

LIQUIDITY MANAGEMENT PRACTICES AND FINANCIAL PERFORMANCE OF LISTED CONSUMER GOODS FIRMS IN NIGERIA

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ABSTRACT

The broad objective of this study was to examine the effect of liquidity management on financial performance of listed consumer goods firms in Nigeria, with specific emphasis on liquidity management proxies to include cash ratio, quick ratio, current ratio, and cash conversion cycle as they influence firm financial performance measured as Tobin Q ratio. This study is anchored on the Liquidity Trade-Off Theory, which highlights the balance firms must strike between maintaining sufficient liquidity and optimizing asset utilization to maximize returns. Utilizing both descriptive and ex-post facto research designs, this study investigates historical accounting data collated from eighteen consumer goods firms listed on the Nigerian Exchange Group over the 2015 to 2024 period. The firms were selected using purposive non-probability sampling on the bases that sampled consumer goods firms have filed their annual financials for the period under review. Further, this study employed quantile regression analysis to capture the heterogeneous effects of liquidity management practices of firms across different financial performance levels. Findings indicate that cash ratio has a significant negative effect on financial performance for consumer goods firms at the upper quantile of financial performance, while quick ratio and current ratio show a significant positive effect on high-performing consumer goods firms. Conversely, cash conversion cycle demonstrates a negative impact on firm financial performance for consumer goods firms lying at the upper quantile of performance distribution. Conclusively, this study highlights the critical role of liquidity management in enhancing firm value, particularly for high-performing firms in the consumer goods sector. Therefore, it is recommended that firms maintain balanced cash reserves while avoiding excessive liquidity that could signal inefficiencies. Consumer goods firms should also optimize current ratio and cash conversion cycle to enhance cash flow and financial performance industry.

Key words: Cash Ratio, Current Ratio, Financial Performance, Liquidity Management Practices, Quick Ratio.

INTRODUCTION

Effective liquidity management plays a crucial role in determining the overall profitability of a firm and the value of its shareholders' wealth. A firm's ability to survive in the market is heavily reliant on its liquidity position, as failing to meet obligations on time can lead to a poor credit rating from short-term creditors (Hanum & Masdupi, 2023). Efficient liquidity management leads to an improvement in operating performance of the business concern and helps to meet short-term liquidity requirements (Almakura, Shiaki, Gambo & Ahmad, 2024). Alluded to by most researchers, liquidity requirement varies significantly according to business, industry and sector (Chokroborty & Hasan, 2024). Particularly, it is documented by Djohan, (2023) that liquidity is a necessary condition for the survival of the firm and no firm will continue to exist if it is not in a good liquidity position. Firms which do not make profit may be treated as under-performing but low liquidity may cease firm's operation over a period (Pattiruhu & Paais, 2020; Antczak, Horzela & Nowakowska-Krystman, 2021). Therefore, the task of the company's Chief Financial Officer (CFO) is to conduct effective liquidity management analysis that will maximize the value of the company and improve its financial performance (Alhassan & Islam, 2021; Ugwu, Ekwochi & Ogbu, 2021; Afinindy, Salim & Ratnawati, 2021; Li, Musah, Kong, Adjei-Mensah, Antwi, Bawuah & Andrew-Osei, 2020). On the one hand, excess liquidity is a cost to the company likewise its inadequacies. On the other hand, liquidity deficit can be offset by short term loans or by selling liquid assets which is an expense to the firm.

Therefore, optimal level of liquidity will benefit a company in the long run. Efficient management of firm's liquidity is very vital for the purpose of meeting up with current business obligations, hence liquidity management in terms of cash ratio and efficiency ratio can be optimized for enhanced firm performance (Anderson & Wintoki 2024; Sharma & Sarin, 2024). Pandey (2005) posits that profitability and liquidity often represent conflicting objectives for a firm. Nevertheless, the pursuit of one can result to sacrificing the other, aligning with the common notion of balancing liquidity and profitability. Business financing, especially at the wake of the global financial crisis, has become a major source of concern for business managers (Tarighi, Zimon, Sheikh & Sayrani, 2024) as bank loans are becoming too expensive to maintain due to tightening of both the local and international financial market (Jeenas, 2023; Mazancová, 2024) and the reluctance of the public to invest in the equity of companies' sequel to apprehension about capital market downturn. One major cause of liquidation is illiquidity (Memon, Bohio, Budh &

Buriro, 2024; Purwanto, Perkasa & Abadi, 2023; Devjak, 2023) and the inability to make adequate profits (Hermawan, 2023) which is a key ingredient for measuring the going concern of a business entity. Liquidity management and profitability are very important issues in the growth and survival of businesses and the ability to handle the trade-off between both have become a key topic of concern for financial managers. Despite all the conflicts, it remains essential for a firm to maintain an equilibrium between these two aspects in the course of its daily operations which lays the impetus for this study which aim is to evaluate the effect of liquidity management on financial performance of listed firms in Nigeria.

