Effect of Profitability on Cash Holdings of Quoted Consumer Goods Companies in Nigeria

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*Abstract:-*The study examined the effect of profitability on cash holdings of quoted consumer goods companies in Nigeria. Sample of 20 Nigerian consumer goods firms listed on Nigerian Stock Exchange for a period of 14 years (from 2004-2017) was selected. The main type of data used in this study is secondary; sourced from the Nigerian stock exchange fact book. This study applied ex post facto research design. The data collected were analyzed using Ordinary Least Square Method. The results revealed that that return on assets positively influence consumer goods companies' cash holdings, whereas earnings per share were found to have an insignificant impact on the cash holdings of consumer goods companies in Nigeria. The study, therefore recommends among others that, the Nigerian consumer goods firms should develop a good strategy for earning high returns from their assets since this has positive significant effect on cash holdings. The study also contributes to the literature on the factors that affect the corporate cash holdings.

Key words: **cash holdings, profitability, return on assets, earnings per share.**

I. INTRODUCTION

Background to the Study

Cash provides liquidity and plays significant role in operation of firms. It is most significant part of an organization's assets. Organizations have stimulus to keep a cash to meet obligations, certain the operations and hold the beneficial investment opportunities (Wai & Zhu, 2013). In this way, cash management policies have become significant research area in the corporate finance studies in recent years. However, for investment and operating capital needs firm must manage the effective liquidity position.

Keynes (1936) explained three objectives for why corporations might need to hold cash. These three objectives or motives i.e. the precautionary objective or motive, the transaction motive, and the speculative objective. In other words, The precautionary objective leads that companies keeps cash reserved in order to meet any future financing desires and the transaction objective leads that companies keeps cash for fulfilled their daily operations and also this level of cash will diminish the cost involved in the way of selling different other kinds of assets, while the speculative objective means that companies keep cash for achieve some interest income which investing in short-term interest bearing assets, this liquidity could also be used to invest in future more profitable projects (Al Zoubi 2013).

Theoretically, a firm has several reasons to hold cash. A typical motive is transaction costs (Baumol, 1952). For instance, taxes imposed on profits can be taken as transaction costs. This argument has been recommended by Foley, Hartzell, Titman, and Twite (2007). The second one called precautionary savings to entice firms to increase cash holding when external financing frictions make it hostile to take advantage of good-looking investment opportunities (Froot, Scharfstein and Stein, 1993). Jensen (1986) suggested an agency motive that describes additional cash holdings.

The previous literature has enlightened the upsurge in aggregate cash-holdings both with a tax based justification (Foley, Hartzell, Titman, and Twite (2007)), and a precautionary savings motive due to greater cash-flow unpredictability (e.g. Bates, Kahle, and Stulz, 2009). Azar, Kagy, and Schmalz (2016) described variation in corporate cash-holdings to variation in the cost of carrying cash. Similarly, Curtis, Garın, and Mehkari, (2015) concluded that the changes in the real value of carrying cash when they argue that corporate cash holdings are negatively correlated with inflation. Graham and Leary (2015) found mixed evidence for precautionary saving motives and supported for a tax-based explanation for the increase in cash holdings using data ranging back to the 1920s.

Statement of the Problem

The topic on cash holdings has attracted intense debate in the financial management area. The basic question always raised is; why do firms hold cash? What factors determine a firm's optimal cash holding? Pandey (2006) emphasizes that firm should maintain optimum cash holding; but how to determine the optimum cash holding is a major concern for the financial manager globally, Nigeria inclusive. Efforts have been on to identify the factors that affect corporate cash holding bearing in mind the firm's characteristics such as firm size, firm age, profitability, cash flow, dividend policy, growth opportunities, leverages, account receivable and payable among others. Scholars of financial management for the past two decades in various studies have both theoretically and empirically investigated the determinants of corporate cash holding; the results have rather than resolve the issue remain inconsistent and with mixed outcomes. Initial research by Kim, Mauer and Sherman (1998), Opler, Pinkowitz, Stulz & Williamson (1999), Pinkowitz and Williamson (2001), Ferreira & Vilela (2004), Ozkan & Ozkan (2004), Almeida, Campello and

