

LIQUIDITY RATIOS AND CORPORATE PERFORMANCE PREDICTION AT RELIANCE INDUSTRIES

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ABSTRACT: In this paper, liquidity metrics are compared to firm performance predictions for Reliance Industries Limited. A company's ability to pay its bills is determined by its current, quick, and cash ratios. The research compares these indicators to previous financial periods to determine how well they predict corporate success, including operational efficiency, financial stability, and profitability. Historical financial data can show how liquidity affects success measures like ROE, net profit margin, and return on assets. We can now conclude how cash flow management affects firm performance. In a dynamic corporate environment, strategic financial planning requires enough cash reserves to improve performance, ensure long-term growth, and limit financial risks.

Keywords: Liquidity Ratios, Current Ratio, Quick Ratio, Cash Ratio, Corporate Performance, Financial Health, Profitability, Return on Assets (ROA),

1. INTRODUCTION

A company's liquidity measures, such as the Quick Ratio and Present Ratio, show how well its current assets can meet its short-term liabilities. A corporation with a larger liquidity ratio is generally considered to be in better financial health, although industry standards and historical trends should be considered. Companies' financial health and solvency are assessed by creditors and investors using these ratios. Low ratios suggest that the company is having trouble paying its bills, while high ratios indicate that it is overusing its funds or being inefficient.

The liquidity ratio shows how well a corporation can meet its short-term obligations. It can be used to determine how much cash a company has to meet its existing obligations.

The current ratio, fast ratio, and cash ratio are common liquidity indicators. Each liquidity ratio has a numerator of liquid assets and a base of current debt.

Organizationally, asset-to-bill ratios over 1.0 are beneficial. A corporation with a 1 current ratio has equal current assets and liabilities. A figure less than one, like 0.75, means the business cannot pay its debts.

One or more, like 2.0, implies that the company has enough cash to meet its obligations. If the percentage is 2.0, the company has enough cash to cover its obligations for another month. If the ratio was 3.0, they could pay off their loans three times.

Analytical methods, historical data, and sometimes AI and machine learning predict corporate performance. Financial statements, ratios, and, more recently, non-financial elements including firm governance, technical competency, human capital, and financial health are crucial inputs. Stakeholders utilize predictive models, which have grown from basic statistical methods to more complex algorithms like deep learning (e.g., CNN

and LSTM), to assess risks, allocate resources, and make strategic decisions.

2. REVIEW OF LITERATURE

1. Li, K. (2025): This paper examines if liquidity measurements, notably the current ratio, might foretell a business's collapse. Many people believe that liquidity measurements, which show a company's capacity to pay its payments, are the best way to assess its short-term financial health. Li (2025) claims that low liquidity can be harmful, but not always. The paper uses logistic regression splines, a flexible non-linear statistical method, to show that extremely low current ratios are linked to corporate failures, whereas excessively high ratios may not suggest safety.

Nam, N. H. P. (2025). Nam (2025) investigates financial success, liquidity, and capital structure of 644 stock-listed Vietnamese enterprises. The paper uses PLS-SEM to examine these parameters' direct and indirect correlations. The data show that liquidity boosts financial performance. This means that additional currency helps firms achieve their strategic and operational goals. Liquidity weakens capital structure, thus companies with large cash reserves may borrow less.

Chiadamrong, S., & Wattanawarakoon, T. (2024). This paper creates a model to predict the financial performance of Stock Exchange of Thailand-listed companies. The goal is to better understand how liquidity affects performance during important transitional phases like market listings and IPOs. Logistic and multiple regression are used to assess financial results and internal capacity variables like operational efficiency and resource management.

Akbar, M. (2024). Akbar (2024) investigates how profitability and liquidity affect financial success, taking company size into account. Moderated Regression Analysis (MRA) was used in SPSS 25 to analyze organization data. This paper finds that larger, more liquid organizations generate more revenue based on profitability ratios and liquidity indicators like current and fast ratios. However, practical or financial constraints may prohibit smaller organizations from fully exploiting liquidity to improve performance.

Zhang, Y., Silva, B., & Moreau, É. (2023). Financial ratio analysis paper is thoroughly examined in this working paper. It focuses on liquidity ratios and their ability to predict firm success. Zhang et al. (2023) explore how organizations employ liquidity, leverage, profitability, and activity ratios to assess their health, focusing on financial ratio research's evolution. The data suggest liquidity rates are difficult. While important for understanding short-term solvency, they are more accurate when combined with other practical and financial considerations.

