

THE ROLE OF CURRENT RATIO IN DETERMINING PROFITABILITY: EVIDENCE FROM QUOTED FOOD MANUFACTURING COMPANIES IN NIGERIA

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ABSTRACT

This study examined how liquidity influenced profitability in quoted food manufacturing companies in Nigeria, drawing on the liquidity–profitability trade-off framework. Panel data from nine firms listed on the Nigerian Exchange Group covering the period 2013–2023 were analysed using descriptive statistics, pooled ordinary least squares, fixed- and random-effects models, and the Hausman test. Profitability was proxied by return on assets and net profit margin, while liquidity was measured using the current ratio. The results indicated that liquidity did not have a statistically significant effect on profitability when measured by return on assets ($p = 0.9460$) or net profit margin ($p = 0.2208$). Although the regression models were statistically significant (F -statistic, $p = 0.0007$ for ROA; $p = 0.0000$ for NPM) with strong explanatory power ($R^2 = 0.2683$ for ROA; $R^2 = 0.9240$, Adjusted $R^2 = 0.9163$ for NPM), the Hausman test supported the random-effects specification. Overall, the study concluded that liquidity did not significantly determine profitability in the sector, indicating that other firm-specific factors were more influential.

Keywords: Current ratio, Food, Net Profit Margin, Nigeria, Profitability

1. INTRODUCTION

Liquidity management, particularly the current ratio measurement, is essential to financial performance analysis. The current ratio of current assets to current liabilities assesses a company's capacity to satisfy short-term obligations and is crucial to ensuring financial stability and operational continuity. A good current ratio demonstrates the company's ability to meet its immediate liabilities, facilitating smooth operations and mitigating bankruptcy concerns. However, the link between the current ratio and profitability is complicated and sometimes industry-specific, necessitating more research, especially in emerging economies such as Nigeria.

Corruption and inefficiencies, which hinder economic progress, have continued to plague Africa's public investment procedures, according to (Ighodalo Ehikioya et al., 2020).

A key component of financial decision-making is liquidity management, which guarantees that a company can fulfil its immediate commitments while preserving operational effectiveness. The current ratio, which gauges a company's capacity to settle its short-term debts with its short-term assets, is one of the most used liquidity indicators. Liquidity management is essential to maintaining profitability and guaranteeing long-term survival for capital-intensive, fiercely competitive, and volatile food manufacturing businesses. Consumer product manufacturing managers rely heavily on current ratio monitoring, a crucial facet of liquidity management. Meeting short-term responsibilities is crucial for operational sustainability and long-term profitability (Efeeloo et al., 2020)

Effective working capital management is essential for maintaining financial stability and profitability since it positively and significantly impacts company performance (Iqbal et al., 2023)). Working capital management is a critical factor influencing the profit returns of companies worldwide and is a priority in the financial sector, particularly banks. It is widely recognised that corporate organisations' sustainability is primarily based on how they can effectively manage their working capital (Ailemen et al., 2021).

Profit maximisation is the motivating force behind all business enterprises. Profitability analysis is becoming increasingly crucial for firms in determining their overall financial health. (McGuire et al., 1988). Profitability is essential for a corporation to achieve its objectives, as most organisations are designed to generate profits (Otekunrin et al., 2021).

The manufacturing sector is an important driver of economic growth. It shifts countries' economic structures away from low-value, slow-growth activities and toward more productive ones. The food manufacturing sector in Nigeria has grown significantly during the last ten years and has significantly contributed to the nation's GDP. Even when inflation is unavoidable, the effects of rapid price increases force merchants to update their pricing structures more frequently, whether through reconfiguring computer systems or recounting inventories. Inflation forces sellers to incur additional costs to adjust to rapidly changing prices, and these "menu costs" vary in response to inflationary trends, forcing businesses to revise price levels regularly (Ucheaga et al., 2020). However, the industry faces several difficulties, such as supply chain interruptions, inflation, depreciation of the currency, and unpredictable manufacturing costs. Effective liquidity management is, therefore, essential to preserving financial stability and attaining profitability in light of these problems. Businesses in this industry must balance investing resources to make money and keeping enough liquid assets to handle operational demands.