Weisbach (2004), Guney, Ozkan and Ozkan (2007), Han & Qui (2007), D'mello, Krishnaswami & Larkin (2008), Bates, Kahle & Stulz (2009), Bigelli & Sanchez-Vidal (2010), Kim, Kim & Woods (2011), Maximilian (2015) focus on the cash holdings by firms in the U.S. and other developed countries. Other studies, including Dittmar and Mahrt-Smith (2007), Chang and Noorbakhsh (2009), Al-Najjar (2013) focus on cash holdings for international firms in both developed and developing countries. These studies provide mixed results for both developed and emerging market countries on a number of key issues including the determinants of cash holdings, whether an optimal level of cash holdings exists, the effects of cash holdings on operating performance, and how agency problems may affect a firm's incentives to hold or spend cash. Thus, empirical evidence are still inconclusive and far from achieving a solid scientific consensus.

Objectives of the Study

The main objective of this study is to ascertain the effect of profitability on cash holdings of quoted consumer goods companies in Nigeria. Thus, the specific objectives of this study are to:

i. determine the effect of return on assets on cash holdings of quoted consumer goods companies in Nigeria.
ii. examine the effect of earnings per share on cash holdings of quoted consumer goods companies in Nigeria.

Research Hypotheses

The study is guided by the following hypotheses:

i. Return on assets has no significant effect on cash holdings of quoted consumer goods companies in Nigeria.
ii. Earnings per share have no significant effect on cash holdings of quoted consumer goods companies in Nigeria.

II. REVIEW OF RELATED LITERATURE

Conceptual Framework

Corporate Cash Holdings

There's an old expression in the world of business "Cash is king". This expression is sometimes used in businesses analyses or investment portfolios. Damodaran (2001) defines cash that is owned by the company as operating cash which consists of cash in hand and investment without interest or with interest below the market rate. Cash in the bank also classifies as cash and cash equivalent components as long as it gives rates below the risk-free rate.

Cash usually comes in physical form, paper or coins that can be used for exchanging goods, debt or services. In a company, cash is generally stored in the form of saved bank deposits. Gill and Shah (2012) defined cash holding as readily available for investment use and cash that is ready to be distributed to investors. Usually, on the balance sheet, cash and cash equivalent consist of cash on hand, bank account, marketable securities, deposits and other. Ogundipe et al (2012) viewed Cash holding as cash or cash equivalent that can be easily converted into cash. According to them, cash holding will include cash in hand and bank, short-term investment in money market instrument such as treasury bills.

Cash holdings are simply defined as cash and marketable securities or cash equivalents (Opler, Pinkowitz, Stulz, and Williamson, 1999). According to them cash equivalents are current assets, which can be converted in a very short term and are thus characterized by a high degree of liquidity. They include for instance, US treasury bills, certificates of deposits, bankers' acceptances and further money market instruments. Those securities have a low-risk, low-return profit (Ferriera & Vilela 2004; Ozkan & Ozkan, 2004; Opler et al, (1999).

A firm is considered to be short of liquid assets when it has to cut back investments, cut back dividends, or raise funds by selling securities or assets (Opler et al, 1999). Even when the revenue of the firms drops or is delayed, firms will still have enough money on hand to meet their obligations when they have a large cash balance. Excess in cash provides firms with the autonomy resources, necessary to explore new solutions and opportunities, thereby facilitating risk-taking (Cyert and March, 1963).

Profitability

Aliet (2012) indicated that profitability is defined as an income generated in the business which is calculated by subtracting the expenses from the revenue. The author went on by indicating that the word profitability derives from the word "profit" denoted by the Greek letter "n". This is defined as the difference between the total revenue of a business and the total cost of a business.

