



ORIGINAL RESEARCH PAPER

Commerce

IMPACT OF LIQUIDITY AND PROFITABILITY OF SELECT PHARMACEUTICAL COMPANIES IN INDIA

KEY WORDS: Liquidity, Profitability, Performance, Growth, Pharmaceutical, etc...

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ABSTRACT

India is a global leader in the production of generic medicines. Country's economic growth improves with investment across various sectors. Over here it stands with few major sectors where the investment has resulted with high growth. Faster introduction of many generic drugs inside the markets is the major focus and shall profit the pharma companies of India. Effective liquidity management contributes to profit maximization through measures like minimizing inventories, speeding up receivables collection, and avoiding unnecessary short-term financing. Firms aim to avoid both illiquidity and excess liquidity. Profitability, a critical measure of a firm's performance, reflects its ability to efficiently utilize resources in generating revenue. Profitability and management efficiency are closely linked, with poor profitability potentially undermining management effectiveness, and vice versa. Maintaining appropriate liquidity levels ensures that funds are readily available to meet immediate financial obligations. This work aims to examine the interplay between liquidity and profitability, shedding light on how these factors influence the financial health of companies in the context of a high-inflation environment. The study carried out here is an Analytical Research. The secondary data collection during the period from 2009-10 to 2018-19 was considered for the study. There are 85 Pharmaceutical companies listed in the NSE out of which ten companies were selected randomly for the research. Statistical tools used are Descriptive Statistics, Correlation and Regression Analysis. The outcome of the data has provided the conclusion that in terms of financial variables considered the ratio analysis indicated that the selected Pharma companies are in favourable position. Though the firms have experienced a positive growth in terms of profitability, there is a significant difference in terms of growth rate.

INTRODUCTION

India is a global leader in the production of generic medicines. The Indian pharmaceutical industry supplies over 50% of the world's demand for various vaccines, 40% of the generic medicine requirements in the US, and 25% of all medicines in the UK. India holds a significant position in the global pharmaceutical sector, supported by a vast pool of skilled scientists and engineers capable of propelling the industry to new heights. Currently, Indian pharmaceutical companies provide more than 80% of the antiretroviral drugs used globally to combat AIDS (Acquired Immune Deficiency Syndrome).

Country's economic growth improves with investment across various sectors. Over here it stands with few major sectors where the investment has resulted with high growth. India on M&A (mergers and acquisition) activity resulted as US\$ 28 billion in 2019 and by private deals alone US\$ 48 billion. The Government in India has made lot of steps to minimise cost and reduce expenses on healthcare. Faster introduction of many generic drugs inside the markets is the major focus and shall profit the pharma companies of India. There is pressure on the rural based health schemes, life saver drugs and on the preventive based vaccines which is well received by the pharmaceutical companies in India.

Effective liquidity management contributes to profit maximization through measures like minimizing inventories, speeding up receivables collection, and avoiding unnecessary short-term financing. Firms aim to avoid both illiquidity and excess liquidity. Illiquidity is risky as it damages the firm's credit image, erodes creditors' confidence, incurs high-cost emergency borrowing, and could even lead to closure. Conversely, excessive working capital results in high costs of holding current assets, negatively impacting profitability. Profitability, a critical measure of a firm's performance, reflects its ability to efficiently utilize resources in generating revenue. Profitability and management efficiency are closely linked, with poor profitability potentially undermining management effectiveness, and vice versa. Since profitability aligns with

shareholders' wealth maximization, firms invest in current assets only if the expected returns justify the costs. Thus, maintaining an optimal balance between liquidity and profitability is crucial for sustainable growth and operational success. Thus, firms with high liquidity may have low risk and then low profitability. Conversely, firm that has low liquidity may face high risk results to higher return. Consequently, a firm is required to maintain a balance between liquidity and profitability in its day-to-day operations.

The technological revolution elevates all business segments particularly Pharmaceutical market before and after Covid situation found stable. Liquidity and Profitability play significant role in deciding the growth and progress of the companies. India emerges to become one of the major fast paced growing economies in the universe and was anticipated to become one among top three economic supremacies globally by upcoming time frame of 10-15 years, patronage by its strong policies and ventures. The Indian pharmaceutical industry continues to demonstrate robust growth and significant potential. The key points about its overall performance are Indian pharmaceutical market is one of the largest globally, expected to reach USD 130 billion by 2030. The industry is poised to grow at a CAGR of 12% from 2023 to 2030, driven by increased healthcare spending and rising demand for generic drugs (IMARC) (Mordor Intelligence). The aforesaid are the reasons for conducting this study.

Review of Literature

Osiegbu and Nwakanma (2008) also noted that profitability is influenced by a wide range of policies and decisions, while Ibenta (2005) defined liquidity as a firm's ability to meet its short-term obligations. Consequently, analyzing profitability and liquidity is a fundamental aspect of financial statement analysis, as it provides a clear picture of a firm's financial health.

Qayyum and Mahmood (2010) emphasized the importance of liquidity and profitability in achieving two primary business objectives: maximizing shareholder wealth and ensuring

business continuity. Eljelly (2004), through regression and correlation analyses, found that the current ratio is a significant indicator of profitability, while the cash conversion cycle plays a critical role in assessing liquidity.