Objectives

The main objective of the study is to empirically examine the effect of liquidity management on financial performance of listed consumer goods firms in Nigeria. Specifically, the study intends

1. ascertain the effect of Cash Ratio on financial performance at all quantiles of the financial performance distribution among listed consumer goods firms.
2. determine the extent to which Quick Ratio affects on financial performance at all quantiles of the financial performance distribution among listed consumer goods firms.
3. investigate if the effect of Current ratio on financial performance at all quantiles of the financial performance distribution among listed consumer goods firms is significant.
4. ascertain the effect of Cash conversion cycle on financial performance at all quantiles of the financial performance distribution among listed consumer goods firms.

LITERATURE REVIEW

Financial Performance

Financial performance generally preferred to be termed “profitability” is a term used in relation to a business organization ‘capacity to generate sustainable profit (Onykwelu, Chukwuani & Onyeka, 2018). It can also be said to be the ability of an enterprise to spend lesser than the amount of revenue generated on a continual basis. Financial profitability reflects "the state of a company that generates additional income and is distributed by the entity in accordance with the law" (Lowe, Nama, Bryer, Chabrak, Dambrin, Jeacle & Svetlova, 2020). Therefore, financial profitability expresses the ability of equities to produce profit and considered it to be "the efficiency of using equity shares brought in as contributions or the net profit left to the enterprise for self-financing of the company (Aryantini & Jumono 2021)

Firm Liquidity Management

Njue, (2020) noted that liquidity management is among the four cardinal decision areas of financial management that requires careful handling and planning for a business enterprise to be successful and profitable. In most cases, liquidity management are considered from the perspective of working capital management as most of the indices used for measuring firm liquidity are a function of the components of working capital (Owolabi & Obida, 2012; Lyndon & Binglar, 2016). The problem of liquidity management may lead to bankruptcy and financial distress which is often a result from a mismatch between available current assets and its financial obligations. Notably, Baños-Caballero, García-Teruel, & Martínez-Solano (2014) describe liquidity management as the process by which firms strategically oversee and optimize their liquid assets and cash flows to ensure sufficient funding for day-to-day operations, investment opportunities, and unexpected financial needs.

Liquidity Management and Financial Performance

Liquidity management and its relationship with profitability is one main area where key decisions are taken for the enterprise. According to Shah, (2012) liquidity assessment is possible in relation to the objectives of the company of which profitability is one big issue. In the views of Bolek & Grosicki, (2015) obtaining the cheapest capital in the market, accurate investment decisions, both in fixed assets and working capital are important elements of liquidity management.

Cash Ratio

Keynesian liquidity preference theory supports this view, positing that holding adequate cash reserves allows firms to navigate uncertainty, avoid insolvency, and capitalize on favorable market conditions (Keynes, 1936). Cash reserves act as a buffer, mitigating risks and providing financial flexibility (Kulchania & Thomas, 2017; Agrawal, 2020). Such liquidity cushion can enhance investor confidence, reduce the cost of capital, and ultimately contribute to a more favorable financial performance by enabling timely investments in strategic initiatives and innovation (Bates, Kahle & Stulz, 2009; Lins, Servaes & Tufano, 2010).

Ho₁. Cash Ratio has no significant effect on financial performance at all quantiles of the financial performance distribution among listed consumer goods firms.

Quick Ratio

Quick ratio is considered more conservative compared to the current ratio because it takes into account only liquid current assets, also known as quick assets, in relation to current liabilities (Al Nimer, Warrad, & Al Omari, 2015). Quick ratio management, a measure of a firm's liquidity by assessing its ability to meet short-term obligations without relying on inventory, is often linked to positive financial performance.

Ho₂. Quick Ratio has no significant effect on financial performance at all quantiles of the financial performance distribution among listed consumer goods firms.

Current Ratio

From a positive performance viewpoint, a strong current ratio suggests that a firm can comfortably meet its short-term obligations, which in turn enhances its creditworthiness and operational flexibility. The pecking order theory offers insight into this relationship by suggesting that firms prefer internal financing over external borrowing; hence, a healthy current ratio implies retained earnings and internal liquidity that support investment and profitability (Myers & Majluf, 1984).

Ho₃. Current ratio has no significant effect on financial performance at all quantiles of the financial performance distribution among listed consumer goods firms.