For the variable profitability, there is evidence that higher cash holdings are significantly associated with higher profitability (Alaba, 2013; Lu & Tsaic, 2010). The higher the profit, the higher the cash hold by firms. Nguyen (2005) investigated the hypothesis that cash balances have a precautionary motive and serve to mitigate the volatility of operating earnings. Using a sample of 9,168 firm-year observations from Tokyo Stock Exchange for the period of 1992 to 2003, through regression analysis, he found that cash holding increases with its profitability growth. Megginson & Wei (2010) studied the determinants of cash holdings and the value of cash in China's share-issue privatized firms from 1993 to 2007. Through regression analysis, they also found that more profitable firms hold more cash.

Tehrani, Darabi and Izy (2014) stated that profitable firms usually have more cash flows. These firms will be reluctant to hold large amount of cash. On the other hand, creditors tend to lend money to companies that are more profitable to reduce their risk. So consistent with trade-off theory, the relation between two is negative. Based on the pecking order theory, internal funds are the first option for financing; so, profitable

firms that have high cash flows try to accumulate more cash. In addition, managers in this situation have better flexibility in financial policies and in turn such firms will hold more cash.

Theoretical Framework

Corporate finance researchers suggest three theoretical models that can help identify which firm characteristics determine corporate cash holdings decisions (Kariuki, Namusonge, and Orwa, 2015). The determinants of corporate cash holdings have been a subject of explanation in the framework of: the trade-off theory, financial hierarchy (or pecking order) theory and free cash flow theory. But this study is anchored on trade-off theory.

The Trade-Off Theory

Trade-off theory first arising to determines the best decision that is taken by the firm when it comes to their choice of capital structures. Trade-off theory originated from proposition by Modigliani and Miller (1963). They argued that when a firm's corporate income tax is able to create a benefit for debt and it will serve as shield earnings from taxes. On this theory, a firm will choose how much debt finance and how much equity funding they want to use by balancing the costs and benefits.

Since the firm's objective function is linear, there is no cost from the offsetting cost of debt, which suggests that firms choose all debt financing (Modigliani and Miller, 1963). However, the same with debt, cash holding is essential to the firm and has several costs and benefits. Miller and Orr (1966) on their firm's money demand model argued that there are economies of scale in cash management which will lead to large firms holding less cash than small firms.

The principal benefit of holding cash is that it provides firms with a safety buffer that will allow them to avoid making costs by raising external funds or preventing them from being forced to liquidate their existing assets (Levasseur, 1979). Fees that incurred for obtaining funds through borrowing are not related to the size of the loan, which indicates that the fee for borrowing is a fixed amount (Peterson and Rajan, 2003). Because of that, the fees that come from the borrowing itself is more expensive for small firms compared to large firms.

Empirical Studies

This section provides an extensive empirical analysis of the corporate cash holdings at the firm level. With the view of helping both growing and grown companies in structuring their finance efficiently and determining the effect of profitability on their cash holdings, many studies have been undertaken national and international. Some of these studies were discussed in this section as follows.

Effect of Profitability on Cash Holdings

There is evidence that higher cash holdings are significantly associated with higher profitability (Boriçi and Kruja, 2016; Alaba, 2013; Lu & Tsaic, 2010;). The higher the profit, the higher the cash hold by firms. Nguyen (2005) investigated the

hypothesis that cash balances have a precautionary motive and serve to mitigate the volatility of operating earnings. Using a sample of 9,168 firm-year observations from Tokyo Stock Exchange for the period of 1992 to 2003, through regression analysis, he found that cash holding increases with its profitability growth. Megginson & Wei (2010) studied the determinants of cash holdings and the value of cash in China's share-issue privatized firms from 1993 to 2007. Through regression analysis, they also found that more profitable firms hold more cash. This finding was in line with the works of Naoki (2012) and Sher (2014) which holds that cash accumulation of Japanese firms is due to financial imperfections combined with rising corporate profitability.

