Effects of Working Capital Management on Profitability in Manufacturing Firms in Nigeria

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Abstract: The study examined the impact of working capital management on profitability in manufacturing firms in Nigeria between the period of 1988 and 2019. The study disaggregated capital management into trade receivables, inventory, cash and bank balances and trade payables in line with the theories reviewed. The data were obtained from the company review published audit financial report. Based on the mixed level of stationarity of the variables as revealed by the unit root test, the study made use of auto-regressive distributed lag (ARDL) technique to analysis the data. The bound test revealed that; there was presence of co-integration (long-run relationship) among the dependent and all the explanatory variables consequently the study estimated the ARDLECM. The result further showed that Cash and Bank Balances (CBB), Trade Payables (TAP) and Trade Receivables (TAR) had a positive and significant impact on profitability of manufacturing firms in Nigeria which is a clear indication that working capital management has positive and significant impact on company pofitability in Nigeria both in short and long run. The findings of this study is in tandem with Keynesian Liquidity preference theory. This study recommend that financial managers increase their working capital and ensure that it is properly managed in order to enhance sales revenue, thus strengthening firm profitability. Furthermore, the study suggests that financial managers should increase investment in working capital to accelerate their productivity so that they can also improve the profitability of the firms.

Keyword: financial performance; gross operating profit; trade-off model; keynesian liquidity preference theory; aggressive theory; working capital management

1. Introduction

The term working capital has various interpretation in both private and public sectors towards productivity, economic development and public finance respectively. Working capital is described as the organizations or firm's short-term current assets and current liabilities. Net working capital means the excess of current assets over current liabilities and is the reflection of the firm's ability to meet its short term financial obligations (Pais & Gama, 2015). Effective working capital management consists of the logic and the ways which safe from the risk and inability in paying short term financial obligation in a way and safe over assets through the other way by planning and controlling current assets and liabilities (Padachi, 2016).

The Working Capital Management of any firm is an indicator of the firm performance. The main aim of any firm is to make profit, firms are established for no other reason than making and maximizing profit which is a clear indication that preserving liquidity of the firm is an important aspect as well. Increasing profits at the cost of liquidity can attract great danger to the firm (Makori & Jagongo,

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2013). Therefore, there must be a symbiosis trade- off relationship between these two basic aims of the organizations. One aim should not be at the harm of the other because both have their importance goals role to play in other to boost firm's productivity. How can a firm survive if it does not make profit or being productive? On the other hand, the firm will definitely run into bankruptcy if they pay less attention to liquidity. For these reasons working capital management is marshal with utmost priority so as to increase profitability of the firm. Firms may have an optimal level of working capital that enhance more their value (Korankye & Adarquah, 2013).The influence of working Capital Management on profitability of the firm can never be underestimated.

The efficient and effective management of working capital must be given top priority for any business to survive and progress (Abuzayed, 2012).This is a clear indication that too much idle capital in the firm signal efficiency where as too little cash in hand portray that the survival of the business is at the state of comatose. Most business organizations overshoot their leverage in terms of stocks, debtors and cash. Due to this reason the firm could not to meet up with their financial commitment and their operational challenges. When firm does not have enough funds to run the affair of the organization, how will the firm maximize or expand its projects and increase its sales? And this will limit the growth and profit of the business limiting the growth and profitability of the business. Majority of listed manufacturing firms have exhibited diminishing returns as well as poor stock performance in the last ten years. However, the extent to which working capital management affects profitability of these firms remains mystery. It is on this premise that this study examined the nexus between working capital management and profitability. The study specifically examined the nexus between the trade payable, cash and bank balance, trade receivable, Inventory turnover as explanatory variables being a proxy for working capital management and the gross operating profit as dependent variable being a proxy for profitability. The study will make use of E-View 10 statistical tool to analyze the data.