The strength and performance of a country's manufacturing sector may greatly influence its overall economic growth. One crucial area that should be operating at peak efficiency to boost an economy's productivity is the manufacturing sector, which is part of the real sector. The quantity of liquidity available for operational purposes determines the sector's operational resources and inputs necessary to attain the desired performance (Osho et al., 2021).

This study examines the role of the current ratio in determining profitability: evidence from quoted food manufacturing companies in Nigeria.

Significance of the Study

This study adds to existing knowledge by examining the relationship between liquidity and profitability in Nigeria's quoted food manufacturing companies. Using panel data spanning 2013–2023, it provides insight into liquidity management in an emerging economy. The results show that liquidity, as measured by the current ratio, is not a major driver of profitability, suggesting the importance of other firm-specific factors. The study, therefore, serves as a useful reference for managers and policymakers in making more informed financial and operational decisions.

2. Literature Review

2.1 Conceptual Review

Current Ratio

The current ratio is an important measure for liquidity management. Excess liquidity, defined as a high current ratio, frequently results in resource underutilization, lowering profitability. A low current ratio,

on the other hand, might cause financial distress since businesses struggle to satisfy their short-term obligations, resulting in operational disruptions (Raheman & Nasr, 2007). To keep this indicator at its optimal level, one must maintain a suitable level of current assets, which must be more significant than short-term debts (Pordea et al., 2020). Understanding the relationship between liquidity (via the current ratio) and profitability is critical for sound financial decisions. The balance between preserving enough liquidity and achieving efficient asset utilisation is frequently a determining factor of financial performance. Dividing current assets by current liabilities will help one determine the weight of total current assets against total current liabilities, indicating how a company's finances are performing and how it might use the maximum liquidity of its current assets to pay off debt and other obligations. This ratio is most frequently used in the study of financial accounts. The current ratio is one of the most important indicators for assessing a company's liquidity. Generally, when the current ratio is high, it can be said that the enterprise's capacity to remit back its medium-term obligations is good. In contrast, the quick ratio shows the correlation between current liabilities and assets (Chima et al., 2021).

Profitability

Profitability is a crucial measure of economic performance since it concisely assesses a business's success or failure. The capacity of a business to turn a profit on its investments and activities is measured by its profitability. It is among the most significant markers of the prosperity and financial performance of a company. (Okobo et al., 2022) define profitability as a company's

capacity to produce profits within a specified period. Profitability is crucial for the sustainability and growth of any business. It determines a company's financial health and its ability to attract investors, reinvest in the business, and reward shareholders. Profitability is crucial in the growth of an organisation, and it is also a tool to ensure that a business is running smoothly and that the finances of the firm are being handled well and managed well. According to (Joseph & Chiemeka, 2020) Revenues gauge a company's earnings from selling goods or rendering services to customers. Profitability demonstrates how healthy management deploys the company's resources to generate revenue (Salami et al., 2019).

Measures of profitability

1. Net profit margin: Net profit margin is a key indicator of a company's revenue profitability. A larger net profit margin suggests that the company is better at cost control and revenue generation. The corporation may have more costs or operational inefficiencies if its net profit margin is smaller. A company's net profit margin (NPM) is the percentage of sales or revenue it retains as net income or profit after deducting all expenditures. It determines its profitability and capacity to generate a profit. The net profit margin serves many functions. It's crucial to a company's profitability and business plan. It calculates business profitability or the bottom line.
2. Return on assets: ROA measures how well a company uses its assets to make money. It shows management's ability to maximise firm resources. Return on assets (ROA), a profitability ratio, calculates an investing firm's dividend rate after accounting for interest and taxes from its profitable business operations (Jeroh et al., 2022) It shows how efficiently a corporation uses its resources to create shareholder wealth. A high return on assets (ROA) suggests the corporation may benefit from keeping higher-value assets, which investors want. ROA analysis should be combined with other profitability ratios and financial data to assess a company's performance and efficiency.