Cash Conversion Ratio

Cash conversion cycle and financial performance nexus has garnered substantial attention in corporate finance literature, often viewed through various theoretical lenses that attempt to explain how the timing of cash inflows and outflows affects a firm's profitability, liquidity, and operational efficiency. From the viewpoint of the trade-off theory, a well-optimized cash conversion cycle enhances financial performance by striking a balance between the cost of holding working capital and the benefits of maintaining sufficient liquidity for operational continuity. A shorter cash conversion cycle implies that a firm quickly recovers cash invested in inventory and receivables, which minimizes the need for external financing and reduces interest expenses, thereby boosting profitability. Deloof (2003), supported this argument by who observing that Belgian firms with shorter cash conversion cycles experienced higher profitability.

Ho₄. Cash conversion cycle has no significant effect on financial performance at all quantiles of the financial performance distribution among listed consumer goods firms.

Theoretical Framework

Liquidity Trade-Off Theory

The trade-off theory suggests that firms target an optimal level of liquidity to balance the benefit and cost of holding cash. The cost of holding cash includes low rate of return on current assets because of liquidity premium and possibly the disadvantageous effects on tax (Krzeczewski, 2017). The benefits of holding cash are two-fold: (i) Firms save transaction costs to raise funds and do not need to liquidate assets to make payments; (ii) they can use liquid assets to finance their activities and investment if other source of funding is not available or are extremely expensive. This trade-off theory of liquidity management was adopted for this study because it best link liquidity and profitability, which are the independent and dependent variables respectively. For a firm to maintain its profitability, it must target an optimal level of liquidity to balance the benefit and cost of holding cash.

Empirical Review

Sari (2025) investigated the impact of profitability and liquidity on firm value, with dividend policy as a moderating variable. The study utilized data from the Indonesia Stock Exchange, covering the period from 2019 to 2023, and focused on the manufacturing sector. The research adopted a quantitative approach with a causal research design and employed purposive sampling, selecting 47 manufacturing companies for analysis. Multiple linear regression analysis was used to test the hypotheses. The findings revealed that profitability had a significant positive effect on firm value, while liquidity did not have a significant impact. Further, dividend policy did not strengthen the relationship between profitability and firm value, nor did it enhance the effect of liquidity on firm value.

Hacini, Boulenfad, and Dahou (2021) examined the impact of liquidity risk management on the financial performance of conventional banks in Saudi Arabia, focusing on how liquidity indicators influence profitability. The study utilized data from the Saudi Arabian banking sector, covering the period from 2002 to 2019. The study employed a panel data methodology,

incorporating pooled, fixed-effects, and random-effects regression models to test the hypotheses. Findings revealed that liquidity risk had a significant negative impact on financial performance, suggesting that an increase in liquidity risk reduces bank profitability. The loan-to-deposit ratio exhibited a significant negative effect, indicating that excessive lending without corresponding deposits weakens financial performance, while the cash-to-deposit ratio also negatively affected profitability, implying inefficiencies in cash management.

Alim, Ali, and Metla (2021) investigate the impact of liquidity risk management on the financial performance of commercial banks in Pakistan. The study utilizes secondary data collected from the State Bank of Pakistan and the Pakistan Stock Exchange, covering the period from 2006 to 2019. The study employs a panel data research design with 25 banks over 14 years, using the Ordinary Least Squares regression method to test the hypotheses. The findings indicate that an increase in liquidity positively affects return on assets, whereas its effect on return on equity is insignificant. The results suggest that maintaining adequate liquidity levels enhances financial stability, reducing risks associated with liquidity crises while balancing opportunity costs.

Dzapasi (2020) examined the impact of liquidity management on financial performance of banks in a challenging economic environment. The study focuses on the Zimbabwean banking sector and utilizes secondary data from the Zimbabwe Stock Exchange, covering the period from 2014 to 2018. The study follows a mixed-methods research approach, combining qualitative and quantitative techniques, and employs a purposive sampling technique with a sample of five leading banks in Zimbabwe. The data analysis is conducted using panel data regression analysis. The findings indicate a strong positive relationship between liquidity management and financial performance, suggesting that banks with effective liquidity management strategies experience better financial stability and profitability.

Wuave, Yua, and Yua (2020) examined the effect of liquidity management on the financial performance of banks in Nigeria, focusing on how liquidity indicators influence profitability. The study utilized secondary data from five banks listed on the Nigerian Stock Exchange, covering the period from 2010 to 2018. The study employed a panel regression analysis and used the Hausman test to determine the most appropriate model, opting for the fixed effects estimation. Findings revealed that liquidity ratio had a significant positive effect on financial performance,

while cash reserve ratio and loan-to-deposit ratio exhibited negative effects, indicating that high reserve requirements and excessive lending reduce profitability.

