INFLUENCE OF CURRENT RATIO AND LEVERAGE ON CASH POSITION AND PROFITABILITY OF QUOTED NIGERIAN MANUFACTURING FIRMS

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ABSTRACT

The effect of current ratio and leverage on cash and cash equivalents (CASH) and return on assets (ROA) was investigated in this study. Ex-post-facto research approach via quantitative panel methodology was employed to fathom the effects of the predictors and control variables on the dependent variables. Data were collated from the audited annual reports of thirty-two (32) quoted manufacturing firms on the Nigerian Stock Exchange for the fifteen year period: 2003 – 2017. The data were diagnosed using Levin-Lin-Chu panel unit-root test which confirmed their stationarity and Westerlund Panel Cointegration Tests that depicted the variables were not cointegrated. The all-inclusive model using fixed effect regression depicted the existence of an insignificant positive influence of current ratio and leverage on both cash and ROA, but a significant positive effect of logarithm of total assets on CASH. These results imply that optimizing firms' profits necessitate striking the best liquidity-profitability trade-offs.

Keywords: Current Ratio, Leverage, Profitability, Cash.

1. INTRODUCTION

1.1 Background of the Study

The industrial standard 2:1 current ratio has come to limelight given that companies globally stash cash and other liquid substitutes to circumvent insolvency / illiquidity. Cash hoarding became necessary (Acharya and Skeje, 2011; Berrospide, 2013) as the global financial crises that persisted since 2007 to 2016 has made borrowing very difficult and uneconomical for firms (Borici & Kruja, 2016). In other words, being liquid is now the main motive of every firm ensuring that profits are matched to cash flows. Current ratio equaling industrial average is not enough since this average has been squeezed persistently low. Lots of hard evidence exists in the assertions of Manyo and Ogakwu (2013) and Akinbuli (2009) that many businesses (specifically, Nigeria) closed during the global financial crises (GFC) of 2008 as a result of illiquidity. However, firms that manage their liquidity effectively optimize use of current assets and current liabilities during each accounting year, speed up collections, delay disbursements reasonably, manage risks of keeping idle and or little cash and make appropriate use of feedback (Allman-Ward and Saguer, 2003).

The relevance of effective financial leverage to growing businesses lies in its mixed effects on profitability and liquidity. The tax savings generated by firms using debt makes it more attractive and economical than equity when the firm has exhausted its internal reserves (Myers and Majluf, 1984). Extant literature suggests that current ratio affects profitability and liquidity positively and negatively (Bolek, 2013; Alavinasab and Davondi, 2013). Further, same literature asserts that financial leverage affects profitability both negatively (Akinlo and

Asaolu, 2012; Uremadu and Efobi, 2012) and positively (Abor, 2005; Ruland and Zhou, 2005; Robb and Robinson, 2009; Bhunia and Khan, 2011; Rehman and Anjum, 2013; Umobong, 2015). The mixed results from these empirical studies suggest inconclusive evidence as regards the effect of current ratio and leverage on profitability. Hence, the gap!

1.2 Statement of the Problem

The manufacturing industry in Nigeria has not performed satisfactorily over the years despite deemed to be the most dynamic component of the industrial sector (Ebong, Udoh and Obafemi 2014; Eze and Ogiji, 2013). This implies that the manufacturing sector for the past two decades was on the road leading to de-industrialization. From all indications, the industry seems to be underdeveloped as a result of several factors including little or no access to credit, poor storage facilities, unstable electricity, high interest and exchange rates (MAN, 2009; Rasheed, 2010). It is confirmed by the rapid disappearance of many manufacturing firms: 820 firms became illiquid between 2000 and 2008 according to MAN (2009).

