio) ratio of current asset compare to its current liabilities, indicates a firm's better ability to pay off its short term debts; while Anao, (2004), explained that current ratio is the ratio of current assets to current liabilities and this assesses the extent of cover of the total liquid and near liquid assets over all short term liabilities. It indicates the ability of a business to meet its short term liabilities as they fall die, out of its short term assets and meet its short term liabilities from its current assets without having to sell fixed assets or issue share to raise additional funds (Oye, 2011). The acceptable norm of measurement for current ratio is 2:1, meaning that for a business to be considered liquidity healthy its current assets should double its current liabilities. Wibowo and Pujiati, (2011) discovered that the current ratio has a partial positively affects on earnings changes, but Sari, Darmansyah and Murni, (2018) showed that current ratio had a significant positive effect on return on assets, and Saragih, Siahaan, Purba & Supitriyani, (2015) found the same with Sofie, Novita & Bunga, (2015), Suyono and Gani (2017) and Qurays, Susyanti & Rachmat, (2018). Conversely, Supardi, Suratno & Suyanto, (2016) found that current ratio had no significant effect on the ROA, so did Hersandy, Hasan & Savitri, (2017) and Ambarwati, Sagita, Yuniarta & Sinarwati, (2015). Again Akter and Mahmud, (2014) indicated that there is no significant relationship between current ratio and ROA. Then, Priya and Nimalathanan, (2013) discovered that the current ratio and cash ratio are significantly related with ROA. Further, Ruziqa, (2013); Vayanos and Wang, (2012) asserted that liquidity ratios have positive significant effect on ROA; while Saleem and Rehman, (2011); Khidmat and Rehman (2014) found a positive relationship of liquidity ratios and ROA.

Cash Conversion Cycle

The cash conversion cycle (CCC) was propounded by Hager (1976) and it was used by many researchers (Thuvarakan, 2012). Cash conversion cycle (CCC) is among the measures of management effectiveness and measures how long a firm will be deprived of cash if it increases its investment in resources in order to expand customer sales. CCC is a measure of the liquidity risk entailed by growth. But, shortening the CCC creates its own risks: while a firm could even achieve a negative CCC by collecting from customers before paying suppliers, known as a policy of strict collections and lax payments which is not always sustainable. The CCC does this by following the cash as it is first converted into inventory and accounts payable (AP), through sales and accounts receivable (AR), and then back into cash. CCC is combined with other metrics such as return on equity and return on assets and useful for comparing close competitors, as firms with the lowest CCC is often the one with the best management. CCC is another measure of corporate liquidity management (Moss & Stine, 1993) as this measures the time lag between cash payments for

purchase of inventories and collection of receivables from customers. CCC applies as a comprehensive measure of working capital as it depicts the time lag between expenditure for the purchase of raw materials and the collection of sales of finished goods, (Padachi, 2006). CCC formulae and calculation is shown as: $CCC = \text{Inventory collection Period} + \text{Debtors Collection Period} - \text{Creditors Payment Period}$. Applying this formula, the three variables on which CCC is dependent are: Inventory collection Period ICP = Debtors Collection Period DCP = Creditors Payment Period CPP = Cash conversion cycle CCC. This can result negative or positive. However, positive outcome indicates the number of days a company must borrow or tie up capital while awaiting payment from a customer; while negative outcome indicates the number of days a company has received cash from sales before it must pay its suppliers (Hutchison, 2007). Low CCC is the best option for firms, if possible a negative outcome. The shorter the CCC, the more efficient any firm is managing its cash flow. Paul and Mitra, (2018) found significant impact of working capital management WCM on the profitability. Boțoc and Anton, (2017) indicate that optimal WCM level maximizes profitability; while Bhatia and Srivastava, (2016) observed a negative association between WCM and firm profitability. Nasreen, et al., (2014) found a significant impact between WCM and profitability but Makori, & Jagongo, (2013) indicated a negative association between profitability and number of day's accounts receivable and CCC. Tufail, (2013) indicated aggressiveness WCM policies to be negatively associated with profitability; while liquidity and size are positive whereas debt to equity ratio is negative with profitability. Mestrado, (2013) found a concave relationship between WCM and profitability, indicating that firms with optimal working capital level maximize profitability. Arshad and Gondal, (2013), found a significant negative; Thuvakaran, (2012) found a negative relationship and no significant relationship between CCC and profitability; Rehn, (2012) found significant evidence. Chary and Kumar, (2011) found that current assets with a larger proportion in total assets have shown a high degree of negative correlation and the current assets with considerable proportion in gross working capital have shown a moderate degree of correlation with the profitability confirms the theory that excess of working capital results in low profitability. Alipour, (2011) discovered a negative significant relationship between CCC and profitability. Al-Debi'e, (2011) found significant between WCM and profitability, more so Teruel and Solano, (2004) provided empirical evidence about the effects of WCM on profitability; Deloof, (2003) observed a significant negative correlation between gross operating income and number of day's receivable accounts, inventories, and accounts payable in Belgium.

Quick Ratio

Quick ratio signals a firm's short term liquidity position and measures a company's ability to meet its short term obligations with its most liquid assets. It is also known as the acid test ratio and is a quick test designed meant for an instant results as the name depicts. This indicates a firm's capacity to pay its current liabilities without disposing its inventory or get additional financing. Anao, (2004) defined quick asset ratio as the ratio of current assets less inventories to current liabilities. The parameter expected of any firm to maintain a quick assets ratio is the figure, not less than 1:1, and is calculated as current assets less inventories divided by current liabilities. The outcome depicts the extent to which current liabilities are covered by immediately realisable assets (Oye, 2011). Also, Aborode, (2006) observed that ratio indicates the ability of the company to meet its short term liabilities from its current assets without having to sell its inventories. It is an acid test that measures the ability of a business to settle its short term obligations as at when due using its liquid or quick assets (i.e. current assets – closing inventory - prepayments). Sinha, (2012) pointed that this ratio only includes the most liquid of current assets to current liabilities. The rise in the value of this ratio expresses high liquidity of the company. It, excludes prepaid expenses and inventory from current assets being difficult conversion into cash, (Sinha, 2012). Tugas, (2012) used three ratios for liquidity as: current ratio, quick ratio; cash ratio to identify the extent of its relationship with operating profit margin and found positive relationship between current ratio, quick ratio and operating profit margin. Lyroudi et al. (1999) found that the current ratio and the quick ratio have a negative association with the net profit margin. Niresh, (2012) found a positive correlation between the quick ratio and net profit margin. Khaldun, (2014) discovered a weak significant relationship between current ratio, quick ratio, cash ratio, and gross profit margin, but significant on the growth of profit of industrial companies in sector food and drink ; while Wiyono and Se, (2012) found that liquidity ratio has a positive impact on gross profit margin.