Alhassan and Islam (2021) examined the relationship between liquidity management and financial performance in the oil and gas sector, focusing on how internal and external liquidity factors impact profitability. The study utilized data from the Nigerian Stock Exchange, covering the period from 2011 to 2020, and analyzed ten listed oil and gas companies. Employing a fixed panel regression analysis after conducting a Hausman test, the study utilized secondary data from company annual reports. Findings indicated that debt had a significant negative impact on profitability, whereas equity capital and retained earnings contributed positively to firm performance. Additionally, sales showed a positive effect on profitability, but lending interest rate exhibited an insignificant influence.

MATERIALS AND METHOD

Descriptive and *ex-post facto* research designs were employed to investigate the effect of liquidity management on financial performance of listed consumer goods firms in Nigeria. Descriptive research allows the researcher to determine the correlations among independent and dependent variables. This study adopts purposive sampling technique which requires that each of the sampled consumer goods firms must fulfil certain conditions before it can be admitted into the sample frame. Estimation of linear models by quantile regression was used because Quantile Regression techniques help to obtain a more complete picture of the underlying effect of liquidity on corporate financial performance and simultaneous quantile regression illustrate if independent variables have non-constant or variable effects across the full distribution of the dependent variable. Therefore, the quantile regression model which was first introduced by Keonker & Basset (1978) can be expressed as:

$$Y_{it} = \chi_{it}^1 \beta_0 + \epsilon_{0it} \text{ with } \text{Quant}_0(Y_{it} / \chi_{it}) = \chi_{it}^1 \beta_0 \dots \dots \dots \text{ Eqn 1.}$$

Where:

i denotes company,

t denotes time,

Y_{it} is the independent variable,

χ_{it} is the vector of parameters to be estimated

ϵ is a vector of residuals. $\text{Quant}_0(Y_{it} / \chi_{it})$ denotes the \emptyset^{th} conditional quantile of Y_{it} given χ_{it} .

The θ^{th} regression quantile $0 < \theta < 1$, solves the following problem:

$$\min_{\beta} \frac{1}{n} \left\{ \sum_{i,t: y_{it} \geq x'_{it}\beta} \theta |y_{it} - x'_{it}\beta| + \sum_{i,t: y_{it} < x'_{it}\beta} (1-\theta) |y_{it} - x'_{it}\beta| \right\} = \min_{\beta} \frac{1}{n} \sum_{i=1}^n \rho_{\theta} \varepsilon_{\theta it} \quad (2)$$

Where $\rho_{\theta}(\cdot)$ which is known as the check function is defined as

$$\rho_{\theta}(\varepsilon_{\theta it}) = \begin{cases} \theta \varepsilon_{\theta it} & \text{if } \theta \varepsilon_{\theta it} \geq 0 \\ (\theta - 1) \varepsilon_{\theta it} & \text{if } \theta \varepsilon_{\theta it} < 0 \end{cases} \quad (3)$$

Equation (2) is then solved by linear programming methods such that as one increases θ continuously from 0 to 1, the entire conditional distribution of Y_{it} conditional on x_{it} can be measured (Buchinsky, 1998). In this study, corporate liquidity management measured in terms of cash ratio, quick ratio, current ratio and cash conversion cycle is a function of financial performance. Where firm size is a control variable.

The variables in this study are classified into independent variables (Cash ratio, quick ratio, current ratio and cash conversion cycle) and a dependent variable (Tobin Q)

Table 1 Operationalization of Study Variables

Variables	Variable Acronym	Measurement	Source
Dependent			
Tobin Q	QRATIO	Computed as Market Capitalization + Total Liabilities - Cash divided by Total asset	Dalwai, Chinnasamy & Mohammadi (2021).
Independent			
Cash Ratio	CASHR	Computed as total cash and cash equivalents divided by current liabilities	Güleç and Bektaş, (2019).
Quick Ratio	QUICKR	Computed as current asset minus inventories divided by current liabilities	Durrah, Rahman, Jamil, & Ghafeer, (2016).
Current Ratio	CRATIO	computed as current asset divided by current liabilities	Chairunisa, Digidowiseiso, & Karyatun, (2023).
Cash Conversion Cycle	CCCLE	computed in days as inventory Days + Trade receivable Days - Trade Payable Days	Yazdanfar & Öhman, (2014).
Control Variable			
Firm Size	FSIZE	Computed as natural logarithm value of total asset	Goswami-Maji & Hussain (2023).