2. Related Literature Review

2.1. Concept of Working Capital

Working Capital Management encompass current assets and current liabilities. It involves the management of current assets and current liabilities, directly in proportion with the liquidity and profitability of the company (Deloof, 2003; Afrifa, Tauringana, & Tingbani, 2014; Agha & Mphil, 2014; Altaf & Shah, 2017; Bans-Caballero, Garcia-Teruel & Martinez-Solano, 2012; Charitou, Elfani, & Lois, 2012). Current liquidity crisis has reflected the impact of working capital management. Working capital management has showcased impact for profitability through the liquidity of the company. To reach satisfactory working capital management firm manager should control the tradeoff between profitability maximization and liquidity accurately (Raheman & Mohamed, 2007). The best or the optimal point of working capital management is expected to have significant and positive value to the firm (Kaddumi & Ramadan, 2012; Deloof, 2003; Afza &Nazir, 2007). Working Capital Management is very crucial and a very sensitive organ in the financial management (Gill, Biger, & Mathur, 2010). It involves the decision of the amount and financing of these assets and depict the running of the organization. Current assets involve all those assets that in the normal spectrum of business return to the form of cash within a short period of time, within a year and such temporary investment as may be converted into cash as soon as possible.

In the process of managing a firm, an asset-liability mismatch may come up which leads to an increase in profitability in the short run, but indicate serious challenge on liquidity. Theories on working capital

management were deeply analyzed by Kaddumi and Ramadan, (2012) when they analyzed the risk and return trade-offs inherent in different working capital strategies. Excessive working capital results in cash being idle or tied up in accumulated inventory potentially leading to mismanagement and theft, waste and income leakages. On the other hand, inadequate working capital leads to stagnated growth, increased operating inefficiencies, and thus reduced profitability (Pandey, 2005). Precisely, a greater aggressive working capital strategy that has low investment in working capital is related with a higher return and risk; whereas a conservative strategy which deals with high investment in working capital has lower return and risk (Kaddumi et al., 2012). Overall, shortening the cash conversion cycle could improve profitability.

2.2. Component of Working Capital Management

i. Trade Receivables

Trade Receivables form a significant part of the current asset and, therefore, working capital. It also includes the amount due to the bills of exchange receivable. These are the amount in which the business is owned by its customers. A good receivables management policy enshrines a long way in ensuring timely collection and avoidance of bad debts, if any, for the business. Each industry has a designated trade cycle, and businesses must ensure to keep its trade receivable cycle in line with the industry (Makori & Jagongo, 2013). A more extended trade receivable period will result in a delayed collection of cash, impacting the cash conversion cycle of the business. The importance of trade receivable is equally recognizing as most of the analysts, while evaluating a business check receivables turnover ratio to know the working capital management efficiency in collection of payments for credit sales undertaken by the business and also to derive bad debts incurred by the business (Omesa, Maniagi, Musiega, & Mokori, 2013).

ii. Inventory

According to Omesa et al,(2013) defined inventory as another sensitive part of current assets and, without any doubt, forms an integral component of working capital management. Good Inventory Management is essential since it is responsible for proper control over inventory right from the raw material stage to the finished goods stage. Inventory Management begins with inventory control and involves the timely purchase, proper storage, and efficient utilization to maintain even and orderly flow of finished goods to meet timely commitment by the business and at the same time avoid excess working capital in holding of inventory as that will result in a delay in cash conversion cycle and also increase the risk of obsolescence and increase working capital requirement which adversely impacts the profitability of the business (Bans-Caballero et al,2012).

iii. Cash and Bank Balances

Cash is a major component of current asset and cash involves and all other liquid securities which can be converted into cash easily. Effective Cash Management goes a long way in keeping the working capital cycle in order and also enhance the business to manage its operating cycle. Also, business efficiency is determined base by the free flow of cash to the firm and how the firm generate the cash. Also, effective utilization of such cash ensures business to garner trade discounts and boost the cash conversion cycle, which is a major commitment to describe the working capital cycle of any business (Altaf & Shah, 2017).