In other words, the global financial crisis (GFC) of 2008-2009 and specifically, 2016 recession in Nigeria, have taken their toll on the manufacturing sector (NGSE, 2017). The number of listed manufacturing firms on the Nigerian Stock Exchange dwindled. As a result, the Nigeria capital markets (Abuja Stock Exchange and Nigerian Stock Exchange) experienced near total collapse as they are made up of largely manufacturing firms. It had a profound negative effect on shareholders, debenture holders, and other investors including foreign investors. In particular, foreign investors withdrew most of their interest through capital flight from the country, otherwise, divestment from the local economy.

Egbide (2009) opined that the inadequacies of the financial manager, treasurer and accountant that caused the demise of most firms manifest in the form of high bad debts, high inventory costs and fire brigade cash flow plans. These have shown that individual elements of working capital may have been grossly mismanaged. Moreover, most of the Nigerian firms including banks that became insolvent declared huge profits in their audited annual reports as quoted firms employ accrual concept which entails matching revenue for a stated period to the costs incurred for the same period. For instance, relying on a firm's current ratio and quick ratio being at par with the industry average could be disastrous as the average has persistently been squeezed low due to global financial crisis. For example, rather than speed up collections involving sound knowledge of cash management, a firm may opt to stretch creditors' period which affects its reputation negatively.

Also, there is loss of huge cash discounts. The instance above may result in such firm's inability to expand; being undervalued in shares and otherwise; inability to customize borrowed technical improvements; recurring financial losses and resultant illiquidity (Nwankwo and Osho, 2010). That is, these result in the firm being either undercapitalized or overcapitalized in the short run. The firm either becomes a cash cow vulnerable to disembowelment by business vultures that acquire a firm for its break-up value (insider information of fully depreciated assets) or becomes illiquid leading to liquidation.

1.3 Objectives of the Study

The main objectives of the study are to determine the effect of current ratio and leverage on profitability and cash positions of sampled manufacturing firms. Specifically, the study:

i) Is to ascertain the relationship between leverage and profitability of publicly listed Nigerian manufacturing firms.

ii) Is to ascertain the relationship between current ratio and profitability of publicly listed Nigerian manufacturing firms.
iii) Is to ascertain the relationship between leverage and cash positions of publicly listed Nigerian manufacturing firms.
iv) Is to ascertain the relationship between current ratio and cash positions of publicly listed Nigerian manufacturing firms.
v)

2. LITERATURE REVIEW

2.1 Conceptual Review

Profitability is the ability of a firm to generate revenue in excess of associated expenses incurred in the process. In general, it refers to the relationship between the profits generated by the company and the investments that gave rise to these profits (Alshatti, 2015). It is the ability of the firm to generate profits from all business activities. It is used in measuring the efficiency of operations executed by management and productivity of capital employed (Tulsian, 2015).

Profitability, efficiency, solvency, and market prospects are the four building blocks for analyzing audited annual reports of quoted companies in lieu of performance for a stated period, usually an accounting year. Stakeholders including shareholders, creditors, employees, government and managers adopt them to ascertain the strengths and weaknesses and how to correct variances from expectations. Profit is to the shareholders, a measure of the return on investment; to the creditors the margin of safety; to the government a measure of the firm's ability to pay tax and a basis of legislative action; and to the country it is an index of economic growth, national income and improved standard of living (Nishanthini & Nimalathasan, 2013).

Cash Holding (Position): Cash equivalents are liquid asset substitutes (high credit quality and degree of liquidity) that can easily be transformed into cash in the short term and comprise of Federal Government of Nigeria treasury bills, bankers' acceptances, certificate of deposit, savings accounts and other money market instruments. Cash holdings that cover all maturing obligations of a firm are archetypes of sound financial strength. However, credit crunch/recession, information asymmetry and market imperfections has necessitated that firms hoard cash as optimal cash levels are vague and unpredictable (Drobetz & Grüninger, 2007).

Current ratio is the quotient of current assets and current liabilities. It is used to measure the short-term liquidity of a firm. It depicts the ability of the firm's management to utilize assets in an efficient and effective manner.