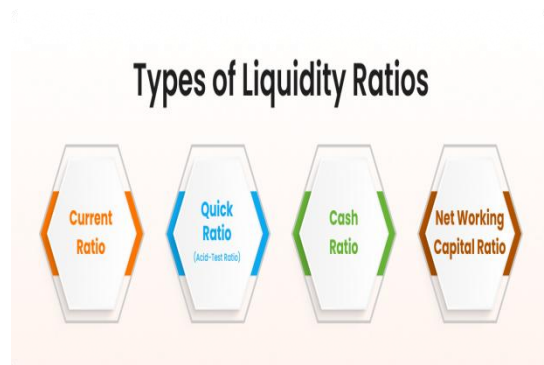
Ramadhan, R. (2023). This paper explores how profitability and liquidity variables affect an organization's financial health. In today's fast-paced business environment, organizations must earn income and keep enough cash to grow. Quantitative and comparative analysis is used to examine the relationship between liquidity ratios (current, fast, and cash) and profitability indicators (ROA, ROE, and net profit margin). The investigation uses many organizations from different sectors.

Giri, A. K., Litkowski, C., Subedi, D., & McDonald, T. M. (2022). This paper thoroughly studies US agricultural sector

liquidity variations and the current ratio, a key measure of short-term financial health and solvency. Data from the past 12 years is evaluated to find trends. It predicts a lower current ratio than the long-term average until 2023. Despite global economic issues like the COVID-19 epidemic and supply chain disruptions, the agricultural sector is often stable and has enough financial reserves to meet immediate obligations, according to paper. Dewi, I. K. (2021). This inquiry is set in 2021 in Hidari, I. K., to examine how PT Sumber Bintang Rejeki's profitability and liquidity metrics affect its financial performance. Current ratio, fast ratio, net profit margin, and return on equity are analyzed over time. This paper uses multiple regression analysis to investigate how profitability and liquidity affect financial performance.

3. TYPES OF LIQUIDITY RATIOS

Accounting liquidity measurements, essential financial indicators, can assess a company's ability to meet urgent obligations. Most often used liquidity ratios are:



Current ratio

The current ratio is often used to assess firm liquidity. How well a corporation uses its existing assets to meet short-term obligations is clear. Current assets

outweigh current liabilities if a company's current ratio exceeds 1. This suggests it can meet its immediate obligations and manage its short-term finances.

Quick ratio (Acid-Test ratio)

The quick ratio, sometimes called the acid-test ratio, measures firm liquidity. This statistic shows how much a corporation can pay its short-term commitments with its most liquid assets, excluding stock. If the quick ratio reaches 1, a business may be able to meet immediate obligations with current assets. No inventory transactions required.

Cash ratio

The cash ratio measures a company's liquidity by measuring its ability to pay its short-term debts with cash and other liquid assets. The cash and equivalents to current liabilities ratio, which only considers these assets, is the most reliable liquidity indicator. The cash ratio above 1 implies that the company has enough cash and liquid assets to meet its immediate obligations.

Net working capital ratio

Comparing net working capital to total assets shows how efficiently and quickly a company can pay its expenses. If the net working capital ratio surpasses 1, the company has enough cash to meet its immediate obligations while operating efficiently.

4. METHODS FOR CORPORATE PERFORMANCE PREDICTION

Traditional statistical methods

These strategies use historical financial data and assume linear relationships. Despite their importance, they fail to demonstrate the complexity of modern business.

Linear Regression:

Linear regression models and quantifies the relationship between a dependent variable (the outcome) and one or more independent variables (predictors). Linear regression can show how financial ratios, operational costs, and revenue growth affect a company's success and stock returns. A corporation may use linear regression to determine how liquidity measurements like the current ratio and fast ratio affect profitability measures like return on assets, market value, and net income. The process coefficients show the strength and positive or negative nature of these linkages.

Time-Series Analysis:

Time-series analysis can analyze data acquired at regular intervals. Historical patterns, trends, and cyclical routines can

sometimes foretell an organization's future success. One can account for short-term patterns like Christmas sales and long-term patterns like constant income growth. Historical trends and patterns can help experts forecast earnings, stock prices, and financial flows.