iv. Trade Payables

Kaddumi, and Ramadan, (2012) reiterated that trade Payables forms an integral arms of current liabilities and the amount due to the bills of exchange payables. These are the amount which is require for the business to pay for credit purchases made. A functional payables management policy has a long way in ensuring timely payment and cordial business relations with investors and creditors. Each industry has a certain trade cycle, and businesses must ensure to keep its trade payable cycle in order with the industry. Also, if a business has a shorted trade payable cycle, it will have to keep more cash in hand, resulting in longer trade cash conversion cycles and more interest costs. A more extended trade payable period will result in business making payments to its vendors after long periods. However, if the business can keep a short trade receivable period, then such a scenario improves the business cash conversion cycle and resulting in less working capital requirement, which will ultimately boost profits (Pais & Gama, 2015).

Moreover, the importance of trade payables is equally referring as most of the analysts while evaluating a business check payables turnover ratio to understand the working capital management efficiency and timely payments by the business to honor its obligation to its creditors. A high trade payables turnover ratio reflects that creditors are paid on time by the business which enhance the creditworthiness of the business. Meanwhile, favorable ratio compared to industry practice that the business is not taking full advantage of credit facilities allowed by the creditors resulting in more cash requirements. (Pais et al, 2015).

Korankye et al (2013) working Capital is the lifeline of any business organization which enable the smoot running of day to day activities of the business. Each component plays a very crucial and have their own impact for the successful and sustaining role for the smooth running of the business.

2.3. Concept of Profitability

Profitability is the ability to earn profit in all the business activities of any organization, company. It reflects the performance of any organization and how effectively the management makes use of their available resources to earn and maximize profit to leverage their productivity. According to Padachi, (2016) profitability is the strength of any given investment to earn a return from its use.

However, Profitability is an efficiency needed which is regards as a measure of management guide to greater productivity. Though, profitability is a hallmark for measuring the efficiency of any organization but the extent of profitability cannot be taken as a final proof of efficiency. Sometimes satisfactory profits can mark careless impress and postulate as if the business is going on smoothly, and same time a healthy business may not reflect profit at a certain period. The net profit figure only reflects a satisfactory balance between the values receive and the one given. The change in operational efficiency is merely one of the factors on which profitability of any organization largely rely on. Moreover, there are many other factors besides efficiency, which influence the profitability (Shrivastava, Kumar & Kumar, 2017).

i. Return on Asset (ROA)

Shrivastava et al, (2017) defined Return on Assets (ROA) as one of the component of profitability ratios in the financial statements, this ratio is most often discussed, because it is an indication of company success to in making profits. ROA is an index to measure the company ability to generate profits in the past and present which will be used to project for the future. Assets are overall company

properties realized from the capital itself or from foreign direct investment that has been converted into company assets used for sustainability

ii. Return on Equity (ROE)

Return on equity (ROE) or also known as Return On Common Equity, Investors are motivated to buys shares because of their interest in company profitability ratio, or part of total profitability will be allocated to shareholders. As known, shareholders have residual claim on obtained profits through their shares. Profit obtained by the company firstly will be used to pay any debt service, then preference share, and then (if any) will be paid to common shareholders (Singhania & Mehta, 2017).

Return on equity (ROE) is the profitability ratio to measure the company ability to generate profit based on share capital owned by the company. Return on equity can be calculated as follow (Singhania et al, 2017):

$$Return\ On\ Equity\ (\mathrm{ROE}) = \frac{Net\ Income\ After\ Tax}{Total\ Equity}$$

2.4. Related Theoretical Review

i. Trade-Off Model

Trade-off model applied when firms express their optimal reason for holding cash by comparing the marginal cost and benefits of holding cash. Large investment in current assets under certainty would mean low return on assets (ROA) of the firm, as excess investments in current assets will not fetch enough return. The ultimate obligation of any firm is to maximize profit and increase their productivity. At the same time, preserving liquidity of any firm is an important obligation too. The problem is that increasing profits at the cost of liquidity can pose serious challenges to the firm (Makori & Jagongo, 2013).