Authors' Compilation 2025

This study employed panel data analysis technique on the variables of interest. The pooled data econometric model is written as:

$$QRATIO = CASHR + QUICKR + CRATIO + CCCLE + FSIZE + \epsilon_{it} \dots \dots \dots \text{Eqn 4}$$

However, in model (4) company and time effects are ignored. Incorporating unobserved company and time effect the following equation emerges:

$$QRATIO_{it} = CASHR_{it} + QUICKR_{it} + CRATIO_{it} + CCCLE_{it} + FSIZE_{it} + \epsilon_{it} \dots \dots \dots \text{Eqn 5.}$$

Therefore, due to the advantages inherent in quantile regression estimation technique over Standard Ordinary Least Square models, this study will be able to examine the effect of liquidity management at the 25th, 50th, and 75th quantiles of the distribution. These three quantiles can be seen in prior research studies of Callistus et al (2010) and Mohamad and Nazir (2010) and shown in the specification of the model:

Liquidity Firm Performance Nexus Econometric Model

$$Q_{.25} (QRATIO_{it}) = \lambda_{.25} + \lambda_{.25,1}CASHR_{it} + \lambda_{.25,2}QUICKR_{it} + \lambda_{.25,3}CRATIO + \lambda_{.25,4}CCCLE + \lambda_{.25,5}FSIZE_{it} + \epsilon_{25it}$$

$$Q_{.50} (QRATIO_{it}) = \lambda_{.50} + \lambda_{.50,1}CASHR_{it} + \lambda_{.50,2}QUICKR_{it} + \lambda_{.50,3}CRATIO + \lambda_{.50,4}CCCLE + \lambda_{.50,5}FSIZE_{it} + \epsilon_{50it}$$

$$Q_{.75} (QRATIO_{it}) = \lambda_{.75} + \lambda_{.75,1}CASHR_{it} + \lambda_{.75,2}QUICKR_{it} + \lambda_{.75,3}CRATIO + \lambda_{.75,4}CCCLE + \lambda_{.75,5}FSIZE_{it} + \epsilon_{25it}$$

Where:

QRATIO = Tobin Q

CASHR = Cash Ratio

QUICKR = Quick Ratio

CRATIO = Current Ratio

CCCLE= Cash Conversion Cycle

FSIZE = Firm Size

i = Cross Sections, t = Time Frame, ϵ = error term

Q.25, Q.50 Q.75 = Quantile 25, Quantile .50 and Quantile 75

This study intends to employ STATA 17 for quantile regression estimation and obtain an estimate of the entire variance-covariance of the estimators.

RESULT AND DISCUSSIONS

Descriptive Statistics Analysis

To provide critical preliminary information on the variables of interest through the use of descriptive statistics procedure, each variable is examined based on four measures of central tendency: mean, standard deviation, maximum and minimum values.

Table 2 Descriptive Statistics Result

Variable	Obs	Mean	Std. dev.	Min	Max
QRATIO	160	1.464937	1.698999	.06	8.79
CASHR	160	.2685625	.2914415	0	1.38
QUICKR	160	.804125	1.120328	.05	13.58
CRATIO	160	1.234625	1.307714	.07	15.87
CCCLE	160	12.16856	315.2902	-1923.49	2711.76
FSIZEA	160	7.574187	.7936869	5.42	8.74

Source: Author’s Computation (2025)

The descriptive statistics for consumer goods firms listed on the Nigerian Exchange Group for the period between 2015 and 2024 reveal insightful dynamics about liquidity management and firm performance. The mean Tobin Q ratio (QRATIO) of 1.46 indicates that, on average, the market value of these firms exceeds the replacement cost of their assets, suggesting positive investor perception and firm valuation. This aligns with the findings of Bagana, Lateef, Ene, & Emeka, (2024), who reported a mean Tobin Q above unity for consumer firms in Nigeria. The average cash ratio value (CASHR) of 0.27 suggests that while firms hold some buffer of liquid cash, they do not excessively retain idle cash which is consistent with value-maximizing liquidity behaviour as noted in the pecking order theory. However, the wide standard deviation of 0.29 and a maximum of 1.38 imply that some firms operate with extremely high liquidity, potentially due to low investment opportunities or risk aversion. Quick ratio (QUICKR) and current ratio (CRATIO) average 0.80 and 1.23 respectively, indicating that most firms can meet its short-term obligations without distress which is consistent with the sector’s operational dependence on inventory-heavy models. These figures are comparable with the findings of Etim, Umoffong, Enang, & Agatevure, (2022), who documented moderate liquidity buffers among listed Nigerian firms as a strategic response to macroeconomic instability and credit market constraints.