Consumer goods

Consumer products, also known as final goods, are purchased and used directly by individuals or families for personal use or to satisfy desires and aspirations. These items are not used in other production processes. The consumer products sector is vital to economies because it produces goods that meet consumer demands while also promoting overall economic growth and development.

These industries create significant job opportunities and encourage technological innovation in response to changing consumer tastes and expectations. One of the primary issues is the expense of production.

Producing goods in Nigeria is expensive due to the country's poor infrastructure and erratic electricity supply. Factory overhead costs are rising due to the generators' need to keep the lights on. Obtaining equitable finance is another difficulty, besides the agony of travelling our pothole-

filled roads while hauling finished items and raw materials. Getting small and medium-sized consumer products businesses the funding, they require to grow or purchase new machinery can be challenging. Banks can occasionally refuse to lend money or charge exorbitant interest rates, which reduces their earnings.

2.2 Theoretical Review

To better understand current assets and how they impact a company's profitability, this theoretical research will look at the foundational ideas and conceptual frameworks. By critically examining the Liquidity- Profitability Trade-off Theory and the underlying assumption and applicability of this theory to food manufacturing companies in Nigeria, it will be revealed. This theoretical investigation aims to provide a coherent and comprehensive framework that captures the nuances of the food manufacturing sector, offering a solid foundation for empirical research and knowledge creation.

2.2.1 Liquidity-Profitability Trade-off Theory

This study is theoretically based on the trade-off between profitability and liquidity. Liquidity allows a business to meet its short-term obligations and operate profitably without facing financial challenges.

However, maintaining high liquidity may lead to idle resources, reducing the opportunity to invest in profitable ventures. Prioritising profitability over liquidity may result in financial strain, especially if liabilities exceed available resources. The trade-off theory of liquidity. (Myers, 1977), Firms aim for an ideal amount of liquidity that balances the benefits and costs of retaining cash. This trade-off highlights the importance of maintaining an optimal current ratio that allows businesses to remain viable while efficiently allocating resources to create profits. This dynamic is especially important for food manufacturers, where working capital management is vital due to inventory perishability and the necessity for effective supply chain operations.

2.3 Empirical Review

Alagbe et al. (2024) examined the effect of liquidity management on the profitability of Nigerian banks using an ex-post facto design with secondary data from the audited financial statements of eight Deposit Money Banks between 2018 and 2022. Descriptive statistics and inferential methods, including correlation, multiple regression, and Granger causality tests, were applied. The study found a significant positive relationship between liquidity management and profitability, indicating that banks with stronger liquidity practices achieve better financial performance. The findings underscore the importance of effective liquidity strategies for long-term profitability in the banking sector.

Almakura et al. (2024) investigated the relationship between liquidity management and the profitability of listed oil and gas companies. The study used an ex-post facto approach, collected secondary data through purposive sampling, and used descriptive statistics and regression analysis to analyse data from 2012 to 2021. The study found that cash and quick ratios had insignificant and positive effects on company performance and proxies for independent variables, such as return on capital and cash employed.

Amity Ijuwo (2024) analyzed how working capital management affects profitability in 10 Nigerian consumer goods companies from 2017–2022 using panel data techniques. The study found that

extending the cash conversion cycle can increase profitability, highlighting the importance of managing cash flow effectively. It also revealed mixed and inconsistent effects of inventory turnover, accounts receivable, accounts payable, firm size, and leverage on profitability, showing that their influence varies across firms. The research recommended industry-specific and firm-based working capital strategies, emphasizing close monitoring of the cash conversion cycle to improve financial performance.

Devi et al. (2023) examined the effects of current ratio, debt-to-equity ratio, and total asset turnover on firm value, with return on equity as a mediator, using data from 36 basic materials manufacturing firms listed on the Indonesia Stock Exchange (2018–2022). The study found that current ratio and total asset turnover had no significant impact on firm value or return on equity, while debt-to-equity ratio positively affected firm value but negatively influenced return on equity. Return on equity significantly affected firm value and mediated only the relationship between debt-to-equity ratio and firm value.