Therefore, there must be a trade-off between these two objectives of firms. One objective should not be fulfilled at the cost of the other since both are important. If we do not care about profit, we cannot survive for a longer period. On the other hand, if we careless about liquidity, the firm might face the problem of insolvency or bankruptcy. The firm must consider the levels of current assets to be established for production, sales and demand condition, operating efficiency is taken into consideration in the policy decision. It may follow a conservative risk-return trade-off. The rank correlation of liquidity and profitability have significant relationship and inversely related on each other. This means that as the liquidity increases and profitability decreases (Altaf et al, 2017).

ii. Keynesian Liquidity Preference Theory

Keynesian liquidity preference theory is another theory underpinning working capital management which was propounded by economist John Keynes in 1936. The theory postulated that as other things are kept constant, investors prefer liquid investments to illiquid ones and there is always demand for premium on investments that have longer maturity periods. According to this theory people hold cash or inventory for these motives namely; for transaction, speculative, precaution, and compensation motives. The need for working capital to run the day-to-day business activities is an indispensable obligation. Firms needs to make enough funds available for current asset to enhance successful running of their business activities (Abuzayed, 2016).

iii. Aggressive Theory

This theory is demonstrated where the firm plans to embark on high risk by using short term funds to finance current and fixed assets which earn low interest rates. However, it's important to note that the risk inherent with short term debt is more than long term debt. This happens mostly to companies/ firms operating in a stable economy which is certain for future cash flows. A company with an aggressive working capital policy offers short credit facility periods to customers, holds minimal inventory and has a small amount of cash in hand. This policy increases the risk of defaulting due to the fact that a company might face lack of resources to meet short term liabilities but also give a high return as it's associated with high risk (Afrifa, Tauringana & Tingbani, 2014).

2.5. Related Empirical Review

Gill et al. (2010) investigated the nexus between working capital management and profitability using a sample of 88 American companies listed on the New York Stock Exchange over the spanning period of three years from 2005 to 2007. The researcher made used of cash conversion cycle as a proxy for working capital management as the explanatory variables and gross operating profit (GOP) to measure profitability as dependent variables. The study result revealed a positive and significant relationship between cash conversion cycle elements and profitability: the more cash conversion cycle the company have, the more the profitability of the company realised (Gill et al., 2010). They concluded that if companies are prudent enough with their working capital, profitability will be geared up

On the other hand, Afrifa et al. (2014) examined the working capital management and company performance relationship using a sample of 1128 listed small medium enterprises (SMEs) in the United Kingdom over the period of seven years from 2007 to 2014.Panel data regression analysis was used to analyze their data. Components of cash conversion cycle such as inventory holding period (IHP), accounts receivable period (ARP) and accounts payable period (APP) were used to captured working capital, while Tobin's q ratio (QRATIO) was used to measure performance. They found a positive nexus between the QRATIO and IHP, ARP and APP, respectively.

Altaf & Shah (2017) examined the relationship between working capital management, company performance and financial constraints using samples of 437 non-financial companies in India. Two-step generalized method of moments (GMM) technique was used to analyze data. The result revealed an inverted U-shape nexus between working capital management and company performance. Furthermore, it was rounded up that firms that are likely facing financially constrained are the one with inferior optimal working capital levels.

Shrivastava et al. (2017) observed the impact of working capital on financial performance in corporate firms in India within the nine spanning years from the period of 2003 to 2012. The classical panel data and Bayesian techniques were adopted to analyze data. The findings of their study indicate that a longer cash conversion cycle has a negative influence on profitability. It was further argued that financial accuracy indicators play a significant role in determining profitability. It was further revealed that larger companies seem to be more profitable and significant as per the Bayesian approach.

Generally, as evidenced above, majority of the available empirical evidence were centered on working capital management and financial performance of the company which appear to be one sided. Despite these studies, there is still a gap in the literature as regards studies that specifically examined the short

and long run relationship between working capital management and profitability which existing literature fail to put into consideration to the best of our knowledge. This is the gap this study intends to fill.