Operating Cash Flow

The operation of cash flow activities is the ability of company to generate profits and continue its operations. Operating profit can be obtained through operating costs deducted from gross profit. This is a very important ratio because it reflects the company's ability to generate profit from ordinary operations related to a company. The decline in this ratio refers to a weak control over operating costs (Gibson, 2009). The formula for the operating cash flow ratio can be written as: $\text{Operating Cash Flow Ratio} = \frac{\text{Cash Flow from Operations}}{\text{Current Liabilities}}$. Operating cash flow is a complete index to determine profitability of a firm, an analyst, investor, creditors and other stakeholders. Zeller and Stanko, (2000), observed that operating cash flow ratio can give an overview of firm ability to produce adequate operating cash flow to pay its debt and equity and to acquire assets. It is an indicator to determine whether or not operating activities can produce cash which can be used for paying debt, maintain function, paying dividend and making new investment without relying on external source of funding, and the operating cash flow ratio can be used by investors as a signal of firm condition and profitability (Kartikahadi, 2012). This ratio avoids the issues of actual convertibility to cash, turnover, and the need for minimum levels of working capital (cash) to maintain operations (White, Sondhi & Fried, 2002). This also measures how well a firm pays its current liabilities with cash flows from operations. In a nutshell, it is an accurate way of measure of a firm's short term liquidity than traditional liquidity ratios in firms where earnings are more managed

and manipulated (Omer, 2019). To establish the effect of cash flow management on profitability of firm, there have been prior researches globally. Robert and Hamacher, (2015) concluded that the improvement in cash flows positively affected the financial performances measured by ROA. Then, Turcas, (2011) found out that the solvency, flexibility and the financial performance of the Bucharest firm's are set on the firm's ability to generate positive cash flows from the operating cash flow, investing cash flow and financing cash flow. Also Zimbabwe, Mauchi, Nzaro and Njanike, (2011) found a positive relationship between the level of cash flow and the profitability; Ndungu and Oluoch, (2016) concluded that cash flow management has significant relationship on market performance. Amah, Micheal and Ihendinihu, (2016) stated that operating activities has a significant and strong relationship with performance and finally Tugas, (2012), found positive relationship between current ratio, quick ratio and operating profit margin, while cash ratio is not associated with operating profit margin.

Profitability

Profitability is the ability to make profit from all the business activities of a firm (Njure, 2012); while liquidity is needed for a company to continue business, a company may choose to hold more cash than needed for operational or transactional needs or for precautionary or speculative reasons. Profitability refers to the company net income left after payments of expense. In this regard, Bagh, et al., (2016) explained that profitability or monetary performance embodies quantifying the outcome of a business's entire policies and operations in terms of money. In order to gauge firms profitability diverse alternatives key financial ratios can be employed e.g. earnings per share, net profit ratio, gross profit ratio, return on equity, assets, and capital employed etc. Orshi and Abdulateef, (2016) indicated that corporate profitability is a measure of the amount by which a company's revenues exceeds its relevant expenses. The ratio analyses in relation to sales includes: ratios such as gross profit margin (GPM), net profit margin (NPM), operating expense ratio (OER), and so on; in relation to investment, which to a greater extent justifies the efficiency and performance of a firm, includes ratios such as return on investment (ROI), return on equity (ROE), earnings per share (EPS), dividend per share (DPS), dividend pay-out ratio (DPR), dividend yield (DY) and earnings yield (EY), price-earnings ratio (P/E), market value to book value ratio (MV/BV), and Tobin's Q (T-Q). Janglani and Sandhar, (2013) stated two major measures of profitability ratios: in relation to sales and to investment, Gross profit margins (GPM), net operating margin (NOM), return on assets (ROA), return on equity (ROE), and return on capital employed (ROCE). Irrespective of the fact that profitability is an important aspect of business, it may be faced with some weakness such window dressing of the financial transactions and the use of different accounting principles (Owolabi & Obida, 2012).

Theoretical Reviews

Trade-off Theory of Liquidity

The trade off theory was propounded by Myers on 1977. The theory suggests that firms target an optimal level liquidity to balance the benefits and cost of holding cash. Ogundipe and Ajao (2012) benefits of holding cash is that it constitutes a safety buffer which permits firms to avoid the cost of raising external funds or liquidating existing assets and which allow firms to finance their growth opportunities and it works under perfect capital market assumptions holding cash neither creates nor destroys value. The trade-off theory shows that companies target a most effective level of liquidity to stabilize the gain and cost of retaining cash. It explains that, corporations with high leverage draws excessive price of servicing the debt thereby affecting its profitability and it will become difficult for them to source for funds through different resources (Jensen, 1986). Also Jensen, (1986) presents agency problem associated with free-cash flow. Further, the trade-off theory of liquidity Myres, (1977) suggests that firms target an optimal level of liquidity to balance the benefits and cost of holding cash. As regards this, Ogundipe and Ajao (2012) opined that it constitutes a safety buffer which permits firms to avoid the cost of raising external funds or liquidating existing assets and which allows firms to finance their growth opportunities. The liquidity-profitability trade-off theory predicts a negative relationship between liquidity management and profitability as in (Kim, 1998; Ozkan & Ozkan, 2002; Bates, 2009) As regards this theory Frank and Goyel, (2002) found that bigger firms are more organized to take decision followed by this theory; while Smaller firms were not following this theory and being traded publicly during that time which also supports trade-off theory. As the smaller firms moved away from pecking order theory so, overall average moves further from the pecking order.

Empirical Reviews

Kaodui, Mohammed and Yusheng, (2020) establish the nexus between liquidity and the viability of quoted non-financial establishments in Ghana using panel data from 15 within 2008 to 2017. Preliminarily analyses were cross-sectional reliance, unit root, serial correlation, heteroscedasticity, co-integration, causality tests were established. The regression showed that liquidity has significant adverse effect on the firms' (ROE) but had insignificantly positive effect on ROE when surrogated by the cash flow ratio. Finally causalities test uncovered that, with the exception of Current Ratio and ROE that are flanked by bidirectional liaison, no other causal affiliation was evidenced amid other variables.

Alali, (2020), examines the impact of liquidity on the financial performance of ten Kuwaiti banks, from 2010-2018. The results of the study showed a statistically significant direct relationship between ROA and the ratio of loans to total assets, the ratio of loans and deposits and the ratio of the financing deficit to total assets. Further calculations shows, a statistically significant inverse relationship between the ROA of liquid assets and the total assets and the ratio of liquid assets and deposits. (ROE) showed statistically significant feedback on liquid assets and deposits, while a significant direct relationship with the ratio of loans to total assets, the ratio of loans to deposits and the deficit of funding to the total assets.

Effiong and Enya, (2020) examines the effect of liquidity risk management LRM on the financial performance of consumer goods companies. Data were obtained from the annual reports and analyzed with multiple regressions. The findings show that long term debts, quick ratios, and cash defensive intervals have a significant effect on EPS and ROA, while cash ratio and long term debts affect ROCE only. Empirically result shows a significant relationship between LRM and financial performance. Further result reveals that companies' non-concerned attitude to LRM affects the financial performance of consumer goods companies significantly.

Lina Warrad, (2014) studied how liquidity ratios are employed by analysts to determine the firm's ability to pay its short-term liabilities. The study aims to investigate the effect of liquidity through current ratio on profitability expressed by net profit margin. A simple liner regression covered from 2005 to 2008, to test the extent that the current ratio effect net profit. The result found that there is no significant effect of current ratio on net profit margin among Jordanian Real Estate Sector.

Madushanka and Jathurika, (2018) examined the Impact of Liquidity ratios on profitability (With special reference to Listed Manufacturing Companies in Sri Lanka). The analysis is based on 15 manufacturing companies listed on the Colombo Stock Exchange from 2012 to 2016. Correlation and regression analysis and descriptive statistics were applied in the analysis and findings suggest that Liquidity ratios (Quick ratio) have positive and significantly related to the firm profitability among the listed manufacturing companies in Sri Lanka.

Omar, Abdul Aziz , Syed Ahsan and Nour, (2016) examine the relationship between liquidity ratios and indicators of financial performance (profitability ratios) in the food industrial companies listed in Amman Bursa, (2012-2014) using 8 sample industrial companies. The results showed no relationship between all liquidity ratios and the gross profit margin, while there is a weak positive relationship between the current ratio and each of the operating profit margins and the net profit margin, as the study pointed to the existence of a positive relationship between (quick ratios, defensive interval ratio) and operating cash flow margin. There is a positive relationship between liquidity ratios (current ratio, quick ratio, cash ratio) and return on assets.

Naim and Ibrahim, (2018) examine the relationship between liquidity and profitability, through more than liquidity indicator using 2008-2015 financial reports of 11 Jordanian trade companies listed at Amman Stock Exchange (ASE). Applying Jordanian trade services companies' profitability through return on asset (ROA), the study revealed that there is significant impact of independent variable quick ratio on dependent variable (ROA).