Azeez (2020) uses a case study research design to evaluate how liquidity management affects the profitability of selected Nigerian food and beverage enterprises. The study proxy's liquidity management with the current ratio, current assets to total assets, working capital to total assets, and profitability with return on capital. Secondary data from chosen firms' 2014-2018 annual reports was analysed using multiple regression and correlation analysis. The study found that the current ratio, current assets to total assets ratio, and working capital ratio do not affect the return on capital employed, and changes in liquidity status do not significantly affect the profitability of the chosen enterprises. Thus, liquidity management does not affect the profitability of Nigerian enterprises. The report suggests that enterprises in Nigeria and other countries should reduce the time needed to convert accounts receivable and inventories to cash to boost liquidity.

Dadebo & Afolabi (2020) investigated the impact of liquidity management on the financial performance of selected Nigerian manufacturing firms. Panel data from 10 representative enterprises' annual reports from 2012 to 2016 were examined utilising multiple regression, correlation, and descriptive methods. The results showed that liquidity management, as measured by the current, cash, and quick ratios, significantly negatively impacts financial performance, as measured by return on assets. In contrast, cash and quick ratios have a positive but insignificant effect.

3. Methods

This study uses a quantitative, explanatory, and longitudinal approach to investigate the relationship between the current ratio and profitability of quoted Nigerian food manufacturing companies. Using panel data analysis, the study investigates both cross-sectional and time-series dimensions, providing strong insights into the impact of liquidity on profitability over time. An ex-post facto methodology draws on previous financial data from quoted food manufacturing companies' annual reports. The population consists of food manufacturing companies listed on the Nigerian Exchange Group (NGX), selected using a selective sample technique based on criteria such as consistent listing and availability of complete financial data. The study used financial statements from the selected quoted food manufacturing companies and secondary data acquired from the Nigerian Exchange Group (NGX) between 2013 and 2023.

The Hausman test is used to identify whether fixed or random effects exist in panel data regression analyses. Additional techniques, like descriptive statistics, correlation analysis, and diagnostic tests for multicollinearity and heteroscedasticity, help to assure model validity and dependability. Based on the availability of data from the Nigerian Exchange Group (NGX) and the financial statements of the quoted food companies used for this study, only nine companies out of the eleven quoted food manufacturing companies listed on the Nigerian Exchange Group were used.

3.1 Model Specification

This analysis used Return on Assets (ROA) and the Net Profit Margin (NPM) as the dependent variables, whereas CR (current ratio) is used as the independent variable. Thus, the functional relationship and the resultant econometric model are specified below:

Therefore, the functional form of the model is specified as:

ROA = f (CR) -----equation 1

NPM = f (CR) -----equation 2

Model 1 (ROA as the Dependent Variable):

$ROA_{it} = \beta_0 + \beta_1 CR_{it} + \epsilon_{it}$

Model 2 (NPM as the Dependent Variable):

$NPM_{it} = \beta_0 + \beta_1 CR_{it} + \epsilon_{it}$

Where:

ROA: Dependent variable = Return on assets

NPM: Dependent Variable = Net profit Margin

CR: Independent variable = Current ratio

β_0 : Constant

β_1 : Coefficient of the current ratio, capturing its impact on profitability.

ϵ_{it} : Error term.

t: year or period;

i: firm.

Econometric Model and A Priori Expectations

The study adopts a linear panel regression framework. Based on the liquidity–profitability trade-off argument, the current ratio is expected to exert a negative or statistically insignificant influence on return on assets and net profit margin, as excessive liquidity may limit firms’ ability to generate higher returns.

3.2 Measures of Variables

Preamble

This section presents the key variables used in this study, along with their definitions and measurement approaches. The dependent variables capture profitability through return on assets and net profit margin, while the independent variable measures liquidity using the current ratio. These variables were chosen to assess the relationship between liquidity management and profitability in quoted food manufacturing companies in Nigeria.