3. Methodology

3.1. Model Specification

This study adopts Keynesian liquidity preference theory as its theoretical framework and as such specifies its model in line with the theory.

$$Y = WC \quad (1)$$

Y means company profitability and WC means working capital

In line with the theories and literature reviewed, this study will disaggregate the working capital into Trade Receivables (TAR), Inventory (INV), Cash and Bank Balances (CBB), Trade Payables (TAP). As such this study specifies its model below.

$$Y = f(TAR, INV, CBB, TAP). \quad (2)$$

$$Y_{lt} = \beta_{it} + \beta_1 TAR_{lt} + \beta_2 INV_{lt} + \beta_3 CBB_{lt} + \beta_4 TAP_{lt} + \mu_{it} \quad (3)$$

Where Y represents the company profitability in Nigeria measured by Gross Operating Profit (GOP).

α= the constant term

(TAR)=Trade Receivables.

(INV)=Inventory

(CBB)= Cash and Bank Balances

(TAP)=Trade Payables

β= the coefficient of the function

e = error term.

Equation 4 below is the econometrics form of equation 3:

$$GOP_t = \beta_0 + \beta_1 (TAR)_t + \beta_2 (INV)_t + \beta_3 (CBB)_t + \beta_4 (TAP)_t + \mu_t \quad (4)$$

The variables were transformed to logarithmic form and the logged model is presented below.

$$\ln GOP_t = \beta_0 + \ln\beta_1 (TAR)_t + \ln\beta_2 (INV)_t + \ln\beta_3 (CBB)_t + \ln\beta_4 (TAP)_t + \ln\beta_5 (HUC)_t + \mu_t \quad (5)$$

3.2. Source of Data

This study made use of secondary data and the data were obtained from the company audited financial report. The data for all variables except Gross Operating Profit was available in nominal form and was deflated with Gross Operating Profit deflator to convert all the variables in real values.

3.3. Apriori expectation

All the variables are expected to have a positive relationship with Gross Operating Profit.

4. Data Analysis and Results

4.1. Descriptive Statistics and Covariance Estimate

The descriptive statistics on Table 1 showed that the average values of the Cash and Bank Balances (CBB), Gross Operating Profit (GOP), Inventory (INV), Trade Payables (TAP) and Trade Receivables (TAR) are 17.552, 10.322, 23.937, 6.442 and 7.393 respectively. The standard deviation shows that Trade Payables (TAP) and Trade Receivables (TAR) are the most volatile variables with1.836 and 1.734 respectively while Cash and Bank Balances (CBB) is the least volatile of the variables with 0.394. Furthermore, the table revealed that the skewness statistics of Trade Payables (TAP) and Trade Receivables (TAR) are negatively skewed while other variables are positively skewed. The Kurtosis statistics revealed that Cash and Bank Balances (CBB) is leptokurtic, which implies that the distributions are peaked relative to normal distribution, while other variables are mesokurtic, implying that the variables have normal distribution that is the distribution of the variables is bell shaped. Lastly, the Jarque-Bera statistic for the null hypothesis of normal distribution for all the variables expect Cash and Bank Balances (CBB) cannot be rejected at 5% significant level as they are not significant at 5% confidence level.

Table 1. Descriptive Statistics table

Variables	LOG(CBB)	LOG(GOP)	LOG(INV)	LOG(TAP)	LOG(TAR)
Mean	17.55237	10.32272	23.93714	6.441615	7.392524
Std. Dev.	0.393868	0.506179	0.655904	1.835596	1.73353
Skewness	2.614934	0.327195	0.506351	-0.54352	-0.37433
Kurtosis	12.90374	1.642651	1.837723	2.037056	2.188385
Jarque-Bera	162.021	2.932887	3.069588	2.72404	1.574826
Probability	0.00000	0.230745	0.2155	0.256143	0.45502
Observations	31	31	31	31	31

Source: Author's Computation (2020)

4.2. Unit Root Test

This study adopted Augmented Dickey-Fuller test to investigate the stationarity of the variables. The results of the unit root test presented in Table 3 showed that CBB and TAP were stationary at the level I(0), while GOP, INV and TAR were stationary at the first difference I(1). Based on the mix order of integration in the result this study will use Auto-regressive Distributed Lag Bound co-integration technique because it is the estimation technique that accommodates mixed order of integration.