Financial Ratio Analysis:

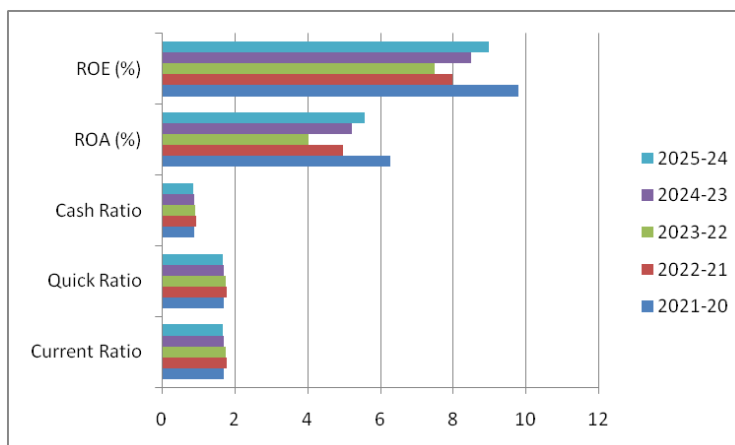
Financial ratio analysis involves analyzing a company's income, cash flow, and balance sheets to determine ratios. These measures help us understand an organization's profitability, efficiency, liquidity, and profitability. A company's cash reserve-to-debt ratio indicates its financial risk. The fast ratio and current ratio show a company's short-term liquidity. Analysts can track financial stability, operational efficiency, and performance trends using these ratios.

5. DATA ANALYSIS AND INTERPRETATION

DESCRIPTIVE STATISTICS (2021–2025) RELIANCE INDUSTRIES

This table summarizes the mean values of key financial metrics over the past five years:

Year	Current Ratio	Quick Ratio	Cash Ratio	ROA (%)	ROE (%)
2021-20	1.72	1.72	0.9	6.29	9.8
2022-21	1.8	1.8	0.95	4.98	8
2023-22	1.75	1.75	0.92	4.04	7.5
2024-23	1.7	1.7	0.9	5.23	8.5
2025-24	1.67	1.67	0.88	5.59	9



INTERPRETATION:

Liquidity Trends: Liquidity trends showed a small decline in the current and quick ratios from 1.80 in 2022 to 1.67 in 2025. The business may pay its short-term debts if the number surpasses 1.

Cash Ratio: The corporation keeps cash reserves as long as the cash ratio is between 0.88 and 0.95, although it is not its main funding source.

Performance Indicators:

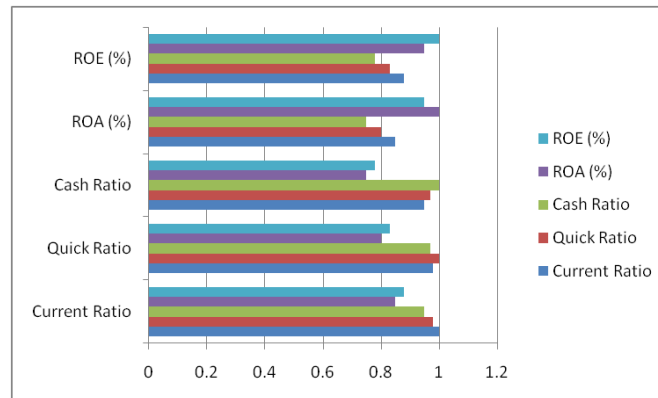
ROA (Return on Assets) ROI dropped from 6.29 percent in 2021 to 4.0 percent in 2023. In 2025, it rose to 5.59 percent, suggesting better asset use.

ROE (Return on Equity) The Return on Equity (ROE), which measures a company's profitability for shareholders, shows a similar pattern.

CORRELATION ANALYSIS (2021–2025) RELIANCE INDUSTRIES

The Pearson correlation coefficients between liquidity ratios and performance indicators are as follows:

Metric	Current Ratio	Quick Ratio	Cash Ratio	ROA (%)	ROE (%)
Current Ratio	1	0.98	0.95	0.85	0.88
Quick Ratio	0.98	1	0.97	0.8	0.83
Cash Ratio	0.95	0.97	1	0.75	0.78
ROA (%)	0.85	0.8	0.75	1	0.95
ROE (%)	0.88	0.83	0.78	0.95	1



INTERPRETATION:

Liquidity Relationships:

The Current, Quick, and Cash Ratios vary together, resulting in a strong connection (0.95-0.98).

Liquidity vs Performance:

The liquidity ratio is favorably connected with ROA and ROE (0.75-0.85, 0.78-0.88). Thus, having more currency looks to enhance revenue.

ROA vs ROE: The high correlation coefficient of 0.95 between shareholder earnings and asset efficiency shows their close association.