Leverage may be used to measure a firm's mix of operating costs, showcasing how changes in output affect profits. Fixed and variable costs are the two types of operating costs; depending on the company and the industry, the mix is divergent. In computing leverage ratio, the main factors to be considered are debt, equity, assets and interest expenses (Brealey, Myers, & Allen, 2013)

2.2 Empirical Reviews

Bhunia, Khan and Mukhuti (2011) empirically studied the relationships between liquidity, solvency of firms and profitability. The study employed data culled from the audited annual reports of the selected private sector steel firms listed on Indian Stock Exchange. The sample was drawn using purposive sampling technique and covered a ten (10) year period (1997 –

2006). The four companies selected are Tata steel Ltd, Lloyds steel industries Ltd, Kalyane Steels Ltd and JSW steel Ltd. The independent variables : current ratio, liquid ratio, absolute liquid ratio, short term debt – equity ratio, age of inventory, age of debtors and age of creditors are regressed against profitability of the sampled firms proxied by return on investment. All the variables passed the normality (approaching normal distribution i.e. bell – shaped) tests carried out using the Shapiro – Wilks' test and Lillifors test. The study indicated that liquidity and profitability are strongly positively related with a multiple correlation coefficient of 0.934. Uremadu and Efobi (2012) investigated empirically the relationships between capital structure, liquidity and the dependent variable: corporate profitability in Nigeria. The study adopted pooled ordinary least square regression technique on a sample of 10 firms for the five year period (2002 – 2006). The technique made use of log – linear least squares for analysis of collated data. The study showed negative but statistically significant relationships between ratios of long term debt to total liability, short – term debt to total liability, equity capital to total liability and profitability. It also showed a positive and statistically significant relationship between the domestic liquidity rate and profitability, ratio of long – term debt to equity capital, total value of short term debt and profitability.

Nyabwanga, Otieno, & Nyakundi (2013) in their study of the relationship between liquidity, solvency and financial health of small and medium – sized enterprises (SMEs) in Kisii Municipality, Kenya identified unsound financial management, inadequate working capital, slow conversion of receivables and inventory into cash and cash equivalents, increasing trade debts and low turnover as causes of low or average performance of these firms. The study adopted ratio analyses method in analyzing secondary data. It spanned for three years (2009 – 2011). The study concurred that the current and quick ratios of the sampled firms are below industrial average of 2:1 and 1:1 respectively. Therefore, the SMEs are not capable of honoring debt obligations as they fall due. Alavinasab and Davondi (2013) studied the relationship between working capital management and profitability of 147 listed firms in the Tehran Stock Exchange. The study spanned for 5 years (2005 – 2009). The independent variables studied are cash conversion cycle, current ratio, current assets to total asset ratio, current liabilities to total assets ratio and debt to total assets ratio while the dependent variables comprised of return on assets and return on equity. The selected sample is based on firms that have been operational since 2005; their data are available and accessible, accounting year ends in March and are neither investment nor financing firms. Collated data are analyzed using multivariate correlation and regression statistics and tested for normal distribution using Kolmogorov Smironow test. The study affirmed a negative relationship between CCC and profitability, a positive relationship between current asset to total assets ratio and profitability. Also, these are negative relationships between current liabilities to total assets ratio, total liabilities to total assets ratio and profitability.

Gull and Arshad (2013) attempted to determine the nature of the relationships between working capital management, liquidity and profitability of firms listed on the Karachi Stock Exchange. The authors chose a sample of 19 cement firms based on availability of data. They studied the effects of inventory turnover, accounts receivable turnover, current ratio and quick ratio on return on capital employed (ROCE). The study covered a period of 6 years (2005 – 2010). Each independent variable is regressed against the dependent variable (i.e. bivariate analysis). The results confirmed that these independent variables have strong association with profitability. That is, inventory turnover ratio and accounts receivable turnover ratio affected profitability negatively.