Table 2. Augmented Dickey-Fuller Test

Variables	**Level**	**After Differencing**	**Status**
LOG(CBB)	-7.877	-124.193	I(0)
LOG(GOP)	-0.551	-3.929	I(1)
LOG(INV)	-1.788	-4.851	I(1)
LOG(TAP)	-4.438	-6.938	I(0)
LOG(TAR)	-2.205	-4.149	I(1)

Source: Author's computation (2020)

4.3. Co-integration Estimate

Table 3 below displayed the Bound Co-integration test and it revealed that the value of the F-statistics which is 7.44284 is greater than both the upper and lower bound critical value at 5%, which implies that there is presence of co-integration among the variables in the model.

Table 3. ARDL Bound Co-Integration Test

Estimated Model	**F-Statistics**	
7.44284		
Critical Values	**Lower Bound**	**Upper Bound**
1%	3.29	3.49
5%	2.56	4.37

Source: Author's computation (2020)

4.4. Regression Estimates on Working Capital Management and Profitability of Manufacturing Firms in Nigeria

Table 5 below showed the ARDLECM and it revealed that cash and bank balance has a positive significant impact on gross operating profit of manufacturing firms in Nigeria. This implies that as more cash and bank balances are been held by manufacturing firms the higher the gross operating profit of the firms. This findings conform to the apriori expectation and in tandem with the study of Gill et al. (2010).

Also, the result revealed that Inventory (INV) had no significant impact on gross operating profit of manufacturing firms in Nigeria. This is in contract to the findings of Afrifa et al. (2014) who found a positive impact.

Furthermore, the result showed that Trade Payables had a significant and positive impact on gross operating profit of manufacturing firms in Nigeria. This implies that as manufacturing firms has more Trade Payables the higher the gross operating profit of the firms. This conform to the apriori expectation and in tandem with the findings of Afrifa et al. (2014).

Trade Receivables also had a positive and significant impact on gross operating profit of manufacturing firms in Nigeria. This implies that the higher the trade receivables the higher the gross operating profit of manufacturing firms in Nigeria and it confirm to the apriori expectation.

In addition, the table below displayed the Error Correction Mechanism results which revealed the level of adjustment within the model. The result showed that the ECM term is negative and significant at 5% confidence level. The coefficient which is -0.4139 indicates that 41.39 percent of disequilibrium in the previous year in gross operating profit of manufacturing firms in Nigeria is been corrected by Cash and Bank Balances (CBB), Inventory (INV), Trade Payables (TAP) and Trade Receivables (TAR). The ECM result also revealed the speed at which the model adjust back to equilibrium.

Lastly, the coefficient of multiple determinations (R-squared) revealed that 98.6 per cent of variation in gross operating profit is jointly explained by the independent variables while the remaining1.4 per cent of the variations in the gross operating profit is explained by variables not included in the model. This implies that the variables employed in the model are suitable for the analysis.