Dependent Variables

Return on Assets (ROA)

ROA is a profitability indicator that shows how well a company converts its total assets into profit. It reflects the efficiency of asset utilization in generating earnings.

Measurement: Net income divided by total assets.

Net Profit Margin (NPM)

NPM measures the percentage of revenue that remains as profit after all operating expenses, interest, and taxes have been paid. It indicates the company’s ability to control costs and generate earnings from sales

Measurement: Net income divided by total revenue.

Independent Variable

Current Ratio

The current ratio evaluates a company's short-term financial strength by comparing its current assets to current liabilities. It shows whether the firm has sufficient resources to cover its short-term obligations.

Measurement: Current assets divided by current liabilities.

4. Discussion of results

This section contains the results and presentations obtained from the research technique, including the data analysis and interpretation. First, the descriptive or summary data are presented and discussed. The results of the regression are then shown and examined. Three different estimators are used to provide precise estimations and results. These include the Fixed Effects Model, the Random Effects Model, and the Pooled Ordinary Least Squares Estimator.

4.1. Descriptive Statistics

Table 4.1: Descriptive Statistics of the Variables

	ROA	NPM	CR
Mean	0.0501391	12.57016	1.177432
Median	0.0267835	1.084585	1.095971
Maximum	0.628	46.75	3.431
Minimum	-0.0823	-0.2015	0.071
Std. Dev.	0.1086181	17.60202	0.482273
Skewness	2.7730389	0.970943	1.499588
Kurtosis	14.395584	2.177869	7.061572
Jarque-Bera	662.55057	18.34315	105.1521
Probability	1.35E-144	0.000104	1.47E-23
Sum	4.9637695	1244.446	116.5658
Sum Sq.	1.4050713	46006.32	160.0419
Sum Sq. Dev.	1.1561924	30363.43	22.79356
Observations	99	99	99

Source: Researcher's Output using E-views 14 (2024)

The descriptive statistics of ROA, NPM, and CR are presented in Table 4.1. Descriptive statistics show the role of the current ratio in determining profitability in quoted food manufacturing companies in Nigeria from 2013 to 2023. Lower medians indicate skewed distributions, while the mean values (ROA: 5.01%, NPM: 12.57%, CR: 1.18) show insignificant financial performance. High standard deviations indicate significance. variation in businesses' profit margins, especially for NPM (17.60). The data's high kurtosis indicates extreme values and outliers (ROA: 14.40, CR: 7.06) and positive skewness (ROA: 2.77, CR: 1.50). The variables are statistically significantly non-normal, as confirmed by the Jarque-Bera test, which rejects normality (p-values < 0.05). This

non-normality impacts standard econometric assumptions, so identifying the right model is essential for accurate analysis.

Panel Unit Root Test

Table 4.2: LLC unit root test

Levin, Lin and Chu Unit Root Test				
Variable	Levels	1 st Difference (D)	Order Of Integration	Remark
CR	0.000*	0.000*	I(0)	Stationary
NPM	0.6140*	0.0043*	I(0)	Stationary
ROA	0.027*	0.000*	I(0)	Stationary

As shown in Table 4.2, the LLC unit root test ensures accurate econometric analysis by evaluating stationarity for CR, NPM, and ROA. At level I(0), CR ($p = 0.000$) and ROA ($p = 0.027$) are stationary, therefore differencing is not necessary for them. Initially non-stationary, NPM ($p = 0.6140$) shows stationarity after first differencing, when it becomes statistically significant ($p = 0.0043$). All variables are ultimately I(0), therefore there is no risk of erroneous results when using them in regression analysis.

Panel Cointegration test

Table 4.3: Pedroni cointegration test.