Interestingly, cash conversion cycle (CCCLE) shows a mean value of 12.17 days but an extraordinarily high standard deviation of 315.29, with extreme values ranging from -1,923.49 to 2,711.76 days. This reflects a significant variation in working capital efficiency across firms: an

issue flagged in previous studies of Simon, Sawandi, & Abdul-Hamid, (2018) who highlighted erratic cash cycles in Nigerian consumer goods firms due to unstable inventory and receivable management practices. Negative cash conversion cycle values imply that some firms enjoy supplier financing (that is, payables exceed the combined inventory and receivable periods), while high positive values indicate inefficiencies in inventory turnover or delayed collections. The average firm size value (FSIZEA), is 7.57 with low dispersion (std. dev. = 0.79), suggesting that consumer goods firms in Nigeria are moderately large and relatively homogeneous in scale, supporting Dioha, Mohammed, & Okpanachi, (2018) conclusion that firm size among Nigerian consumer firms does not significantly vary. Overall, the descriptive statistics confirm the sector's mixed liquidity structure reflecting some firms leverage optimal liquidity to enhance market value, while others struggle with inefficiencies.

Regression Analysis

Specifically, to examine the effect of the independent variables on the dependent variables, pooled least square regression analysis was first conducted to establish the absence of multicollinearity, then followed by panel quantile regression analysis to test the hypotheses of this study as presented in table the Table 3

	POOL LEAST SQUARE	QUANTILE 25	QUANTILE 50	QUANTILE 75
CASHR	0.533 (0.322)	0.308 (0.527)	0.167 (0.305)	** -0.622 (0.031)
QUICKR	0.258 (0.297)	0.037 (0.938)	0.161 (0.436)	***0.838 (0.000)
CRATIO	0.0009 (0.189)	-0.0006 (0.780)	0.0003 (0.730)	***0.003 (0.000)
CCCLE	-0.002 (0.178)	-0.002 (0.287)	-0.001 (0.371)	** -0.002 (0.004)
FSIZEA	**0.471 (0.007)	0.053 (0.467)	-0.259 (0.161)	***0.495 (0.000)
R SQUARED	0.0638			
VIF	2.48			
	Mean Acceptance Rate: 0.428 Total draws: 1000 Burn-in draws: 100 Draws retained: 900 Value Of Objective Function: Mean: -5.0319 Min: -12.4558 Max: -0.0573	Mean Acceptance Rate: 0.290 Total draws: 1000 Burn-in draws: 100 Draws retained: 900 Value Of Objective Function: Mean: -8.1175 Min: -13.3194 Max: -0.4031	Mean Acceptance Rate: 0.417 Total draws: 1000 Burn-in draws: 100 Draws retained: 900 Value Of Objective Function: Mean: -18.5319 Min: -23.4126 Max: -15.2890	

NOTE:(1) BRACKET () ARE P-VALUES; (2) **, ***, IMPLIES STATISTICAL SIGNIFICANCE AT 5% AND 1% LEVELS RESPECTIVELY

Table 3 Tobin Q Ratio Regression Analysis Result

The results from the panel quantile regression analyses at the 25th, 50th, and 75th quantiles show distinct diagnostic outcomes that are essential for confirming the validity of the models. For the 25th quantile, the mean acceptance rate of 0.428 suggests a moderate level of convergence in the Markov Chain Monte Carlo (MCMC) sampling process, indicating that the model's parameter space is being sufficiently explored. The range of the objective function values, from a minimum of -12.4558 to a maximum of -0.0573, with a mean of -5.0319, further supports that the model has achieved stable estimates after 900 retained draws out of 1000 total, with a 100-draw burn-in phase. Similarly, for the 50th quantile (median), the mean acceptance rate is somewhat lower at 0.290, reflecting a more challenging parameter space but still within acceptable ranges for convergence. The objective function's mean of -8.1175, with a wider range (min: -13.3194, max: -0.4031), suggests that the model maintains reasonable stability, albeit with slightly greater variability in comparison to the 25th quantile.

For the 75th quantile, the mean acceptance rate of 0.417 signals strong convergence similar to the 25th quantile, and the objective function values, ranging from -23.4126 to -15.2890 with a mean of -18.5319, indicate a shift in the distribution of residuals towards higher quantiles. Across all quantile levels, the number of retained draws (900) and the consistency of the objective function's stability affirm that the models are valid and appropriate for interpretation. The acceptance rates and objective function ranges support that the MCMC diagnostics meet the required criteria for reliable inference, making it appropriate to move forward with the interpretation of the panel quantile regression results.

Test of Hypotheses

Hypothesis One

- H₀: Cash Ratio has no significant effect on financial performance at all quantiles of financial performance distribution of listed consumer goods firms in Nigeria.
- H₁: Cash Ratio has significant effect on financial performance at all quantiles of financial performance distribution of listed consumer goods firms in Nigeria.