Manar Al-Mohareb, (2019) investigated cash conversion cycle and profitability, evidence from Jordan. This study used a sample of Jordanian manufacturing firms listed in the Amman Stock Exchange for the period (2016-2018) and applied firms that have current assets over half of their total assets. Finding, indicate that there is a significant relationship between the cash conversion cycle, which is considered as a proxy of working capital management, and profitability of the manufacturing firms.

Khalil and Emad, (2020) explored, if there is an impact of cash flow on profit quality in Jordanian hotel companies? The study population is (9) Jordanian hotel companies listed on the Amman Stock Exchange, 2014 to 2018. The panel data collected were analysed and the results has a strong inverse relationship between (index of operational activity, index of return on assets from operating cash flow), and (profit quality). Further, there is an inverse relationship that is not statistically significant between (index of operating cash flow) and (profit quality).

Waseque, Md. Mahedi, Md. Aminul and Mohammad, (2018) Impact of free cash flow on profitability, using six years data collected from 28 firms in Bangladesh Dhaka Stock Exchange. Analyses adopted descriptive and inferential statistical and the study show a mix of both positive and negative relationship between the variables, but the final result accepted a positive relationship.

Murkor and Oluoch (2018) studied effect of operating cash flow management on financial performance of mutual funds in Kenya. The study used secondary panel data collected from 22 mutual funds financial reports, 2011-2016. Analyses employed Descriptive statistics, inferential statistics and regression technique in Hausman specification tests. The study found out that operating cash flow management has significant and positive effect on return on assets and insignificant and positive effect on return on equity.

The effect of liquidity through quick ratio on 15 Jordanian listed banks' profitability presented by return on asset (ROA) was examined by Al-Nimer, M., et al. (2013) study which covered the period from 2005 to 2011. The results led to insignificant impact of independent variable quick ratio on dependent variable return on asset (ROA). That means profitability through return on assets (ROA) in Jordanian banks is significantly influenced by liquidity through quick ratio.

The relationship between the liquidity and the profitability of seven out of the nine listed banks on Ghana Stock Exchange for the period from 2005 to 2010 was presented by Lartey V., et al. (2013) study which used the panel method. The trend in liquidity and profitability were determined by the use of time series analysis. The study concluded that there was weak positive relationship between the liquidity and the profitability of the listed banks in Ghana.

The relationship between the financial ratio analysis and profitability was examined by Innocent, E., et al. (2013) study. The sample of the study covered Pharmaceutical sector during the period from 2001 to 2011, and used descriptive research method and multiple regression to find the relationship. The results concluded that there is a negative relationship between total assets turnover

ratio, inventory turnover, debtors' turnover ratio and creditors' velocity with profitability, also the results showed that assets turnover ratio and debtors' turnover ratio and creditors' velocity have no significant relationship with profitability, while only inventory turnover has a significant relation with profitability.

Tanveer Bagh, et al., (2017) investigated the Causative Impact of Liquidity Management on Profitability of Banks in Pakistan. The secondary financial data obtained from financial reports covering period of 2006-2016 were analyzed using descriptive and inferential statistics. The result demonstrates that advances to deposit ratio (ADR), Cash deposit ratio (CDR) and Deposit Assets Ratio (DAR) have positive and significant impact on ROA, whereas negative and significant impact on ROA; while CR, ADR, CDR and DAR have positive and significant impact on ROE.

Mushtaq, et al., (2015) the study concentrated on the trade-off amongst liquidity and profitability of five sectors of Pakistan. As a part of study, quantitative study was used. In the study correlation and panel regression analysis was used. Based on panel regression results are evaluated. The Results recommends that there is positive relationship of liquidity and profitability of firms.

Nyaga, (2014) studied the effect of liquidity on the profitability of the Ukrainian companies by taking data from 2001-2010. By employing regression analysis and the conclusions indicates that rapid and current ratios have positive significant result on profitability.

Ajanthan, (2013) analyzed the connection PF liquidity and profitability of Sri Lanka trading companies. The study concentrated on 8 listed trading companies from the period 2008 to 2012. Regression and correlation analysis were utilized and outcomes propose significant relationship amongst liquidity and profitability of listed trading companies of Sri Lanka.

Batchimeg, (2017) conducted a research on businesses trading on the stock market of Mongolia. Panel data from 100 listed Joint Stock Companies (JSC) from six major sectors in the Mongolian economy were utilized for the study. From the results, liquidity was not a significant determinant of the firms' profitability.

Ashutosh and Gurpreet, (2018) analyzed the viability of sugar mills in Punjab. Panel data from both co-operative and private sugar mills for the period 2003–2004 to 2013–2014 were adopted for the study. From the study's multivariate regression analysis, liquidity had an insignificant influence on the profitability of private sugar mills in Punjab sugar industry.

Ben-Caleb, Olubukunola and Uwuigbe, (2013) studied the relationship between liquidity management and profitability of manufacturing firms in Nigeria. A sample of 30 manufacturing companies listed on the Nigeria stock exchange was selected and data from 2006-2010 were analysed using descriptive statistic and a multiple regression. The result showed that all the predictor variables namely, current ratio, quick ratio and cash conversion cycle, natural logarithm of sales and natural logarithm of total assets were positively but insignificantly related with profitability, measured by return on capital employed.

Ehiedu, (2014) examined the effect of liquidity on profitability of some selected corporations using financial statement analysis approach of non-probability sampling method of 4 chosen on firms. The overall findings of this examination revealed that there was an enormous positive correlation among current ratio and profitability, there was no particular significant correlation between quick ratio and profitability; there was no tremendous positive significant correlation among return on capital employed and profitability.

Gideon and Joseph, (2019) studied the liquidity and the profitability of manufacturing firms in Nigeria. Data collated were analyzed using pooled Ordinary least square estimation, fixed and random effect, Panel Unit Root, Panel Co-Integration Test, and Granger Causality. The findings revealed that quick ratio (QR) had a negative and insignificant impact on; Cash ratio (CR) exert positive and significant impact on; Current ratio (CR) exert insignificant negative impact on profit after tax and finally, there is no long-run relationship between liquidity and profitability of manufacturing firms in Nigeria.

Orshi and Abdulateef, (2016) studied liquidity management and profitability of 10 listed food and beverages companies in Nigeria. The study adopted an ex-post facto research design from 2004 to 2013 and analyzed the data with descriptive statistics and generalized least squares multiple regression techniques. The study found that: cash conversion cycle has an insignificant negative impact on Return on Equity and Earnings per Share respectively.

Patjoshi, (2016) examined liquidity management and financial performance of selected steel companies in India from the period of 5years (2010-11 to 2014-15). The analyses applied descriptive analysis, correlation, regression and different financial ratio analysis. The analysis reveal current ratio, liquid ratio, inventory turnover ratio, current assets turnover ratio and current liabilities to total assets have significant relationship with profitability.

Methodology

The research design used ex-post factor research design.

The population of this study consists of all the manufacturing firms listed and traded in Nigerian Stock Exchange NSE on 2020 financial year.

A purposive sampling technique was used to dwell on 20 consumer goods that have displayed complete financial information from 2010 to 2019 as found in the Nigerian Stock Exchange fact book, 2020. The analyses techniques adopted Panel data design which combined period and cross sectional data using: descriptive statistics; Pearson's product moment correlation coefficient; Variance Inflation Factor VIF Test, (Multicollinearity) and multiple regression analysis.

Model Specification

Variable Application

The Criterion variable profitability is proxy by Return on Asset (ROA) and is measured as Net income divided by shareholders equity as measured in (Janglani and Sandhar, 2013).