	Statistic	Prob.	Statistic	Prob.
Panel v-Statistic	0.124025	0.4506	-0.807795	0.7904
Panel rho-Statistic	-1.275209	0.1011	0.227603	0.5900
Panel PP-Statistic	-5.454414	0.0000	-3.556407	0.0002
Panel ADF-Statistic	-1.089511	0.1380	-0.728437	0.2332

Source: Researcher's Output using E-views 10

The Pedroni cointegration results are displayed in Table 4.3. The results of the panel cointegration tests regarding a long-term relationship between the variables are not entirely consistent. The Panel v-statistic ($p > 0.05$), rho-statistic ($p > 0.05$), and ADF-statistic ($p > 0.05$) do not support cointegration because they are not statistically significant. A strong long-term relationship is indicated with a statistically significant Panel PP-Statistic ($p = 0.0000, 0.0002$).

4.4. Pooled OLS Result

For completeness, three-panel Econometric techniques are employed: the Dynamic Panel Regression Model, Fixed Effects Model, Random Effects Model, and Pooled OLS. The econometric estimates for the three approaches are shown in Table 4.2, starting with the results of ordinary least squares on pooled data. The regression coefficients are elasticities since every variable in the regression equations has been logged. Additionally, take note that at the 5% and

1% levels, respectively, two stars (**) and one star (*) signify that a regression coefficient is significantly different from zero. The lack of stars indicates no discernible difference between the coefficient and zero.

Dependent Variable: ROA

Table 4.4: The ROA model using Pooled OLS Estimator

	<i>Coefficient</i>	<i>Std. Error</i>	<i>T-ratio</i>	<i>P-value</i>	
CR	0.023	0.022	1.544	0.427	
<i>R-squared</i>	0.01		<i>Adjusted R-squared</i>	0.00	
<i>F(Stat)</i>	1.023		<i>P-value(F)</i>	0.314	
<i>Durbin-Watson</i>	0.94				

Source: Researcher's Output using E-views 10

The pooled OLS results are reported in Table 4.4 (ROA) and Table 4.5 (NPM). According to the panel least squares regression, CR has a positive but not statistically significant effect on ROA ($p = 0.3142$), indicating that liquidity has very little impact on profitability. Only 1.04% of the variation in ROA can be accounted for by CR, according to the R-squared (0.0104), exhibiting insufficient explanatory power. The Durbin-Watson statistic (0.9464) raises the possibility of positive autocorrelation, whereas the F-statistic ($p = 0.3142$) verifies that the model is not statistically significant. Overall, the findings show that ROA is not significantly influenced by CR alone, necessitating the inclusion of other variables for a more thorough study.

Model II

Dependent Variable: NPM

Table 4.5: The NPM model using Pooled OLS Estimator

	<i>Coefficient</i>	<i>Std. Error</i>	<i>T-ratio</i>	<i>P-value</i>	
CR	-2.383	3.697	1.544	0.520	
<i>R-squared</i>	0.04		<i>Adjusted R-squared</i>	-0.006	
<i>F(Stat)</i>	0.415		<i>P-value(F)</i>	0.520	
<i>Durbin-Watson</i>	0.10				

Source: Researcher's Output using E-views 10

According to the pooled OLS analysis, CR has no statistically significant effect on NPM ($p = 0.5208$), proving that liquidity does not explain profitability. The model is insignificant because the R-squared (0.0043) and F-statistic ($p = 0.5208$) confirm low explanatory power. The Durbin-Watson statistic (0.1003) shows the possibility of serial correlation. In general, CR is insignificant, and other variables probably drive NPM.

4.5. Fixed Effect Model

Model I

Dependent Variable: ROA

Table 4.6: The ROA Fixed Effect model

	<i>Coefficient</i>	<i>Std. Error</i>	<i>T-ratio</i>	<i>P-value</i>	
CR	0.001	0.021	0.067	0.946	
<i>R-squared</i>	0.26		<i>Adjusted R-squared</i>	0.19	
<i>F(Stat)</i>	3.626		<i>P-value(F)</i>	0.0007	
<i>Durbin-Watson</i>	1.27				

Source: *Researcher's Computation using E-views 10*

The fixed effects estimates are presented in Table 4.6 (ROA) and Table 4.7 (NPM). According to the fixed effects model, CR has no statistically significant effect on ROA ($p = 0.9460$), indicating that liquidity has no impact on profitability; the R-squared (26.83%) shows that firm-specific effects enhance explanatory power in comparison to the pooled OLS model; the F-statistic ($p = 0.0007$) is statistically significant, indicating that firm-specific factors contribute to the explanation of ROA; however, Durbin-Watson (1.2735) raises the possibility of autocorrelation. CR is insignificant, suggesting that other firm characteristics rather than liquidity are more important in determining profitability.