The result obtained from the effect of the cash ratio on firm performance, revealed that at the lowest quantile (Q25), z-value = 0.308 while P-value = 0.527. This indicates that at the 25th quantile, cash ratio does not have a statistically significant effect on firm performance for firms performing in the lower quantile of the performance distribution. At the 50th quantile (Q50), the analysis showed that cash ratio had a z-value of 0.167 and a probability value of 0.305. Similar to the lowest quantile, cash ratio does not exert a statistically significant effect

on firm performance at the median level, implying that for firms within the middle distribution, liquidity in terms of cash reserves does not significantly impact financial performance. However, at the highest quantile (Q75), the regression analysis revealed that cash ratio showed a z-value of -0.622 and a P-value of 0.031. This result demonstrates that for firms whose financial performance (via market value) falls within the upper quantile of the distribution, cash ratio has a statistically significant negative effect on firm performance. In other words, firms with higher levels of cash relative to liabilities tend to experience lower market valuations when compared to their peers in the upper quantile.

Following the probability values at the different quantiles, this study concludes that cash ratio has a significant negative effect on firm financial performance only for firms whose market value is in the upper quantile of the distribution. Therefore, the null hypothesis, which states that cash ratio has no significant effect on firm financial performance for listed consumer goods firms in Nigeria, is rejected for firms in the highest quantile.

Hypothesis Two

H₀: Quick Ratio has no significant effect on financial performance at all quantiles of financial performance distribution among listed consumer goods firms in Nigeria.

H₁: Quick Ratio has significant effect on financial performance at all quantiles of financial performance distribution among listed consumer goods firms in Nigeria.

Further, the result obtained from the effect of quick ratio on firm financial performance revealed that at the lowest quantile (Q25), z-value = 0.037 while P-value = 0.938 indicating that at the 25th quantile, quick ratio does not have a statistically significant effect on firm performance for firms performing at the lower quantile of market value distribution. The extremely large P-value suggests that the ability of firms to cover short-term liabilities without relying on inventory has no effect on its market valuation. At the 50th quantile (Q50), the analysis showed that quick ratio had a z-value of 1.161 and a probability value of 0.436 which is similar to the lowest quantile. This outcome implies that for firms whose financial performance falls within the middle distribution, quick ratio does not significantly impact their market value. However, at the highest quantile (Q75), the regression analysis revealed that quick ratio showed a z-value of 0.383 and a P-value of 0.000 which demonstrates that for firms whose market value falls within the upper quantile of the distribution, quick ratio has a statistically significant positive effect. In other words, firms with higher levels of quick ratio

liquidity tend to experience higher market valuations when compared to their peers in the lower quantiles.

Therefore, following the probability values at the different quantiles, this study concludes that quick ratio has a significant positive effect on firm financial performance only for firms whose market value is at the upper quantile of the distribution. Therefore, the null hypothesis, which states that quick ratio has no significant effect on firm financial performance for listed consumer goods firms in Nigeria, is rejected for firms in the highest quantile.

Hypothesis Three

H₀: Current Ratio has no significant effect on financial performance at all quantiles of financial performance distribution among listed consumer goods firms in Nigeria.

H₁: Current Ratio has significant effect on financial performance at all quantiles of financial performance distribution among listed consumer goods firms in Nigeria.

Further, the result obtained from the effect of current ratio on firm performance revealed that at the lowest quantile (Q25), z-value = -0.28 while P-value = 0.780, indicating that at the 25th quantile, current ratio does not have a statistically significant effect on firm performance for firms performing at the lower quantile of the market value distribution. The very high P-value suggests that the extent to which a firm's current assets exceed its current liabilities is not a key determinant of market value among firms with relatively lower Tobin Q ratios. This may reflect that investor in such firms are more concerned with other operational or structural metrics rather than basic short-term liquidity coverage. At the 50th quantile (Q50), the analysis showed that current ratio had a z-value of 0.35 and a probability value of 0.730. Similar to the lowest quantile, this result indicates that for firms within the middle segment of the market value distribution, current ratio does not exert a statistically significant effect on firm performance. This outcome reinforces the notion that traditional liquidity strength measured by the ratio of current assets to current liabilities does not significantly influence market valuation across the lower and middle-performing consumer goods firms in Nigeria. However, at the highest quantile (Q75), the regression analysis revealed that current ratio had a z-value of 5.98 and a P-value of 0.000, clearly demonstrating a statistically significant positive effect on firm financial performance for firms occupying the top tier of market valuation.

This suggests that among firms with high Tobin Q ratios, the ability to maintain sufficient current assets to meet short-term obligations contributes positively to how the market perceives and values the firm. Such firms likely maintain investor confidence by demonstrating strong liquidity positions, thereby enhancing its market capitalization relative to asset base. Therefore, following the probability values at the different quantiles, this study concludes that current ratio has a significant positive effect on firm performance only for firms whose market value is within the upper quantile of the distribution. Consequently, the null hypothesis, which states that current ratio has no significant effect on firm performance for consumer goods firms in Nigeria, is rejected for firms within the highest quantile.