Ali, Ullah and Ullah, (2016) examine the Determinants of Corporate Cash Holdings of Textile Sector in Pakistan. They identify and measure the relationship of profitability and its effect on corporate cash holdings. A sample of 30 textile firms of Pakistan listed on Karachi Stock Exchange (KSE) was selected for the study, for the reason of examining their relationship. Secondary data for the period 2006-2013 was selected for the study. Variance Inflation Test (VIF) was used to check the problem of multicollinearity. Multiple regression models were used to conduct the results. Results calculated by regression model show consistency with the literature available. Profitability (ROA) shows a positive and significant relation with cash holding. Using pooled ordinary least square regression, Tahir, Quddus, Kahnum and Usman (2015) explored the cash holding determinants for making decision in food industry of Pakistan and the study revealed that profitability has positive significant relationship with cash holding. This finding was in line with the work of Drobetz & Gruninger (2006) which found positive relationship between operating cash flows & cash reserves in Switzerland.

Mesfin (2016) investigate the firms' specific and macroeconomic variables of cash holdings of manufacturing share companies in Ethiopia over the period from 2009 to 2014 inclusive. In doing so, a multiple linear regression model is used for 15 randomly selected manufacturing share companies of Ethiopia. The findings of the study revealed that profitability are statistically insignificant variables of cash holding decision for Ethiopian manufacturing share companies. Tehrani, Darabi and Izy (2014) uses panel data for a sample of 200 firms listed in the Tehran Stock Exchange over the period from 2007 to 2012 to analyse the relation between cash holdings and turnover rate and trading probability. They also find no significant relation between trading profitability and firm's tendency to accumulate cash. This findings were not in line with the findings of Paskelian and Nguyen (2010), which deals with the sample of 1164 Chinese and Indian firms over a 14 year time span and Megginson and Wei (2010) that also deals with sample of Chinese privatized firm over 1993-2007 found that more profitable and high growth firms hold more cash.

In the empirical study conducted in Nigeria by Ogundipe, Ogundipe and Ajao (2012), when investigating the

relationship between cash holding and firm characteristics, they observed that profitability significantly affect the corporate cash holdings in Nigeria. This findings were in line with the findings of Ogundipe, Salawu and Ogundipe (2012), which deals with the non-financial quoted firms in Nigeria using a sample of 54 firms over a period 1995-2009, and found that cash holding has negative relationship with profitability (return on asset). This finding was in line with the work of Jarrad, Sattar and William (2007) which found that firms with excess cash have lower profitability and valuations in US.

III. METHODOLOGY

Research Design

The study adopts ex post facto research design. The population of the study consists of the 21 total numbers of consumer goods companies quoted in the Nigerian Stock Exchange (NSE). Sample of twenty (20) companies was purposively selected based on availability of the required data. The firms selected are PZ Cussons Nigeria, Uniliver Nigeria plc, Guinness Nigeria Plc., International Breweries Plc., Nigerian Breweries Plc., Cadbury plc, Northern Nigeria Flour Mill, Flour Mills of Nigeria, Honey Well Flour Mill, Vita Foam plc, Nascon Allied industries plc, Nigerian Enamelware plc, Dangote Sugar refinery plc, Multi-trex integrated foods plc, Union Dicon Salt plc, Golden Guinea Brew. plc, DN Tyre & Rubber plc, Dangote Flour mills plc, Champion Brew. plc and Nestle Nigeria plc.

Method of Data Analysis

The secondary data collected were analysed using descriptive statistics, correlation and regression analysis. The descriptive statistics were used to evaluate the characteristics of the data such as mean, maximum, minimum, and standard deviation and also checks for normality of the data. The correlation analysis was used to evaluate the relationship between the variables and to check for multi-colinearity. The ordinary regression analysis was used to evaluate the effect of the independent variables on the dependent variable. It reveals the degree of influence/effect the independent variables has on the dependent variable.

Model Specification

The study adopted a regression of Ordinary Least Square method to investigate the effect of profitability on cash holdings of quoted consumer goods companies in Nigeria. This study adopted a model used by Ogundipe et al. (2012) with modifications to suit this study.