Bansal and Vipan (2012) attempted to isolate the determinants of corporate liquidity employing a sample of 100 companies in India. The study spanned a 10 year period (1999 – 2008) using backward step wise regression of the firms. The study depicted that the predictor variables including cash flow adequacy, leverage ratio, and surplus cash excluding size are statistically significant drivers of corporate liquidity. Rehman and Anjum (2013) investigated among others the factors that determine the working capital using the audited financial statements of 10 firms in the current industry of Pakistan. The study covered a 6 year period (2003-2008) employing Pearson Correlations and Multiple Regression Analysis. The study indicated strong positive relationships between the independent variables (quick ratio, current ratio, current assets to total assets ratio) and return on assets. The positive associations between the predictors (inventory turnover ratio, current assets to sales ratio and working capital turnover) and the dependent variable, return on assets (ROA) are statistically insignificant.

Jamil, Anwar, Afzaal, Tariq and Asif (2016) investigated some firm specific factors exerting significant influence on the cash holdings of 50 firms listed on the Karachi Stock Exchange for the three year period (2012-2014). Using ordinary least squares regressions on the processed data, the study proved cash holding is negatively influenced by such predictor variables as leverage, return on assets and debt structure. These results are in alignment with some previous empirical results: Afza and Adnan (2007), Gill and Shah (2012) and Ogundipe, Salawu, Ogundipe (2012), Kariuki, Namusonge and Orwa (2015), Shabbir, Hashmi, and Chaudhary (2016) and Weideman (2016). Bolek (2013) conducted a study on the influence of both dynamic and static liquidity measures on working capital. The dynamic approach is proxied by cash conversion cycle and the static approach by current ratio. A sample of sixty – one (61) non – financial firms was selected from companies listed on the Warsaw Stock Exchange for the fourteen year period (1997 – 2010). Employing regression and correlation analyses, the study showed a simultaneous growth in current ratio and number of cash conversion cycle in an accounting year based on aggressive and moderate working capital strategies. On the other hand, relaxed policy depicted an increasing current ratio accompanied with decreasing number of cash conversion cycles.

Saleem and Rehman (2011) scrutinized the effects of liquidity ratios on profitability of listed companies in the oil and gas industry of Pakistan. The study accentuated the relevance of liquidity ratios to such stakeholders as creditors cum suppliers, employees, bond holders, and shareholders. The sample studied is made up of 26 firms' audited annual reports and accounts culled from the Karachi Stock Exchange for the 6 year period (2004 – 2009). The influence of independent variables (Current Ratio, Acid Test Ratio, and Liquid Ratio) on the dependent variables (Return on Assets, Return on Equity, and Return on Investment) are analyzed using ordinary least squares regression techniques. The findings show that liquid ratio has strong correlation with ROA. However, it has zero correlation with both ROE and ROI. Each independent variable impacts significantly on the financial positions of the firms albeit in divergent amounts. The latest local studies explored were done in 2012. Six years connote at least, some significant changes in the behavior of these variables. Hence, this study!

2.3 Theoretical Framework

Trade-off Theory of Liquidity: This study is *anchored* on the trade-off theory as it postulates that companies should aim for an optimal level of cash inventory to balance the costs and benefits(increased profits and / or reduced operating costs leading to optimized profits) of holding cash. Benefits of being liquid include using it to finance the firm's activities specifically in this era of global recession catalyzed by the US financial / capital market crash

that made surviving financial intermediaries too cautious and borrowings by firms unreasonably exorbitant. Also, firms that adopt the trade-off theory save up costs of issuing new shares or selling off property to realize cash. However, holding cash is bedeviled with little or no return and increased tax liability. However, the assumption of a perfect competitive market by the theory skewed it away from practice. This problem can be solved by managers being lured to become part owners / shareholders of their firms. The firm becoming highly geared necessitates that liquid funds be made available as most highly geared firms are far less attractive to lenders of cash / liquid resources.