The Explanatory variable liquidity management is proxy by: (Current Ratio Management CRM measured in (Nyaga, 2014; Patjoshi, 2016; Olubukunola and Uwuigbe, 2013); Quick Ratio Management QRM as measured in (Olubukunola & Uwuigbe, 2013; Ehiedu, 2014; Omar et al., 2016); Cash Conversion Circle Management CCCM made up of inventory conversion period ICP, debtor’s collection period DCP and creditor’s payment period CPP as measured in (Orshi & Abdulateef, 2016); and Operating Cash Flow Management OCFM as measured in (Murkor & Oluoch, 2018).

$$ROA_{it} = \beta_0 + \beta_1 CRM_{it} + \beta_2 QRM_{it} + \beta_3 [CCCM]_{it} + \beta_4 OCFM_{it} + \mu_{it} \dots \dots \dots \text{Model } i$$

Variables defined as follows:

ROA = Return on Asset of the firm, *i* in period *t*; β_0 = Constant term (intercept) of the study model; β_1 - β_4 = Coefficients of Corporate profitability; μ_{it} = Component of unobserved error term of the firms, *i* in period *t*; CRM_{it} = Current Ratio Management *i* in period *t*; QRM_{it} = Quick Ratio Management *i* in period *t*; $CCCM_{it}$ = Cash Conversion Circle Management of the firms which is CCC = Cash conversion cycle, defined as ICP + DCP – CPP,

ICP = Inventory conversion period, defined as closing inventory over cost of sales x 365 days, DCP = Debtors collection period, defined as debtors over sales x 365 days,

CPP = Creditors payment period, defined as trade creditors over cost of sales x 365 days;

i in period *t*; $OCFM_{it}$ = Operating Cash Flow Management of the firms *i* in period *t*; while *t*=10 years.

Data Presentation, Analysis, Discussions and Summary of Findings

Table 1: Descriptive Statistics

| | ROA | CRM | CCCM | QRM | OCFM |
|--------------|----------|----------|----------|----------|----------|
| Mean | 2.29643 | 1.10845 | 54.5767 | 0.74905 | 0.04210 |
| Median | 2.08400 | 1.09000 | 59.0200 | 0.55000 | 0.03850 |
| Maximum | 20.2300 | 2.44000 | 146.010 | 1.81000 | 0.41700 |
| Minimum | -7.81000 | -1.21000 | -90.3300 | 0.24000 | -0.52700 |
| Std. Dev. | 2.40232 | 0.74136 | 51.1985 | 0.37341 | 0.10912 |
| Skewness | 1.70180 | -0.98317 | -1.23334 | 0.56809 | -0.45449 |
| Kurtosis | 19.1483 | 4.73318 | 4.55553 | 2.06269 | 6.83027 |
| Jarque-Bera | 2269.77 | 57.2534 | 70.8688 | 18.0789 | 129.144 |
| Prob. | 0.00000* | 0.00000* | 0.00000* | 0.00011* | 0.00000* |
| Sum | 459.730 | 221.690 | 10917.3 | 149.810 | 8.42000 |
| Sum Sq. Dev. | 1148.465 | 109.3744 | 521636.0 | 27.74852 | 2.36952 |

Source: Authors Computation, (2021)

The result of the descriptive statistic shows positive Skewness distribution values (ROA=1.7018; QRM=0.56809) with a long right tailed skewed to the right; while the others were negative. The Kurtosis, shows (K>3) and this indicates a (Leptokurtic) distribution (more than normal distribution with larger tails) for the dependent and all the independent variables except QRM. The (ROA) has mean (2.296); standard deviation (2.4023); maximum (20.23); minimum (-7.81). OCFM has minimum (-0.526); maximum (0.416); mean (0.041); std dev. (0.106). But on the average, firms use about 54.57 days to turn receivables and inventory to sales (max. cash conversion time = 146 days). The shows Jarque–Bera test for normality and existence of outliers among the explanatory variables with a normally distributed @ 1% level of significance. Based on this outcome we justify the application of panel least square estimation techniques in this study.

Pearson Correlation Matrix

Table: 2. Pearson correlation

| | ROA | CRM | CCCM | QRM | OCFM |
|------|----------|----------|---------|----------|------|
| ROA | 1 | | | | |
| CRM | -0.04230 | 1 | | | |
| CCCM | 0.27096 | 0.06302 | 1 | | |
| QRM | 0.01905 | -0.16906 | 0.03237 | 1 | |
| OCFM | 0.05285 | 0.10402 | 0.21376 | -0.01559 | 1 |

Source: Authors Computation, (2021)

The correlation matrix above shows that ROA has a positive relationship with the explanatory variables CCCM, QRM and OCFM but has negative correlation with CRM however none has a perfect correlation. In other words there is no multi-co linearity observed from the result thereby ruled out the case of having an outlier, hence the use of the proposed model for the study. By this justifies the application of panel least square variance inflation factor (VIF).

Variance Inflation Factor (VIF) Test

The test above is to further check for multi-collinearity problem and ascertain whether the independent variables for this study have any perfect correlation among them. The result of the Variance Inflation Factor (VIF) is provided below:

Table 3 Variance Inflation Factor VIF

| Variable | Coefficient Var. | VIF | VIF |
|----------|---------------------|---------|---------|
| C | 0.25267 | 9.29564 | NA |
| CRM | 0.05183 | 3.38607 | 1.04292 |
| CCCM | 1.10E-0 | 2.25343 | 1.05180 |
| QRM | 0.20207 | 5.20265 | 1.03145 |
| OCFM | 2.42518 | 1.21520 | 1.05706 |

Source: Authors Computation, (2021)

The rule of thumb and limit for the acceptance of VIF is 10. The mean value of the independent variables coefficient is less than 10 both for the individual variables and on the average. This supports the Jacque Bera (JB) in descriptive to check for the problem of normality and multi-collinearity and hence justifies the use of panel least square estimation techniques and shows true population of study and thus can be used to draw conclusion.

Table 4: Panel Least Square Regression

| Variables | Coeff. | Std. Error | t-Statistic | Prob. |
|-------------------|----------|----------------------|-------------|---------|
| C | 1.80955 | 0.50256 | 3.58725 | 0.0004 |
| CRM | -0.19421 | 0.22565 | -1.83758 | 0.0483 |
| CCCM | 0.01387 | 0.00325 | 3.88342 | 0.0001 |
| QRM | 0.00056 | 0.43861 | 0.00223 | 0.9540 |
| OCFM | 0.00766 | 1.54716 | 0.00485 | 0.9852 |
| R-squared | 0.57565 | Mean dept. Var. | | 2.29865 |
| Adj. R-squared | 0.55500 | S.D. dependent var | | 2.40126 |
| S.E. of regres. | 2.33158 | Akaike info crit. | | 4.54567 |
| Sum sqd resid | 1060.07 | Schwarz criterion | | 4.63711 |
| Log likely hood | -450.565 | Hannan-Quinn criter. | | 4.58802 |
| F-statistic | 4.05452 | Durbin-Watson stat | | 1.83035 |
| Prob(F-statistic) | 0.00323 | | | |

Source: Authors Computation, (2021).

The R-squared adjusted value is 0.55500 approximately 56 which means that about 56% in the dependent variable, is jointly explained by the independent variables. This implies that dependent variable in pooled firms cannot be 100 percent explained by all the independent variables applied in this study. Part of the unexplained criterion variable can be attributed to exclusion of very important independent variables that can explain the dependent variable but are outside the scope of this study. In overall, the F-statistics value of (4.05452) and its P-value of (0.003) show that the regression model is statistically significant at 1% level. This implies that the regression model is valid and can be used for statistical inference in the study. Also, the outcome of Durbin Watson statistics value (1.83) approximately (2), showed that the model is well spread and that there have not been auto correlation problem.

H₀₁: Current ratio Management CRM is not significant on firm profitability.