The Ogundipe et al (2012) model is as follows:

$CASH_{it} = \beta_0 + \beta_1 MTB_{it} + \beta_2 SIZE_{it} + \beta_3 CF_{it} + \beta_4 NWC_{it} + \beta_5 LEV_{it} + \beta_6 ROA_{it} + \beta_7 INV_{it} + e$

Therefore, the above model was adopted and modified as follows:

$CASH = f(ROA, EPS, \mu)\dots\dots\dots\dots\dots\dots\dots\dots..\dots.I$

$CASH_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 EPS_{it} + ц\dots\dots\dots\dots\dots\dots II$

$CASHN = f(ROA, EPS, \mu)..\dots\dots\dots\dots\dots\dots\dots\dots\dots III$

$CASHN_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 EPS_{it} + ц\dots\dots\dots\dots\dots..\dots IV$

Where,

CASH = Cash ratio

CASHN=Net cash ratio

ROA = Return on Assets

EPS = Earnings per Share

β_0 = Intercept

β_1, β_2 = Parameters

μ = Stochastic error term.

Measurement of Proxies

Table 3:	Proxies measurement
Proxy	**Measure**
CASH CASHN	**Dependent variable proxies** = cash and cash equivalents/ Total assets = cash and cash equivalents/ Total assets - cash and cash equivalents
ROA EPS	**Independent variables proxies** = net income/total assets = as stated in financial statement

IV. DATA ANALYSIS/INTERPRETATION

The summary of the analysis result and its corresponding interpretations of the effect of profitability on cash holdings of quoted consumer goods companies in Nigeria are presented below.

Table 4.1: Descriptive Statistics

VARIABLES	CASH	CASHN	ROA	EPS
Mean	0.018953	0.041515	0.296896	2.462525
Median	0.018500	0.021000	0.230500	1.250000
Maximum	0.366700	0.610000	1.160000	64.32000
Minimum	-0.980000	-0.880000	-0.114000	-71.74000
Std. Dev.	0.129813	0.149921	0.244588	8.427380
Skewness	-1.514415	0.372880	1.425989	-1.698597
Kurtosis	15.30719	10.02287	4.671594	38.34801
Jarque-Bera	1874.143	581.8965	127.4934	14711.93
Probability	0.000000	0.000000	0.000000	0.000000
Sum	5.306800	11.62430	83.13100	689.5070
Sum Sq. Dev.	4.701575	6.270864	16.69076	19814.78
Observations	280	280	280	280

Source: Researcher summary of descriptive statistics (2019)

Table 4.1 above shows the mean (average) for each variable, their maximum values, minimum values, standard deviation. The result provides some insight into the nature of the

selected firms' data used for the study. Firstly, it was observed that over the period under review, the sampled companies have positive average cash ratio (CASH) of 0.018953 and net cash ratio (CASHN) of 0.041515, this means that the selected firms has a positive cash ratio and net cash ratio (cash holdings) in the period of the study. The maximum and minimum value of cash ratio (CASH) is 0.366700 and -0.980000 respectively, and that of net cash ratio (CASHN) is 0.610000 and -0.880000 respectively. The large difference between the maximum value and the mean value and between the minimum value and the mean value shows that the sampled firms used for the study are not dominated by either firms with high cash holding ratio or firm with low cash holding ratio. Secondly, it was observed that on the average over the period, the selected firms have return on assets value of 0.296896, maximum and minimum return on assets value of 1.160000 and -0.114000 respectively, the large difference between the maximum and minimum return on asset reveals that gyrating nature of the return on assets among the selected firms. Earnings per share have a mean value of 2.462525, maximum value of 64.32000 and minimum value of -71.74000. The mean value indicates that the firm's earnings ability is about 246% of the selected firms. On the maximum and minimum, the earnings per share are about 6432% and 7174% respectively.