Model II

Dependent Variable: NPM

Table 4.7: The NPM Fixed Effect model

	<i>Coefficient</i>	<i>Std. Error</i>	<i>T-ratio</i>	<i>P-value</i>	
CR	-1.411	1.144	-1.232	0.220	
<i>R-squared</i>	0.92		<i>Adjusted R-squared</i>	0.91	
<i>F(Stat)</i>	120.26		<i>P-value(F)</i>	0.000	
<i>Durbin-Watson</i>	1.30				

Source: *Researcher's Output using E-views 10*

The fixed effects model's p-value (0.2208) demonstrates that liquidity (CR) has no discernible effect on net profit margin (NPM). Nonetheless, the significant constant term ($p = 0.0000$) shows that companies typically retain a positive NPM. According to the model's high explanatory power ($R^2 = 0.9240$, Adjusted $R^2 = 0.9163$), firm-specific characteristics are the main cause of variances in NPM. Liquidity is still not a significant predictor of profitability, even though the model is statistically significant (F-statistic $p = 0.0000$).

4.6. Random Effect Estimation

Model I

Dependent Variable: ROA

Table 4.8: The ROA Random Effect model

	<i>Coefficient</i>	<i>Std. Error</i>	<i>T-ratio</i>	<i>P-value</i>	
CR	0.008	0.0214	0.391	0.696	
<i>R-squared</i>	0.001		<i>Adjusted R-squared</i>	0.008	
<i>F(Stat)</i>	0.15		<i>P-value(F)</i>	0.698	
<i>Durbin-Watson</i>	1.15				

The random effects results are shown in Table 4.8 (ROA) and Table 4.9 (NPM). Liquidity does not affect profitability, as the random effects model demonstrates that CR has no statistically significant effect on ROA ($p = 0.6964$). Poor explanatory power is indicated by the R-squared (0.0016) and F-statistic ($p = 0.6983$), which confirm that CR has little impact on ROA. Cross-sectional effects (18.15%) are overshadowed by idiosyncratic effects (81.85%), indicating that firm-specific variances are more significant. One possible indicator of autocorrelation is the Durbin-Watson statistic (1.1520). CR is still insignificant, suggesting that other firm-specific factors drive profitability.

Model II

Dependent Variable: NPM

Table 4.9: The NPM Random Effect Model

	<i>Coefficient</i>	<i>Std. Error</i>	<i>T-ratio</i>	<i>P-value</i>	
CR	-1.418	1.144	-1.239	0.218	
<i>R-squared</i>	0.015		<i>Adjusted R-squared</i>	0.005	
<i>F(Stat)</i>	0.15		<i>P-value(F)</i>	0.215	
<i>Durbin-Watson</i>	1.20				

The random effects model reveals that liquidity does not significantly affect NPM, as indicated by the non-statistically significant coefficient of CR ($p = 0.2180$). The significant constant term ($p = 0.0302$) supports the idea that businesses often have a positive NPM. Nevertheless, the F-statistic ($p = 0.2157$) indicates that the model is not statistically significant, and its explanatory power (R2

= 0.0158) is insignificant. This suggests other factors probably influence Nigeria's food manufacturing industry's profitability.

4.7. Hausman Test

Model I

Dependent Variable: ROA

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq.	d.f.	Prob.
Cross-section random	3.315047	1		0.0686

The Hausman test results are reported in Table 4.10 (ROA). With a Chi-Square statistic of 3.3150 and a p-value of 0.0686, the Hausman test produces results that are borderline at the 10% level but not statistically significant at the 5% level. Thus, the random effects model is preferable over the fixed effects model, and we cannot reject the null hypothesis. However, if firm-specific characteristics are thought to considerably impact ROA, fixed effects could still be considered because the p-value is near 0.1. Performing further experiments could assist in validating the optimal model selection.