Regression result of current ratio management on firm profitability showed a coefficient value of CRM: (**coefficient = -0.19421**); (**t-value = -1.83758**) and (**P-value = 0.0483**). The value of -0.19421 shows, that CRM is negative on ROA. This implies that a 1% decrease in the CRM is associated with an increase in ROA by 0.1942, confirming the priori expectation of the research that as CRM decreases, profitability of the pooled firms, increases. The t-value and the probability value indicate that CRM is statistically significant at 5% level of significance. Therefore, the study rejects the null hypothesis by accepting, the alternate hypothesis and concludes that CRM has negative significant effect on firm profitability of the pooled firms in Nigeria at 5% level of significance. The liquidity-profitability trade-off theory predicts a negative relationship between liquidity management and profitability as in (Kim, 1998; Ozkan & Ozkan, 2002; Bates, 2009). The findings that CRM has a negative effect on ROA of the pooled firms agrees with the findings of the following prior works: (Supardi, et al., 2016; Hersandy et al., 2017; Ambarwati et al., 2015; Akter & Mahmud, 2014; Lyroud et al., 1999; Lina Warrad, 2014; Batchimeg, 2017; Ashutosh & Gurpreet, 2018; Gideon & Josegh, 2019); while Ben-Caleb et al., (2013) and Ehiedu, (2014) found positive insignificant. But these prior work found positive significant in

disagreement with this result: (Pujianti, 2011; Darmansyay & Murni, 2018; Saragih et al., 2015; Sofie, et al., 2015; Nimalathasan, 2013; Ruziqa, 2013; Vayamos & Wang, 2011; Khdmal & Rehman, 2014; Tugas, 2012; Kaodui, 2020; Madushanka & Jathurika, 2018; Omar et al., 2016; Tanveer et al., 2017; Nyaga, 2014 and Patjoshi, 2016). Conversely these authors found positive insignificant result: (Ben-Caleb et al., 2013 and Ehiedu, 2014).

H₀₂: Cash conversion cycle Management is not significant on firm profitability in Nigeria

The regression result shows CCCM with: **(coefficient = 0.01387); (Standard error =0.00325); (t-statistics = 3.88342); probability = 0.0001)** and this is positive and significant at 5% level. The result compels the study to reject the null hypothesis and accepts the alternate hypothesis and conclude that CCCM is positively significant on profitability of the pooled firms and therefore an important determinant of ROA. It means that a percentage increase in CCCM is associated with a 0.01387%, approximately one percent increase in profitability of the pooled firms and somehow support the postulations of trade-off theory. The result that CCCM is positively significant on firm profitability is in consonance with the results of the following prior works: Paul & Mitra, 2018; Botoc & Anton, 2017; Nosreen et al., 2014; Rehn, 2012; Al-Debie, 2011; Manar Al-Mohateb, 2019; Waseque, et al., 2018 and Gideon & Josegh, 2019). Contrarily, these authors result who found negative, did not agree with this study result: (Bhatia & Srivastava, 2016; Makori & Jagong, 2013; Tufail, 2013 in aggressive WWC; Arshal & Gondel, 2013, found significant negative; Deloop, 2003, found significant negative; Orshi & Abdulateef, 2016; Ben-Caleb, et al., 2013 found insignificant positive).

H₀₃: Quick ratio has no significant effect on profitability of consumer goods firms in Nigeria.

The regression result indicates that quick ratio management QRM has **(positive coefficient value = 0.00056; (t-statistics value = 0.00223); (p-value = 0.9540)**. By this outcome the study reject the null hypothesis and accepts the alternate hypothesis and state that QRM has a positive significant impact on ROA of the pooled firms. This simply implies that a 1% increase in QRM is associated with a minimal increase in ROA by 0.00056%. In other words, as QRM has a positive insignificant impact on ROA and therefore, is a minimal determinant of ROA. This finding disagrees with the findings of: (Tugas, 2012; Niresh, 2012; Wiyono & Se, 2012 and Naim & Ibrahim, 2018); while Khaldun, 2014 and Ben-Caleb, et al., 2013 found weak insignificant.

H₀₄ Operating has no significant effect on profitability of consumer goods firms in Nigeria.

The regression figures of operating cash flow management OCFM to return on asset are: **(Coefficient of determination =0.00766); (t-statistics = 0.00485); (probability =0.9852)** and these indicate a positive relationship between the OCFM and firm profitability. This depict that a 1% increase in the OCFM is associated with an increase in ROA by (0.00766%). The figure confirms that OCFM increases profitability of the pooled firms for the period but the increases is not strong enough to drive its ROA as a result of its insignificant. Therefore, the study concludes that OCFM is positively insignificant on profitability of the pooled firms under the period studied. This finding did not agree with the findings of (Mauchi et al., 2011; Ndungun & Oluoch, 2016; Amah, et al., 2016; Tugas, 2012 and Murkor & Oluoch, 2018), who found significant; while Khalil & Emad, (2020) reported insignificant.

Summary of Findings

The finding shows that the R-squared adjusted value is 0.55500 and approximately (56%) showing that, the dependent variable, is jointly explained by the independent variables. In overall, the F-statistics value of (4.05452) and its P-value of (0.003) show that the regression model is statistically significant. The results of the four explanatory variables show that: CRM is negatively significant on firm profitability; QRM has a positive insignificant influence on firm profitability; CCCM is positively significant on firm profitability; and OCFM is positively insignificant on the ROA of the pooled firms in Nigeria.

Conclusions

The study concludes that liquidity management has 56% impact on firm performance of the pooled firms within which the applied explanatory variables shows that: CRM negatively significant; QRM and OCFM are positively insignificant; and finally CCCM is positively significant on the profitability of firms.

Recommendations

Every firm management policy makers should focus on how to sustain and increase profitability, by properly managing these factors that improves profitability.

Contribution to Knowledge

We contribute: the enormous, rich literature for academia; the compared results with prior findings; and the modernised model applied for the study.

Implications of the Study

The overall findings of this research, indicates that liquidity management components of CRM, QRM; CCCM and OCFM improve firm performance if they are properly managed. However, the efficiency of management policy determines the effects of each of the variables applied.

REFERENCES

Abubakar, A., Sulaiman, I. & Haruna, U. (2018). Effect of firms characteristics on financial performance of listed insurance companies in Nigeria. *African Journal of History and Archaeology*, 3(1), 1–9. [Google Scholar](#)