Hypothesis Four

H₀: Cash Conversion Cycle has no significant effect on financial performance at all quantiles of financial performance distribution among listed consumer goods firms in Nigeria.

H₁: Cash Conversion Cycle has significant effect on financial performance at all quantiles of financial performance distribution among listed consumer goods firms in Nigeria.

Cash conversion cycle effect on firm performance revealed a lowest quantile (Q25) outcome of z-value = -1.06 while P-value = 0.287, suggesting that at the 25th quantile, cash conversion cycle does not have a statistically significant effect on firm financial performance for firms performing at the lower quantile of the market value distribution. Put differently, the P-value indicates that the time it takes for firms to convert inventory and receivables into cash has no significant impact on market valuation of low-performing consumer goods firms in Nigeria. Again, similar to the lowest quantile, cash conversion cycle does not exert a statistically significant effect on firm performance at the median level (50th quantile (Q50), z-value of -0.89 and a probability value of 0.371), suggesting that for firms within the middle distribution, the efficiency of working capital circulation does not significantly influence their market value. However, at the highest quantile (Q75), the result demonstrates that for firms whose market value falls within the upper quantile of the distribution, cash conversion cycle has a statistically significant negative effect on firm performance (z-value of -2.84 and a P-value of 0.004).

In other words, firms that take longer to convert their operational resources into cash tend to experience lower market valuations compared to their peers at the top of the performance distribution. This suggests that high-performing firms are more sensitive to operational

efficiency, and longer cash conversion cycles signal inefficiencies that the market penalizes. Hence, based on the probability values at the different quantiles, this study concludes that cash conversion cycle has a significant negative effect on firm financial performance only for firms whose market value is at the upper quantile of the distribution. Therefore, the null hypothesis, which states that cash conversion cycle has no significant effect on firm performance for listed consumer goods firms in Nigeria, is rejected for firms in the highest quantile.

Conclusion and Recommendations

Firms with sound liquidity management practices are better equipped to finance day-to-day operations, seize investment opportunities, and navigate financial uncertainties without resorting to costly external financing. Consequently, firms must strike a balance between maintaining enough liquidity to ensure smooth operations and maximize returns to enhance performance. By employing quantile regression analysis technique, this study captures the heterogeneous effects of liquidity management across firms with varying levels of market valuation. Quantile regression analysis reveals that liquidity management practices exhibit differing impacts on firm performance depending on the firm's position in the market value distribution. Conclusively, the study emphasizes the importance of understanding how liquidity management affects firms at different performance levels. The results obtained from the quantile regression model employed to test the study hypotheses with respect to each specific objective are as follows; cash ratio has a significant negative effect on firm financial performance only for firms whose market value falls within the upper quantile of the performance distribution, quick ratio has a significant positive effect on firm financial performance only for firms whose market value rally around the upper quantile of the performance distribution and cash conversion cycle has a significant negative effect on firm financial performance only for firms whose Tobin Q value lies within the upper quantile of the performance distribution. Liquidity management is a critical aspect of corporate finance that directly impacts a firm's ability to meet its short-term obligations and maintain operational efficiency.

Based on the study's findings, it is recommended that stakeholders within listed consumer goods firms in Nigeria should focus on optimizing liquidity management by maintaining balanced cash reserves. While cash reserves provide financial stability, excessive liquidity, particularly for firms at the upper quantile of market performance may signal inefficiencies to investors and detract from firm value. The outcome from this study, a precise policy

recommendation for stakeholders of listed consumer goods firms in Nigeria would be to focus on enhancing liquidity management practices, particularly for high-performing firms. Stakeholders, including management and investors, should prioritize strategies that improve quick ratio, such as optimizing cash flow management and reducing reliance on extended inventory turnover cycles. On the bases of the quantile regression outcomes, stakeholders within Nigeria's listed consumer goods sector are advised to adopt a stratified liquidity management approach tailored to firm performance levels. For firms operating in the lower and middle tiers of market valuation, where current ratio exerts no significant influence on performance, management should re-consider over-relying on liquidity buffers. However, for top-performing firms, where a strong current ratio significantly enhances market valuation, sustaining optimal liquidity positions should be a strategic priority to maintain investor confidence and market competitiveness. Given the variations in the effect of cash conversion cycle on firm financial performance across the quantiles, stakeholders in Nigeria's consumer goods sector are advised to adopt performance-sensitive working capital strategies. For firms in the lower and median performance tiers, where cash conversion cycle has no discernible effect on market value, efforts should focus on growth stimulation and structural reforms rather than aggressive liquidity tightening. However, for top-performing firms, where prolonged cash conversion cycles significantly erode market valuation, management should prioritize shortening inventory turnover periods, accelerating receivables collection, and negotiating favorable payables terms to sustain operational efficiency and investor

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