In examining the relationship among the variables, the study employed the Pearson correlation coefficient (correlation matrix); the results are presented in table 4.2

Table 4.3: Regression Analysis

Table 4.3.1:Cash Ratio (CASH) Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.011996	0.012306	-0.974816	0.3305
ROA	0.097204	0.031331	3.102477	0.0021
EPS	0.000849	0.000909	0.933194	0.3515
R-squared	0.535871	Mean dependent var		0.018953
Adjusted R-squared	0.528910	S.D. dependent var		0.129813
S.E. of regression	0.127923	Akaike info criterion		-1.264117
Sum squared resid	4.532923	Schwarz criterion		-1.225173
Log likelihood	179.9764	Hannan-Quinn criter.		-1.248496
F-statistic	5.153024	Durbin-Watson stat		1.523521
Prob(F-statistic)	0.006349			

Source: Researcher summary of Regression Analysis (2019)

The R-squared which is the co-efficient of determination or measure of goodness of fit of the model, tests the explanatory power of the independent variables in any regression model. From our result, the R-squared (R^2) is 54% in CASH Model. This showed that our model displayed a good fit because the R^2 is closer to 100%, these explanatory variables can impact up to 54% out of the expected 100%, leaving the remaining

Table 4.2: Pearson correlation matrix

VARIABLES	CASH	CASHN	ROA	EPS
CASH	1.000000	0.099545	0.181219	0.048674
CASHN	0.099545	1.000000	0.182341	0.029882
ROA	0.181219	0.182341	1.000000	-0.035025
EPS	0.048674	0.029882	-0.035025	1.000000

Source: Researcher summary of correlation analysis (2019)

The correlation matrix is to check for multi-colinearity and to explore the association between each explanatory variable and the dependent variable. The findings from the correlation matrix table (table 4.2 above) show that cash ratio (CASH) has a positive association with net cash ratio (CASHN). This justifies the use of both measures as proxy for corporate cash holdings. The table shows that cash ratio (CASH) has a positive relationship with return on assets (ROA) 0.181219 and earnings per share (EPS) 0.048674. Net cash ratio (CASHN) has a positive association with return on assets (ROA) 0.182341 and earnings per share (EPS) 0.029882. Return on assets (ROA) has a negative association with earnings per share (EPS) -0.035025. In checking for multi-colinearity, the study observed that no two explanatory variables were perfectly correlated. This indicates the absence of multi-colinearity problem in the model used for the analysis and justifies the use of the ordinary least square method.

46% which would be accounted for by other variables outside the models as captured by the error term.

The F-statistics measures the overall significance of the explanatory parameters in the model, and it shows the appropriateness of the model used for the analysis while the probability value means that model is statistically significant and valid in explaining the outcome of the dependent variables. From table 4.3.1 above, the calculated value of the f-statistics is 5.153024 and its probabilities are 0.006349 which is less than 0.05. We therefore accept and state that there is a significance relationship between the variables. This means that the parameter estimates are statistically significant in explaining the relationship in the dependent variable.

The t-statistics helps in measuring the individuals' statistical significance of the parameters in the model from the result report. It is observed from table 4.3.1 above that only return on assets (ROA) was statistically significant at 5% with its values as 3.102477. This implies that it has contributed significantly to cash holding at the rate of 5% level of significant. The remaining variable earnings per share (EPS) with its values as 0.933194 are not statistically significant at 5%. This implies that it has contributed insignificantly to cash holding at the rate of 5% level of significant.

Our model is free from the problem of autocorrelation because the Durbin-Watson value is 1.523521 which is

approximated as 2 (that means, the absence of autocorrelation in the model used for the analysis).

The a'priori criteria are determined by the existing accounting theory and states the signs and magnitude of the variables from the result. Return on asset and earnings per share has positive signs and its values are 3.102477 and 0.933194 respectively. In CASH Model, this implies that increase in return on asset and earnings per share increases the cash holdings by 310% and 93% respectively; this conforms to our theoretical expectation of pecking order theory and was against the trade-off theory.