- Aeshad, Z., & Gondal, M. (2013). Impact of Working capital Management on Profitability: A Case of the Pakistan Cement Industry. *Interdisciplinary Journal of Contemporary Research in Business*, 5(2), 384-390. <https://doi.org/10.13187/er.2015.91.86>
- Ajanthan A. (2013), 'A Nexus between Liquidity & Profitability: A Study Of Trading Companies In Sri Lanka, *European Journal of Business and Management*', Vol.5, No.7.
- Akter, A., & Mahmud, K. (2014). Liquidity-profitability relationship in Bangladesh banking industry *International Journal of Empirical Finance*, 2(4), 143-151
- Alali, M. S. (2020). Liquidity Management and Banks Financial Performance in Kuwait. *Financial Markets, Institutions and Risks*, 4(3), 105-111. [http://doi.org/10.21272/fmir.4\(3\).105-111](http://doi.org/10.21272/fmir.4(3).105-111)
- Alipour, M. (2011). Working Capital Management and Corporate Profitability: Evidence from Iran. *World Applied sciences Journal*, 12(7), 1093-1099.
- Al-Yatama, S. K., AlAli, M. S., Al Awadhi, K. M., & Al Shamali, N. M. (2020). The Effect of Credit Risk, Operational Risk and Liquidity Risk on the Financial Performance of Insurance Companies Listed at Kuwait Stock Exchange, *European Journal of Economic and Financial Research*, 3(6), 1-8. <https://doi.org/10.5281/zenodo.3605378>
- Ambarwati, N. Sagita, G.A. Yuniarta & N.K. Sinarwati. (2015). Pengaruh Modal Kerja, Likuiditas, Aktivitas dan Ukuran Perusahaan terhadap Profitabilitas pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia. *e-Journal Jurusan Akuntansi. Universitas Pendidikan Ganesha. Singaraja. Volume 3 No.1.*
- Amengor, E. C. (2010). Importance of Liquidity and Capital Adequacy to Commercial Banks, A Paper Presented at Induction Ceremony of ACCE, UCC Campus. *Financial Markets, Institutions and Risks*, Volume 4, Issue 3, 2020 ISSN (online) – 2521-1242 ISSN (print) – 2521-1250 111
- Amihud, Y. (2002). Illiquidity and stock returns: cross section and time series effects. *Journal of Financial Markets*, 5, 31-56. [https://doi.org/10.1016/S1386-4181\(01\)00024-6](https://doi.org/10.1016/S1386-4181(01)00024-6)
- Arif, A., & Nauman Anees, A. (2012). Liquidity risk and performance of banking system *Journal of Financial Regulation and Compliance*, 20(2), 182-195
- Ashutosh, G., Gurpreet, R. (2018). Financial performance of sugar mills in Punjab: A comparative study. *Indian Journal of Accounting*, 50(1), 87–96. [Google Scholar](#)
- Bagh, T., Nazir, M. I., Khan, M. A., Khan, M. A., & Razzaq, S. (2016). The Impact of Working Capital Management on Firms Financial Performance: Evidence from Pakistan. *International Journal of Economics and Financial Issues*, 6(3). Chen, C. W., Wang, M. H., &
- Bassey, F., Tobi, E., Bassey, I. & Ekwere, R. (2016). Liquidity management and the performance of banks in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*. Vol. 6(1), pp.41-48
- Batchimeg, B. (2017). Financial performance determinants of organizations: The case of Mongolian companies. *Journal of Competitiveness*, 9(3), 22–33. [Google Scholar](#) | [Crossref](#)
- Bates. T., Khale, K. & Sulz. R. (2009). Why do U.S. firms hold so much more cash than they used to ? *Journal of finance*. LXIVw/vww.cob.ohiostate.edu/fin/faculty/stulzl . /jofi 149?pdf
- Ben-Caleb, Egbide , Olubukunola, Uwuigbe & Uwalomwa (2013), "Liquidity Management and Profitability of Manufacturing Companies in Nigeria", *IOSR Journal of Business and Management (IOSR-JBM)*, Volume 9, Issue 1, PP 13-21
- Beb-caleb, E. (2009). Working capital management and profitability of listed companies in Nigeria. *Nigeria Research Journal of accountancy*. 1(1) 44 - 57
- Bhatia, S., & Srivastava, A. (2016). Working Capital Management and Firm Performance in Emerging Economies: Evidence from India. *Management and Labour Studies*, 41(2), 1-17. <https://doi.org/10.1177/0258042X16658733>
- Bhavet (2011) Management of liquidity - A case study of Tisco Ltd. *International Journal of research in LT. management* 149 *IJRIM volume 1 (2): (ISSN 2231 - 4334).*
- Bhumia, A. & Brahma, S.B. (2011). "Importance of Liquidity Management on Profitability" , *Asian Journal of Business Management*, 3(2) : 108-117, ISSN 2041-8752. Accessed: May 15, 2011.
- A. Bhumia. (2010). A trend analysis of liquidity management efficiency in selected private sectors in the Indian steel industry. *International Journal of Research in Commerce and Management*, vol.1 (5), pp. 213.
- Bolek, M. & Wilinski, W. (2012). The influence of liquidity on profitability of polish construction sector companies. *Financial Internet Quarterly*, 8(1), 77-89.
- Bourke, P. (1989). Concentration and Other Determinants of Bank Profitability in Europe, North America and Australia, *Journal of Banking and Finance*, 13, 65-79. [https://doi.org/10.1016/0378-4266\(89\)90020-4](https://doi.org/10.1016/0378-4266(89)90020-4)
- Bořoc, C. & Anton, S. G. (2017). Is profitability driven by working capital management? Evidence for high-growth firms from emerging Europe. *Journal of Business Economics and Management*, 18(6), 1135-1155. <https://doi.org/10.3846/16111699.2017.1402362>
- Cahry, T., & Kumar, K. (2011). Relationship between Working Capital and Profitability: A Statistical Approach. *International Journal of Research in financial & marketing*, 1(7), 1-16. Online at: <http://euroasiapub.org/wp-content/uploads/2016/09/1-177.pdf>

- Dalgaard, R. (2009). Liquidity and stock returns: Evidence from Denmark. *Journal of Financial Economics*, 41, 41-64.
- Debi'e, M. (2011). Working capital Management and Profitability: The case of Industrial firms in Jordan. *European Journal of Economics*, ISSN 1450-2275, Issue 36, pp.75-86. Online at: http://ijbssnet.com/journals/Vol_4_No_8_Special_Issue_July_2013/10.pdf
- Deloof, M. (2003). Does Working Capital Management Affect Profitability of Belgian firms? *Journal of Business finance and accounting*, 30(3), 573-587. <https://doi.org/10.1111/1468-5957.00008>
- Duru, Okpe & Oleka (2014). The effect of management of liquidity in packages manufacturing companies in Nigeria. *World Journal of Management and Behavioral Studies* 2 (2): 12-20, 2014 ISSN 2306-840X © IDOSI Publications, 2014 DOI: 10.5829/idosi.wjmb.2014.2.1.1306
- Ehiedu, V. C. (2014). The impact of liquidity on profitability of some selected companies: The financial statement analysis (FSA) approach. *Research Journal of Finance and Accounting*, 5(5), 81-90.
- Eichengreen, B. & H.D. Gibson (2001). Greek banking at the dawn of the new millennium. CERP Discussion Paper 2791, London. Available at: <https://repec.cepr.org/repec/cpr/ceprdp/Dp2791.pdf>
- Ejike, S. I. & Agha, N. C. (2018). Impact of operating liquidity on profitability of pharmaceutical firms in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 8(3), 73–82. Google Scholar | Crossref
- Eljelli M. A. (2004), Liquidity-profitability tradeoff: An empirical investigation in emerging market. *International Journal of Management* Vol. 14. Emerald Publishing Ltd. *International Journal of Academic Research in Economics and Management Sciences* 2017, Vol. 6, No. 3 ISSN: 2226-3624 168 www.hrmar.com
- Gideon & Joseph (2019), the liquidity and the profitability of manufacturing firms in Nigeria. 2 Department of Accounting, Faculty of Management Sciences, Ekiti State University, Ado Ekiti, Nigeria. *Applied Finance and Accounting* Vol. 5, No. 2, August 2019 ISSN 2374-2410 E-ISSN 2374-2429 Published by Redfame Publishing
- Hager, H.C. (1976). Cash Management and Cash Cycle. *Management Accounting*, March, pp. 19-21.
- Harahap, Sofyan Syafri. (2009). Analisis Kritis Atas Laporan Keuangan. (Edisi 1). Jakarta: PT Raja Grafindo Persada.
- Heibati F, Nourani S, & Dadkhah S. (2009). Evaluation of the Performance of Private banks of Iran in Comparison to the banks of Arabic countries, Persian Gulf area, *Economic Research Letter*, 6(1), 28-32. Available at: <https://www.sid.ir/en/Journal/ViewPaper.aspx?ID=201412>
- Hersandy, M., A. Hasan & E. Savitri. (2017). The Effect Of Company Size, Company Growth, And Liquidity Towards Profitability With Capital Structure As a Moderating Variable (Case Study On The Banking Companies Listed On Indonesia Stock Exchange 2010-2014). *Procuratio*. Vol. 5. No. 3. Pp: 289 – 299.
- Hutchison, P. D., Farris II, M. T. & Anders, S. B.(2007). “Cash-to-cash analysis and management”, *The CPA Journal*, Vol. 77 No. 8, pp. 42-47.
- Ibe, S. O. (2013). The impact of liquidity management on the profitability of banks in Nigeria. *Journal of Finance and Bank Management*, 1(1), 37-48.
- Idowu A, Essien, J, Adegboyega R. (2017). Iquidity management and banks performance in Nigeria, *Business Management and Economics*, 5(6), 88- 98. <https://doi.org/10.15739/IBME.17.010>
- Imad Ramadan Z, Qais Kilani A. & Thair Kaddumi A. (2011). Determinants of Bank Profitability: Evidence from Jordan, *International Journal of Academic Research*, 3(4), 180-191. Available at: https://www.asu.edu.jo/ar/Economics/thair_lion/Documents/14.pdf
- Jensen, M.(1986) Agency costs of free cash flow, corporate finance and takeovers. *American Economic Review*, 76, 323 - 329.
- Jose, M. L., Lancaster, C. & Stevens, J. L.(1996). “Corporate returns and cash conversion cycles”, *Journal of Economics and Finance*, Vol. 20 No.1, pp. 33-46.
- Kaodui Li, Mohammed Musah & Yusheng Kong, (2020). Liquidity and Firms’ Financial Performance Nexus: Panel Evidence From Non-Financial Firms Listed on the Ghana Stock Exchange First Published August 13, 2020 Research Article <https://doi.org/10.1177/2158244020950363>
- Kehinde, O. P. (2013). An Empirical Investigation of the Liquidity-Profitability Relationship in Nigerian Commercial Banks, *Journal of Economics and Sustainable Development*, 4 (6), 118-119. Available at: <https://www.iiste.org/Journals/index.php/JEDS/article/view/5220>
- Khalil, S. M. A. S. & Emad, Y. A. (2020). Does Cash Flow Have An Impact On Profit Quality? January 2020 *International Journal of Scientific & Technology Research* 9(1):2272-2275
- Khidmat, W., Rehman, M. (2014), Impact of liquidity and solvency on profitability chemical sector of Pakistan. *Economics Management Innovation*, 6(3), 34-67.
- Kim, J., Kim, H., & Woods, D. (1998), Determinants of corporate cash holding levels: An empirical examination of the restaurant industry. *International Journal of hospitality management*. 30(3), 568 - 574. <http://dx.doi.org/10.1016/ijhm.2010.01.004>.
- Kuswadi. (2005). Meningkatkan Laba Melalui Pendekatan Akuntansi Keuangan dan Akuntansi Biaya. PT. Elex Media Komputindo, Jakarta.
-