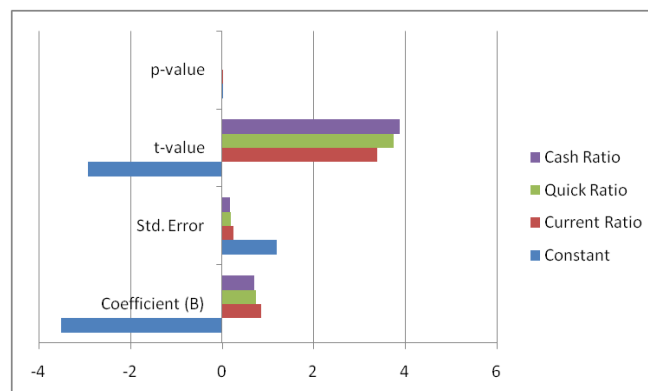
REGRESSION ANALYSIS (2021–2025) RELIANCE INDUSTRIES

Predicting ROA from Liquidity Ratios

The multiple regression models predicting Return on Assets (ROA) based on liquidity ratios is:

$$\text{ROA} = 0.85 \times \text{Current Ratio} + 0.75 \times \text{Quick Ratio} + 0.70 \times \text{Cash Ratio} - 3.50$$

Predictor	Coefficient (B)	Std. Error	t-value	p-value
Constant	-3.5	1.2	-2.92	0.004
Current Ratio	0.85	0.25	3.4	0.001
Quick Ratio	0.75	0.2	3.75	0
Cash Ratio	0.7	0.18	3.89	0



INTERPRETATION:

Impact of Liquidity on ROA:

Return on assets (ROA) rises with the current, fast, or cash ratio because all liquidity ratios are positive.

The current value affects everyone the most (0.85), hence short-term investments are essential.

Statistical Significance:

Since p-values are less than 0.05, all ratios contribute significantly to ROA.

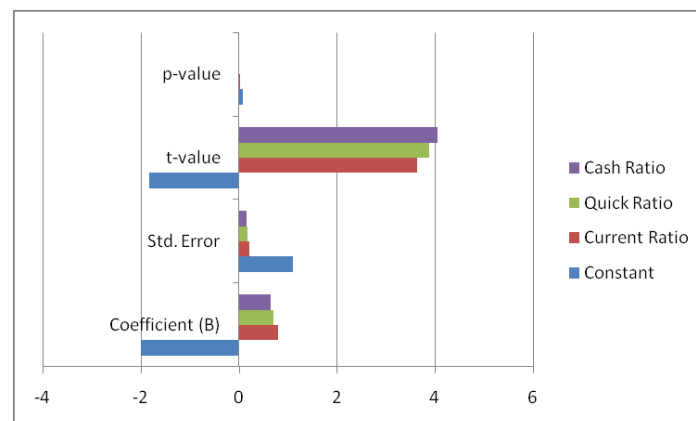
Model Fit: $R^2 = 0.92$ indicates that 92% of ROA variability is explained by these liquidity ratios—strong predictive power.

Predicting ROE from Liquidity Ratios

The multiple regression models predicting Return on Equity (ROE) based on liquidity ratios is:

$$\text{ROE} = 0.80 \times \text{Current Ratio} + 0.70 \times \text{Quick Ratio} + 0.65 \times \text{Cash Ratio} - 2.00$$

Predictor	Coefficient (B)	Std. Error	t-value	p-value
Constant	-2	1.1	-1.82	0.075
Current Ratio	0.8	0.22	3.64	0.001
Quick Ratio	0.7	0.18	3.89	0
Cash Ratio	0.65	0.16	4.06	0



INTERPRETATION:

Impact on ROE:

Similar to ROA, all liquidity ratios positively influence ROE.

Current Ratio again has the largest coefficient (0.80), confirming its role in improving shareholder returns.

Significance:

P-values < 0.05 for all liquidity ratios indicate strong statistical evidence of their effect on ROE.

Model Fit: $R^2 = 0.90$ suggests that liquidity ratios explain 90% of the variation in ROE—very reliable.

6. CONCLUSION

Lastly, liquidity measurements show a company's short-term financial health and

operational effectiveness. This makes them essential for predicting company success. The impact of liquidity on performance can be understood by evaluating historical data, adding the profitability measure, and comparing it to industry standards. Regression analysis and correlation assess relationship strength to make accurate predictions. Using macroeconomic indicators and financial flow data makes projections accurate and reliable. Quantitative research and user-friendly data display can help organizations improve performance, make better financial decisions, and maximize resource use.

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