Table 4.3.2:Net Cash Ratio (CASHN) Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.017103	0.005209	-3.283190	0.0012
ROA	0.008932	0.013486	0.662317	0.5083
EPS	0.000342	0.000385	0.888002	0.3753
R-squared	0.828008	Mean dependent var		0.018953
Adjusted R-squared	0.826139	S.D. dependent var		0.129813
S.E. of regression	0.054128	Akaike info criterion		-2.980753
Sum squared resid	0.808632	Schwarz criterion		-2.928827
Log likelihood	421.3054	Hannan-Quinn criter.		-2.959926
F-statistic	442.9097	Durbin-Watson stat		1.727158
Prob(F-statistic)	0.000000			

Source: Researcher summary of Regression Analysis (2019)

The R-squared which is the co-efficient of determination or measure of goodness of fit of the model, tests the explanatory power of the independent variables in any regression model. From our result, the R-squared (R^2) is 83% in CASHN model. This showed that our model displayed a good fit because the R^2 is closer to 100%, these explanatory variables can impact up to 83% out of the expected 100%, leaving the remaining 17% which would be accounted for by other variables outside the models as captured by the error term.

The F-statistics measures the overall significance of the explanatory parameters in the model, and it shows the appropriateness of the model used for the analysis while the probability value means that model is statistically significant and valid in explaining the outcome of the dependent variables. From table 4.3.2 above, the calculated value of the f-statistics is 442.9097, and its probabilities are 0.000000 which is less than 0.05. We therefore accept and state that there is a significance relationship between the variables. This means that the parameter estimates are statistically significant in explaining the relationship in the dependent variables.

The t-statistics helps in measuring the individuals' statistical significance of the parameters in the model from the result report. It is observed from table 4.3.2 above that both return on asset (ROA) and earnings per share (EPS) were statistically insignificant at 5% with its values as 0.662317 and 0.888002 respectively. This implies that it has contributed insignificantly to cash holding at the rate of 66% and 89% level of significant respectively.

Our model is free from the problem of autocorrelation because the Durbin-Watson value is 1.727158 in CASHN Model which is approximated as 2 (that means, the absence of autocorrelation in the model used for the analysis).

The a'priori criteria are determined by the existing accounting theory and states the signs and magnitude of the variables from the result. Return on asset and earnings per share has positive signs and its values are 0.662317 and 0.888002 respectively. In CASHN Model, this implies that increase in return on asset and earnings per share increases the cash holdings by 66% and 89% respectively; and this also conforms to our theoretical expectation of pecking order theory and was against the trade-off theory.

Hypotheses Testing

Ho$_1$: Return on assets has no significant effect on cash holdings of quoted consumer goods companies in Nigeria.

Model 1 (CASH) From the result of our test in table 4.3.1 above, we found out that the value of our t-test for return on asset is 3.102477 with a probability of 0.0021. This probability value is less than the desired level of significant of 5%. We reject the null and accept the alternative hypothesis, which says that return on asset has significant effect on cash holdings of quoted consumer goods companies in Nigeria. Thus, return on asset is positive and has significant effect on cash holdings of quoted consumer goods companies in Nigeria at 5% level of significant.

Model 2 (CASHN) In the result from our test in table 4.3.2 above, we found out that the value of our t-statistics for return on asset is 0.662317 with a probability of 0.5083. This probability value is greater than the desired level of significant of 5%. We accept the null and reject the alternative hypothesis, which says that return on asset has no significant effect on cash holdings of quoted consumer goods companies in Nigeria. Thus, return on asset is positive and has no significant effect on cash holdings of quoted consumer goods companies in Nigeria at 5% level of significant.

Ho$_2$: Earnings per share have no significant effect on cash holdings of quoted consumer goods companies in Nigeria.