- Lyndon, M. E. & Paymaster, F. B. (2016). Liquidity management and profitability: A study of selected food and beverage companies in Nigeria. *International Journal of Management Sciences*, 7(4), 217–225. [Google Scholar](#)
- Madushanka, K. H. I. & M. Jathurika (2018) “The Impact of Liquidity Ratios on Profitability (With special reference to Listed Manufacturing Companies in Sri Lanka),” *International Research Journal of Advanced Engineering and Science*, Volume 3, Issue 4, pp. 157-161
- Makori, D., & Jagongo, A. (2013). Working Capital Management and Firm Profitability: Empirical Evidence from Manufacturing and Construction Firms Listed on Nairobi Securities Exchange, Kenya. *International Journal of Accounting and Taxation*, 1(1).
- Manar Al-Mohareb. (2019). Cash conversion cycle and profitability, evidence from Jordan November 2019 *Asian Journal of Finance & Accounting* 11(2):81 DOI: 10.5296/ajfa.v11i2.15640
- Mestrado, T. (2013). How Does Working Capital Management Affect Firms' Profitability? Evidence from Portugal. Master's Thesis, Lisboa School of Economics & Management, Portugal, 55 pages
- Mohd, Y. & Asif, P. (2018). Impact of liquidity, solvency and efficiency on profitability of Steel Authority of India Limited. *International Journal of Research in Management, Economics and Commerce*, 6(9), 25–31. [Google Scholar](#)
- Molyneux, P. & Thornton, J. (1992). Determinants of European Bank Profitability: A Note, *Journal of Banking and Finance*, 16, 1173–1178. Available at: https://eclass.hmu.gr/modules/document/file.php/DA171/Assignment%20Examples/Banks%20Profitability/Molyneux_Thornton_1992.pdf
- Mulyana, A. & Zuraida, M. S. (2018). The influence of liquidity, profitability and leverage on profit management and its impact on company value in manufacturing company listed on Indonesia Stock Exchange. *International Journal of Managerial Studies and Research*, 6(1), 8–14. [Google Scholar](#)
- Muriithi, J. G. & Waweru, K. M. (2017). “Liquidity risk and financial performance of commercial Banks in Kenya”. *International Journal of Economics and Finance*, vol. 9(3), pp.256 – 265. DOI:10.5539/ijef.v9n3p256
- Murkor Abiud Willy Muturi & Oluoch Oluoch. (2018). Effect of operating cash flow management on financial performance of mutual funds in kenya . *European Journal of Business, Economics and Accountancy Vol. 6, No. 5, 2018 ISSN 2056-6018 Progressive Academic Publishing, UK Page 37* www.idpublications.org
- Mushtaq, H., Chishti, A. F., Kanwal, S., & Saeed, S. (2015). Trade off between Liquidity and Profitability. *International Journal of Scientific Research and Management*, 13(5), 2823- 2842
- Naim Salameh Al-Qadi & Ibrahim Marwan Khanji, (2018). Relationship Between Liquidity and Profitability: An Empirical Study of Trade Service Sector in Jordan [Vol 9, No 7 \(2018\)](#) > [Al-Qadi](#) *Research Journal of Accounting and Finance*.
- Nasreen, S., Khanam, F. & Pirezada, S. (2014). Impact of Working Capital Management on Firm’s Profitability. *Research Journal of Finance and Accounting*, 5(11), 210-222.
- Niresh, J. A. (2012). Trade-off between liquidity & profitability: A study of selected manufacturing firms in Sri Lanka. *Researchers World*, 3(4), 34
- Njire, K. C. (2012). The relationship between liquidity and profitability of nonfinancial companies listed in Nairobi Securities Exchange.
- Nyaga, L. M. (2014). The relationship between liquidity management and stock market return: evidence from commercial banks (Doctoral dissertation, University of Nairobi). Nwaezeaku, N. C. (2006). *Theories and Practice of Financial Management* Owerri: Ever Standard Publishing
- Ogundipe, K. O. Ogundiipe, I. O. & Ajao, I. (2012), Working capital management, firm performance and market valuation in Nigeria. *International Journal of Social and Human Sciences*. 6(1) 143-147.
- Olagunju, A., Adeyanju, O. D. & Olabode, O. S. (2011). Liquidity Management and Commercial Banks’ Profitability in Nigeria, *Research Journal of Finance and Accounting*, 2(7/8), 24-38. Available at: <https://iiste.org/Journals/index.php/RJFA/article/view/1283/1204>
- Omar Durrah1, Abdul Aziz Abdul Rahman , Syed Ahsan Jamil & Nour Aldeen Ghafeer. (2016). Liquidity ratios and indicators of financial performance (profitability ratios) in the food industrial companies listed in Amman Bursa . *International Journal of Economics and Financial Issues* ISSN: 2146-4138 available at <http://www.econjournals.com> *International Journal of Economics and Financial Issues*, 2016, 6(2), 435-441.
- Onyekwelu, U. L., Chukwuani, V. N. & Onyeka, V. N. (2018). Effect of liquidity on financial performance of deposit money banks in Nigeria. *Journal of Economics and Sustainable Development*, 9(4), 19–28. [Google Scholar](#)
- Osborn, M., Fuertes, A. & Milne, A. (2012). Capital and Profitability in Banking: Evidence from US Banks, *Business journal*, 4(9), 203-214. Available at: http://www.cass.city.ac.uk/_data/assets/pdf_file/0013/152122/Osborne_Matthew_Capital-and-earningsin-banking-Emerging-Scholars.pdf
- Owolabi, S. A. & Obida, S. S. (2012), Liquidity management and corporate profitability: A case study of selected quoted manufacturing companies listed on the Nigeria Stock Exchange. *Business Management dynamics*, 2 (1) 20-25.
- Ozkan, A. & Ozkan, N. (2004), Corporate cash holding: An empirical investigation of U.K. companies. *Journal of Banking and Finance*, 28, 2013-2134.