Further, *the financial hierarchy* theory (Pecking Order Theory of Liquidity) established by Donaldson (1961) was restructured by Myers and Majluf (1984) in respect of financial approach to theory. The theory evolved as a result of imperfections (emphasizes is on information asymmetry problem) in the capital market. In actual fact, management of firms does possess insider information which outsiders do not have. The theory, according to Myers and Majluf (1984), noted that managers would in most instances finance capital deficit via the public offer of new securities. In the instance where retained earnings and other internal source of financing will be low to invest, then, manager will issue debt. They will only issue new equity as a last option.

The relationships between current ratio, leverage and profitability / cash holding of the firm is explained by the theories given that maturing debt obligations and interests must be paid as at when due. Here, scholars are interested in the relationship between liquid assets (cash) and the value of the firm. Also, how these liquid assets optimize capital structure of the firm in the long run (Kytonen, 2004). Financial theory reflects the liquidity management problem on the basis of optimizing the capital structure of a firm. That is, adding cash balances to such financial theoretic models as capital asset pricing model (CAPM) or Modigliani-Miller (M&M) model links cash management to the financial theory. The effects of the inclusion of cash balances in these theoretical models show the significance of liquid assets for the value of the firm.

3. METHODOLOGY

The study employed the ex-post-facto research design. Quantitative panel methodology was adopted as the sampled firms are heterogeneous and preliminary studies exhibited more variability of data as revised financial statements of previous years, including five year financial summaries, in later years have revalued amounts for say, non-current assets and goodwill. The Fixed Effects (panel) regressions employed are modifications of the variants used by Padachi (2006), Al-Debie (2011) and Vijayakumar (2011). Padachi (2006) employed fixed effects and pooled OLS to ascertain the relationship between return on total assets (ROTA) and the explanatory variables: current ratio and leverage. The study covered a period of 15 years: 2003 to 2017 and is restricted to selected publicly listed Nigerian manufacturing companies on the Nigerian Stock Exchange (NSE). The choice of this length for the study period is bounded by non-availability of adequate data beyond the stated boundaries. Secondly, capturing the effect of the global financial crisis on business activities of firms in developing economies habitually noted for slow growth entails giving enough time for significant growth.

However, the firms must have uninterrupted and audited financial statements for at least six of the twelve year period. In addition, their going concern status must not be in doubt to ensure consistency and enhance proper analyses of indices. Moreover, the study enclosed such manufacturing firms as engaged in wholesaling, merchandizing, and retailing,

specifically, conglomerates. It will rely heavily on collated secondary data collected via reliable sources in lieu of the firms concerned. It covered only 9 out of the 12 broad sectorial classifications of the exchange. However, the benefits derivable from qualitative methodology of collecting data that would have complimented the benefits derivable from the quantitative method given a holistic view of the relationships between variables may not present. Whereas the panel data employed in this study is strongly balanced with respect to all the variables for the fifteen year period emanating from the tremendous effort made to collect data and information from other authoritative sources besides the NSE, firms with unbalanced data had their periods of inactivity or otherwise truncated bringing down the number of observations.

To ascertain and analyze the influence of current ratio and leverage on CASH (cash and cash equivalents) and profitability (proxied by return on assets [ROA]) of firms in the manufacturing sector from 2003 to 2017, the model used is based on the following formulae.

Profitability, CASH= f (Current ratio, Leverage, Control Variables) (1)

$ROA_{it} = \beta_0 + \beta_1 CR_{it} + \beta_2 LEV_{it} + \beta_3 SG_{it} + \beta_4 LnTA_{it} + \beta_5 GDPGR_{it} + c_{it} + \varepsilon_{it}$ (2)

$CASH_{it} = \beta_0 + \beta_1 CR_{it} + \beta_2 LEV_{it} + \beta_3 SG_{it} + \beta_4 LnTA_{it} + \beta_5 GDPGR_{it} + c_{it} + \varepsilon_{it}$ (3)

Where ROA_{it} = proxy for profitability of firm i at time t, i = 1, 2… 36. t = 1, 2 … 15.

β_0 = Intercept β_i = Linear Regression Coefficients

CR_{it} & LEV_{it} = independent (predictor) variables for firm i at time t.