Model 1 (CASH) From the result of our test in the table 4.3.1 above, we found out that the value of our t-test for earnings per share is 0.933194 with a probability of 0.3515. This probability value is greater than the desired level of significance of 5%. We therefore, reject the alternative and accept the null hypothesis, which says that earnings per share have no significant effect on cash holdings of quoted consumer goods companies in Nigeria. Thus, earnings per share are positive and have insignificant effect on cash holdings of quoted consumer goods companies in Nigeria at 5% level of significant.

Model 2 (CASHN) In the result of our test in the table 4.3.2 above, we found out that the value of our t-statistics for earnings per share is 0.888002 with a probability of 0.3753. This probability value is greater than the desired level of significance of 5%. We therefore, reject the alternative and accept the null hypothesis, which says that earnings per share have no significant effect on cash holdings of quoted consumer goods companies in Nigeria. Thus, earnings per share are negative and have insignificant effect on cash holdings of quoted consumer goods companies in Nigeria at 5% level of significant.

V. DISCUSSION OF RESULT/FINDINGS

The regression result in CASH model shows a positive and statistically significant relationship between return on asset and cash holding, with a regression coefficient of 0.097204, t-statistics of 3.102477, and p-value of 0.0021. Moreover, the significant parameter indicates that the profitability (return on asset) do affect cash holdings of Nigerian consumer goods companies. This result supports the pecking order theory and the previous findings of Ferreira and Vilela (2004), Almeida et al (2004), Ozkan and Ozkan (2004), Kariuki, Namusonge & Orwa (2015), Nguyen (2005), Hofmann (2006), Isshaq, Bokpin & Onumah (2009), Ogundipe, Ogundipe & Ajao (2012), Kariuki, Namusonge & Orwa (2015), Bates et al (2009), and Kim et al. (2011); and were against the trade-off theory which predicts a negative relationship between profitability and cash holdings.

As it is indicated in CASHN model, there is positive and insignificant relationship between return on asset and cash holding, with a regression coefficient of 0.008932, t-statistics of 0.662317, and p-value of 0.5083. This indicated that return on asset is insignificant at 5% to further the relationship with cash holding since the p-value is more than 0.05. The result is also in line with pecking order theory and with the findings of Ferreira and Vilela (2004), Almeida et al (2004), Ozkan and Ozkan (2004), Kariuki, Namusonge & Orwa (2015).

The regression result shows a positive and statistically insignificant relation between earnings per share (profitability) and cash holding, with a regression coefficient of 0.000849 and 0.000342 respectively, t-statistics of 0.933194 and 0.888002 respectively, and p-value of 0.3515 and 0.3753 respectively in both the CASH and CASHN model. Moreover, the insignificant parameter indicates that the profitability (earnings per share) does not affect cash holdings of Nigerian consumer goods companies. This result supports the pecking order theory and the previous findings of Ferreira and Vilela (2004), Almeida et al (2004), Ozkan and Ozkan (2004), Kariuki, Namusonge & Orwa (2015).

VI. CONCLUSION AND RECOMMENDATIONS

The aim of this study is to provide new empirical evidence on the effect of profitability on cash holdings of quoted consumer goods companies in Nigeria. Data collected from a sample of 20 quoted consumer goods firms were from the year 2004 to 2017. Data were from the annual reports of the selected firms,

internet, and Nigerian Stock Exchange fact book. Two regression models were used to analyse the data. Results obtained in this study are almost consistent with evidence in available corporate cash holding literature. A total of two variables – return on assets and earnings per share – were studied to ascertain whether they have significant explanatory power on the cash holdings levels of the companies. Our findings show that return on assets positively influence consumer goods companies' cash holdings, whereas earnings per share were found to have an insignificant impact on the cash holdings of consumer goods companies in Nigeria.

The study, therefore recommends the following based on the findings of the study.

i. The Nigerian consumer goods firms should develop a good strategy for earning high returns from their assets since this has positive significant effect on cash holdings.

ii. Astute consumer goods managers should avoid holding excessive cash reserves as this might attract scrutiny from the capital markets. There should be an optimal trade-off approach to cash holdings, and also there should be a hierarchy explanation for holding excess cash.

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