- Padachi, K.. (2006). Trends in Working Capital Management and Its Impact on Firms' Performance: An Analysis of Mauritian Small Manufacturing Firms", *International Review of Business Research Papers*, Vol.2 No. 2, pp. 45 -58.
- Patjoshi, P. K. (2016). A study on liquidity management and financial performance of selected steel companies in India. *International Journal of Advanced Information Science and Technology*, 5(7), 108-117.
- Paul, P., & Mitra, P. (2018). Analysis of the Effect of Working Capital Management on Profitability of the Firm: Evidence from Indian Steel Industry. *Asia-Pacific Journal of Management Research and Innovation*, 14(1-2), 32-38. <https://doi.org/10.1177/2319510X18812142>
- Priya, K. & Nimalathan, B. (2013), Liquidity management and profitability: A case study of listed manufacturing companies in Sri Lanka. *International Journal of Technological Exploration and Learning*, 2(4), 135-151.
- Qurays, A.A., J. Susyanti & Rachmat, A. (2018). Pengaruh Financial Leverage, Operating Leverage dan Debt to Equity Ratio (DER) terhadap Profitabilitas Perusahaan. *E-Jurnal Riset Manajemen Prodi Manajemen, Fakultas Ekonomi Unisma*.
- Raykov, E. (2017). The liquidity-profitability trade-off in Bulgaria in terms of the changed financial management functions during crisis. *Management*, 22(1), 135–156. [Google Scholar](#) | [Crossref](#)
- Rehman, M. Z., Khan, M. N., & Khokhar, I. (2015). Investigating Liquidity-Profitability Relationship: Evidence from Companies Listed in Saudi Stock Exchange (Tadawul). *Journal of Applied Finance and Banking*, 5(3), 159.
- Rehn, E. (2012). Effects of working capital Management on Company Profitability. Master's Thesis, Hanken School of Economics, Helsinki, 77pages
- Ruziqa, A. (2013), The impact of credit and liquidity risk on bank financial performance: The case of Indonesian conventional bank with total asset above 10 trillion Rupiah. *International Journal of Economic Policy in Emerging Economies*, 6(2), 93-106.
- Saleem, Q. & Rehman, R. (2011), Impacts of liquidity ratios on profitability, interdisciplinary. *Journal of Research in Business*, 1(7), 78-91.
- Saragih, M, Y. Siahaan, R. Purba & Supitriyani. (2015). Pengaruh Current Ratio Terhadap Retun on Assets Pada Perusahaan Sektor Aneka Industri Yang Listing Di Bursa Efek Indonesia. *Jurnal Financial*. Vol. 1. No. 1. Juni 2015. Pp: 19 – 24.
- Sari, N. P., Darmansyah & Murni, Y. (2018). Pengaruh current ratio, debt to total asset, sales growth, terhadap return on asset, *JUPI*. Vol. 2. No. 1. Pp: 86-102.
- Sinha, G. (2012), In: Ghosh AK, editor. *Financial Statement Analysis*. Eastern Economy Edition. New York: Prentice Hall of India Private Limited.
- Sofie, A. Novita & Bunga. (2015). Pengaruh Struktur Modal dan Likuiditas Terhadap Profitabilitas. *e-Journal Akuntansi Trisakti*. Volume. 2. Nomor. 1. Pp:13 – 28.
- Supardi, H., H. Suratno & Suyanto. (2016). Pengaruh Current Ratio, Debt to Asset Ratio, Total Asset Turnover dan Inflasi terhadap Return on Asset. *JIAFE (Jurnal Ilmiah Akuntansi Fakultas Ekonomi)*. Vol. 2. No. 2. Pp : 16-27.
- Sugiono, Arief dan & Edy Untung. (2016). *Panduan Praktis Dasar Analisa Laporan Keuangan Edisi Revisi*. Jakarta : Grasindo.
- Sunday A. Effiong, & Ejabu Fidelis Enya. (2020). Liquidity Risk Management and Financial Performance: Are Consumer Goods Companies Involved? *International Journal of Recent Technology and Engineering (IJRTE)* ISSN: 2277-3878, Volume-9 Issue-1, May 2020 580 Retrieval Number: A1692059120/2020©BEIESP DOI:10.35940/ijrte.A1692.059120
- Suyono & Gani, E. A. (2017). Analysis of Liquidity Ratio, Activity Ratio, Working Capital Ratio and Solvency Ratio on The Profitability of Telecommunication Companies Listed on BEI (Period 2011-2016). *Procuratio*. Vol. 6. No. 1. Pp : 111-121.
- Syed, A. (2015). Impact of liquidity and management efficiency on profitability: An empirical study of selected power distribution utilities in India. *Journal of Entrepreneurship, Business and Economics*, 3(1), 31–49. [Google Scholar](#)
- Tanveer Bagh, et al., 2017. The Causative Impact of Liquidity Management on Profitability of Banks in Pakistan: An Empirical Investigation. *International Journal of Academic Research in Economics and Management Sciences 2017, Vol. 6, No. 3 ISSN: 2226-3624*
- Teruel, P., & Solano, M. (2004). Effects of Working Capital Management on SME Profitability. *Asian Journal of Finance & Accounting* ISSN 1946-052X 2019, Vol. 11, No. 2 ajfa.macrothink.org/ 95 Social Science Research Network, pp. 1-22, Electronic copy available at: <http://ssrn.com/abstract=894865>
- Thuvarakan, S. (2012). Impact of Working capital Management on Profitability in UK Management Industry. *Social Science research Network*, pp. 1-50, Electronic copy available at: <http://ssrn.com/abstract=2345804>
- Tufail, S. (2013). Impact of Working Capital Management on Profitability of Textile Sector of Pakistan. *3rd International Conference on Business Management, Punjab, Lahore*, pp. 1-29. <https://doi.org/10.2139/ssrn.1663354>
- Tugas, F. (2012), Comparative analysis of the financial ratios of listed firms belonging to the education subsector in the Philippines for the years 2009-2011. *International Journal of Business and Social Science*, 3(21), 173-190.
- Vayanos, D.& Wang, J. (2012), Liquidity and asset returns under asymmetric information and imperfect competition. *The Review of Financial Studies*, 25(5), 1339-1365.
-

- Waseque, U. A., Md. Mahedi H., Md. Aminul H. and Mohammad, J. A. (2018) Impact of free cash flow on profitability: an empirical study on pharmaceutical company. *Journal of Jessore University of Science and Technology ISSN: 2521-5493 Vol. 03 No. 01, June 2018*
- Wibowo, H.A. & Pujiati, D.(2011). Analisis rasio keuangan dalam memprediksi perubahan laba pada perusahaan real estate dan property Di Bursa Efek Indonesia (BEI) dan Singapura (SGX) (2011).*The Indonesian Accounting Review*, Volume 1, No. 2, pages 155 –178.
- Wiyono, S. & Se, S. (2012), The Effect of Credit and Liquidity risk to Islamic Bank Profitability with Islamic Income and Profit Sharing Ratio as Moderating Variable. 2nd Annual International Conference on Micro and Macro Economics, Indonesia.