Model II

Dependent Variable: NPM

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	0.41007	1	0.8395

Source: *Researcher's Output using E-views 10*

The Hausman test results are further reported in Table 4.11 (NPM). The random effects model is more appropriate because the Hausman test result ($p = 0.8395$) is not statistically significant; liquidity has no significant effect on NPM because CR is not significant in both models ($p > 0.05$); the fixed effects model's high R-squared (0.9240) indicates that other firm-specific factors are important in profitability; however, the test result indicates that the random effects model is preferred for interpretation.

4.8. Hypothesis Testing and Discussion of Findings

Based on the research findings, we fail to reject the null hypothesis for H01: There is no significant relationship between the current ratio and profitability of quoted food manufacturing companies in Nigeria. In both models, the current ratio appeared statistically insignificant in relation to profitability measures, ROA and NPM. Results indicate that CR does not have a statistically significant impact on profitability at conventional significance levels. This indicates that, at the level of this study, the liquidity position of firms, as captured by a current ratio, did not significantly affect their profitability.

Overall, the findings suggest that liquidity, measured through the current ratio, is not a strong determinant of profitability in the Nigerian food manufacturing industry. Instead, profitability seems to be shaped by firm-level characteristics and wider external influences. This result is consistent with the conclusions of (Sadiq & Omolara, 2023), who argued that other measures of working capital, such as the cash conversion cycle, may provide more reliable insights into profitability in African manufacturing firms.

5. Summary, Recommendation and Conclusion

5.1. Summary

This research investigated the relationship between the current ratio (CR) and the profitability of quoted food manufacturing companies in Nigeria over the period 2013–2023. Panel data drawn from the firms' annual reports were analysed using pooled OLS, fixed effects, and random effects estimation techniques to determine how CR influences two key profitability measures: return on assets (ROA) and net profit margin (NPM). The results indicated that CR did not have a statistically significant impact on either ROA or NPM, implying that liquidity levels, as measured by CR, do not necessarily lead to higher profitability. The Hausman test identified the random effects model as the most appropriate framework for the analysis. Based on these findings, the study suggests that while sustaining adequate liquidity is essential for operational efficiency, managers should consider other aspects of working capital management alongside CR when formulating strategies to enhance profitability.

5.2. Conclusion

This study examined the role of the current Ratio in Determining Profitability: Evidence from Quoted Food Manufacturing Companies in Nigeria from 2013 to 2023. Profitability was measured using Return on Assets (ROA) and Net Profit Margin (NPM), while working capital was measured using Current Ratio (CR); the findings give insight into how this liquidity metric influences the profitability of firms in the sector.

According to the study, the p-value of 0.2208 indicates no statistically significant relationship between liquidity (CR) and net profit margin (NPM). However, according to the significant

constant term ($p = 0.0000$), firms typically retain a positive NPM, most likely due to other firm-specific characteristics. With a good explanatory power ($R^2 = 0.9240$, Adjusted $R^2 = 0.9163$), the model suggests that factors other than liquidity are important predictors of profitability in the food manufacturing industry. Despite the statistical significance of the entire model (F-statistic $p = 0.0000$), liquidity is still not a significant predictor of company profitability.

5.3. Recommendations

A more thorough approach that incorporates industry trends and broader macroeconomic conditions is necessary to accurately assess the drivers of profitability. Rather than focusing exclusively on liquidity management, firms seeking to enhance profitability should pay greater attention to other financial and operational strategies that may have a more direct impact on performance. In this regard, future research would benefit from examining additional factors such as cost control measures, leverage structures, and prevailing market conditions, as these variables may significantly influence net profit margin. Similarly, managers and policymakers are encouraged to account for firm-specific dynamics and contextual factors instead of relying solely on liquidity ratios when making financial and policy-related decisions.

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