SG_{it}, $LnTA_{it}$ & $GDPGR_{it}$ = control variables for firm i at time t.

$GDPGR_{it}$ = Gross Domestic Product Growth Rate i.e. proxy for Economic Conditions

c_{it} is the non-observable individual effect

ε_{it} = Error (disturbance) term or stochastic term depicting influence of other factors on liquidity position and profitability although not included in the model due to unavoidable constraints.

*To ensure linearity of processed data, CASH is deflated by Total Assets for measurement purposes.

Some common variables adopted in extant literature were included as control variables. These control variables include $LnTA_{it}$, SG_{it}, and $GDPGR_{it}$.

4. RESULTS

Diagnostic tests include Levin-Lin-Chu unit root tests depicting absence of a unit root and Westerlund error correction model (ECM) Panel Cointegration tests showed that the p-values of G* for all the entered variables exceed 0.05. Hence, there is no need to run an ECM otherwise called random effects model (REM). Hausman test, further, collaborated the choice of fixed effects model (FEM) as the Ho is rejected implying that differences in coefficients are systematic.

Table 1: Descriptive Statistics

Var	Obs	Mean	Std. Dev.	Min	Max	Pr(Skew)	Pr(Kurt)
roa	480	.1541451	.3389197	-.39766	6.9244	0.0000	0.0000
cash	480	.5595329	.4465968	-2.3785	2.503	0.0000	0.0000
cr	480	1.196364	.609879	-1.0038	3.8113	0.0000	0.0000
lev	480	.4805266	2.919289	-6.7285	55.9322	0.0000	0.0000
lnta	480	15.43873	2.125261	.1863	19.821	0.0000	0.0000
sg	480	.1634065	.5369801	-7.0825	4.9817	0.0000	0.0000
gdpgr	480	.2600375	.307212	-.18543	1.16161	0.0000	0.0000

Source: Authors' STATA 12 Output of Collated Secondary Data

Table 2: Pairwise Correlations

	roa	cash	cr	lev	lnta	sg	gdpgr
roa	1.0000						
cash	0.1317*	1.0000					
	0.0039						
cr	0.0027	0.0399	1.0000				
	0.9529	*0.3827*					
lev	-0.0204	0.0070	0.0282	1.0000			
	0.6559	*0.8790*	*0.5377*				
lnta	0.0714	0.2110*	0.0146	-0.1584*	1.0000		
	0.1182	*0.0000*	*0.7496*	*0.0005*			
sg	0.0082	0.0248	-0.0608	0.0461	-0.1306*	1.0000	
	0.8574	*0.5881*	*0.1836*	*0.3137*	*0.0042*		
gdpgr	0.0113	-0.0398	0.0295	-0.0006	0.0232	0.1131*	1.0000
	0.8049	*0.3846*	*0.5197*	*0.9898*	*0.6125*	*0.0132*	

* Correlation is significant at the 0.01 level and 0.05 level (2-tailed).

Table 3: Fixed Effect Panel Regression (cash is the Regressand)

cash	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
cr	.0104096	.0328136	0.32	0.751	-.0540785	.0748976
lev	.0016426	.0069511	0.24	0.813	-.0120183	.0153034
lnta	.0356361	.0102348	3.48	0.001	.0155218	.0557505
sg	.0427259	.0378472	1.13	0.260	-.0316546	.1171064
gdpgr	-.2293699	.1049226	-2.19	0.029	-.4355727	-.023167
_cons	.0552789	.1356842	0.41	0.684	-.2113793	.321937

rho_ar .18661405 sigma_u .09247972 sigma_e .4390712
rho_fov .04247873 (fraction of variance because of u_i)

FE (within) regression with AR(1) disturbances — Number of obs = 466
Group variable: firm — Number of groups = 14
R-sq: within = 0.0359 — Obs per group: min = 32
between = 0.0314 — avg = 33.3
overall = 0.0347 — max = 34
F(5,447) = 3.33
corr(u_i, Xb) = -0.03812 — Prob > F = 0.0058