Table 4. ARDLECM Regression

Variables	Coefficients	Std. Error	t-Statistics	Prob.
DLOG(CBB)	1.339	0.214	6.253	0.008
DLOG(INV)	-0.012	0.017	-0.689	0.540
DLOG(TAP)	0.067	0.017	4.005	0.002
DLOG(TAR)	0.015	0.022	4.626	0.019
Coint-Eq(-1)*	-0.4139	0.038	-10.913	0.002
R-squared: 0.986			**Adjusted R-Squared**: 0.956	
Log likelihood: 109.104			**Durbin-Watson Stat.** 2.877	

Source: Author's Computation (2020)

4.5. Diagnostics Tests

Diagnostics tests are conducted to determine the appropriateness and robustness of the estimate. This study conducted Breuch-Godfrey Serial Correlation LM and heteroskedasticity ARCH tests. The results of the normality test indicated that the Jarque-Bera probability value was greater than 0.05 confidence level indicating that the residuals from model were normally distributed. Also, Breusch-Godfrey Serial heteroskedasticity ARCH tests showed that the residuals are Homoskedasticity. Furthermore, Breuch-Godfrey Serial Correlation LM revealed that there is no serial correlation in the estimates. Lastly, Ramsey RESET Test indicated that is appropriate and free from error.

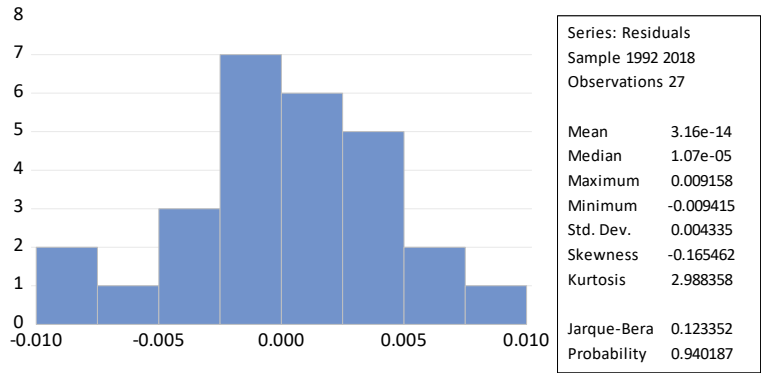

Figure 1. Normality Test

Source: Author's computation (2020)

Table 5. Diagnostics Tests

Heteroskedasticity Test: Breusch-Godfrey Serial	F-Statistics	1.744	Prob. F(23,3)	0.362
Breusch-Godfrey Serial correlation test	F-Statistics	1.858	Prob. F(2,1)	0.4605
Ramsey RESET Test	F-Statistics	1.313	Prob. F(1,16)	0.370

Source: Author's Computation (2020)

5. Conclusion and Policy Recommendation

This study investigated the effect of working capital management on profitability in manufacturing firms in Nigeria between the periods of 1988 and 2019. Based on the mixed level of stationarity of the variables as revealed by the unit root test, the study made use of auto-regressive distributed lag (ARDL) technique to analysis the data. The bound test showed that the variables co-integrate consequently the study estimated the ARDLECM. The result showed that Cash and Bank Balances (CBB), Trade Payables (TAP) and Trade Receivables (TAR) had a positive and significant impact on profitability of manufacturing firms in Nigeria while inventory had no significant impact. The findings of this study is in tandem with Keynesian Liquidity preference theory, Shrivastava et al. (2017), Altaf & Shah (2017), Afrifa et al. (2014) and Gill et al. (2010). This implies that working capital management positively impact manufacturing firms in Nigeria. Consequently, the study recommends that manufacturing firms should ensure that they have sufficient working capital such as Cash and Bank Balances (CBB), Trade Payables (TAP) and Trade Receivables (TAR) at every point in time to have profit.

We recommend that financial managers increase their working capital and ensure that it is properly managed in order to enhance sales revenue, thus strengthening firm profitability. Furthermore, we suggest that financial managers should increase investment in working capital to accelerate their productivity so that they can also improve the profitability of the firms. Financial managers should strive to achieve an optimal working capital which balances costs and benefits, while maximizing profitability, and by default, shareholder wealth. Limitations of this study are that it relied on only one measure of financial performance, the return on assets; giving the findings limited generalizability and comparability to other studies that have applied other measures such as gross operating profit or return on equity for example. However, future research could consider a comparison of other industrial sectors to assess the effect of working capital management on profitability by extending the dependent variables to include different measures of financial performance.

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