Source: Authors' STATA 12 Output of Collated Secondary Data

Table 4: Fixed Effect Panel Regression (roa is the Regressand)

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
cr	-.0062404	.0265477	-0.24	0.814	-.0584142	.0459333
lev	-.0008403	.0055372	-0.15	0.879	-.0117225	.0100419
lnta	.0115441	.007848	1.47	0.142	-.0038795	.0269677
sg	.019187	.0304797	0.63	0.529	-.0407143	.0790883
gdpgr	-.0052074	.0816944	-0.06	0.949	-.1657603	.1553455
_cons	-.0200678	.1261639	-0.16	0.874	-.2680158	.2278802

rho_ar .01347394 sigma_u .06169681 sigma_e .34371711
rho_fov .03121411 (fraction of variance because of u_i)

FE (within) regression with AR(1) disturbances — Number of obs = 466
Group variable: firm — Number of groups = 14
R-sq: within = 0.057 — Obs per group: min = 32
between = 0.0173 — avg = 33.3
overall = 0.0060 — max = 34
F(5,466) = 0.51
corr(u_i, Xb) = 0.0088 — Prob > F = 0.7666

Source: Authors' STATA 12 Output of Collated Secondary Data

5. DISCUSSION

Table 1 depicts the statistical description of the study variables. The large standard deviation (see LEV) is attributed to the sampled firms emerging from the diverse 95 sub-sectors of the Nigerian Stock Exchange (NGSE). The probabilities of both skewness and kurtosis are all less than 5% i.e. p = 0.0000 confirming the sample distribution is normally distributed. Table 2 showed a strong positive relationship between return on assets and cash and cash equivalents at 1% level of significance. There also exits a perfect positive association between logarithm of total assets (a control variable) and cash and cash equivalents and a near perfect negative relationship between logarithm of total assets and leverage ratio. However, insignificant association exits between the two predictors and the two regressands.
For the regression analysis, the result of tables 3 and 4 strengthened the correlation result. For model 1 using ROA, the systematic variation is explained by 1% coefficient of determination (R^2) at P-value = 0.7666. That is, only 2% of the variation in profitability is explained by changes in the predictor and control variables. Under test of hypothesis, the decision rules posit accepting the alternate hypothesis (H_1) if the sign of the coefficient for CR or LEV is positive / negative, the modulus of the t-Statistic > 2.0 and the P-value of the t-Statistic < 0.05.The individual hypothetical tests depict insignificant influence on both (CR: t = 0.32, P-value = 0.750; LEV: t = 0.24, P-value = 0.810) on CASH and (CR: t = -0.24, P-value = 0.810; LEV: t = -0.16, P-value = 0.873) on ROA. Fortunately, the relationship between cash position of sampled firms (proxied by CASH) and two of the control variables are very significant.

Implications: Some of the results are in accord with trade-off theory, liquidity slack theory and financial hierarchy (Pecking Order) theory and William Baumol's model of cash management as firms with higher cash requirements should have higher optimal cash balance. *It means that firms should maintain adequate liquid and other current assets to cover maturing liabilities / loan obligations particularly in this era (post GFC) as it is extremely costly to borrow from outside or renegotiate old loan covenants.*

6. CONCLUSIONS

The relationship between the predictors (current ratio and leverage) and the regressands (cash and return on assets) of manufacturing firms in Nigeria was investigated for the relevant period (2003 – 2017). The study employed panel least squares estimation and concurred that quoted manufacturing firms with adequate liquid resources and high static liquidity ratios perform better than others with lesser liquid resources and ratios. The results of the study were, however, statistically insignificant. Nonetheless, firms must keep adequate cash to meet expected expenditures. It is hypothesized that size of firm (LnTA) correlates positively with cash and cash equivalents but negatively with Leverage accentuating the need for smaller firms to conservatively hold cash as leverage decreases with size of the firm. The results albeit insignificant aligned with Powell and Baker (2010).

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