Ajanthan (2013) explored the relationship between liquidity and profitability in eight trading companies listed in Sri Lanka over a five-year period from 2008 to 2012. Using correlation and regression analysis along with descriptive statistics, the study revealed a significant relationship between liquidity and profitability among these companies.

Objectives of the Study

- To examine the impact of liquidity on profitability of the select pharmaceutical companies.

Statement of the Problem

Maintaining appropriate liquidity levels ensures that funds are readily available to meet immediate financial obligations. However, this often means that these funds are tied up in liquid assets, making them unavailable for operational use or higher-return investments. This creates an opportunity cost, as maintaining liquidity may negatively impact overall profitability. Conversely, focusing too much on profitability by reducing liquidity could leave the firm vulnerable to financial instability. Smith (1980) emphasized that firms must balance these conflicting objectives, as excessive liquidity leads to idle funds that generate no profits, while insufficient liquidity can harm a firm's reputation, credit standing, and may even force asset liquidation. This work aims to examine the interplay between liquidity, and profitability, shedding light on how these factors influence the financial health of companies in the context of a high-inflation environment.

Research Methodology

Research in common parlance to a search for knowledge. One can also define research as a scientific and systematic search for pertinent information on a specific topic. Methodology, in turn, depends on the nature of the project work. The use of proper methodology is an essential part of any research. Research design is the arrangement of activities for the collection and analysis of the data in a manner that aims to combine relevance to the purpose with economy in procedure. The study carried out here is an Analytical Research. The secondary data collection during the period from 2009-10 to 2018-19 was considered for the study. There are 85 Pharmaceutical companies listed in the NSE out of which ten companies were selected randomly for the research. Statistical tools used are Descriptive Statistics, Correlation and Regression Analysis.

Limitations of the Study

Secondary data conceal micro level operational constraints that are to be understood to formulate suitable strategy to remain competitive in the global market. The study has been carried out to examine the performance of the industry for the given programme and the policy of the government.

ANALYSIS AND RESULTS

Definition of Ratios

The current ratio measures the ability of a business to cover its short-term obligations with assets that can be converted into cash within one year (Wood & Sangster, 2010). The quick ratio evaluates a firm's capacity to meet its current liabilities using its quick or liquid assets (Horne & Wachowicz, 2008). The cash ratio reflects a firm's immediate liquidity, indicating its readiness to pay off current debts (Gibson, 2010). According to Horne and Wachowicz (2008), the cash conversion cycle represents the time span between cash outflows for purchases and cash inflows from the collection of receivables generated by the sale of goods or services. Finally, the return on assets assesses how efficiently a firm utilizes its assets to generate profits.

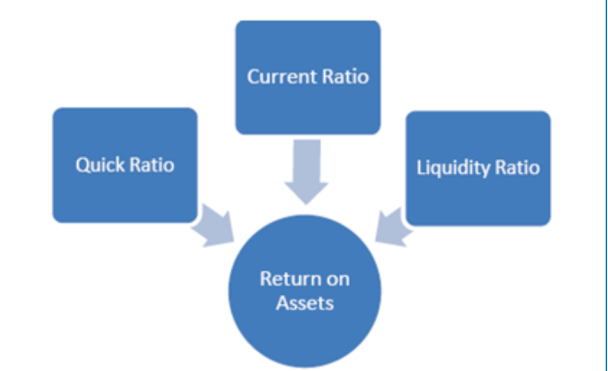


Figure 1: Impact of Liquidity on Profitability

Table 1: Descriptive Statistics Measuring Liquidity of Select Pharma Companies

Variables	N	Mean	SD	Coff. Variation	Mini-mum	Maxi-mum	Range
Current Ratio	100	2.5770	1.54489	0.599	.49	8.56	8.07
Quick Ratio	100	1.8035	1.10609	0.613	.30	5.99	5.69
Cash Ratio	100	.3795	.72470	1.910	.00	3.88	3.88
Return on Assets	100	10.8523	6.83029	0.629	-20.44	26.41	46.85

Current Ratio

- Mean: On average, pharma companies maintain a current ratio of 2.577, indicating a relatively strong ability to cover short-term liabilities with current assets. SD: The variability in current ratios among companies is 1.54489, showing moderate dispersion. CV: At 0.599, the CV suggests moderate variability in the data relative to the mean. Range: The ratio varies from 0.49 (minimum) to 8.56 (maximum), with a range of 8.07, indicating significant differences among companies.

Quick Ratio

- Mean: The average quick ratio is 1.8035, showing that firms typically have enough liquid assets to cover immediate liabilities without relying on inventory. SD: A standard deviation of 1.10609 indicates moderate dispersion. CV: The CV of 0.613 suggests moderate relative variability. Range: The quick ratio spans from 0.30 to 5.99, with a range of 5.69, indicating variability in liquidity among companies.

Cash Ratio

- Mean: On average, firms have a cash ratio of 0.3795, indicating lower levels of cash reserves relative to short-term liabilities. SD: The standard deviation is 0.72470, indicating considerable dispersion relative to the mean. CV: A CV of 1.910 reflects high relative variability, suggesting wide differences in cash liquidity. Range: The cash ratio varies between 0.00 and 3.88, with a range of 3.88.

Return on Assets (ROA)

- Mean: The average ROA is 10.8523%, indicating that pharma companies are generally efficient at generating profits using their assets. SD: The standard deviation of 6.83029 reflects moderate variability in profitability among companies. CV: The CV of 0.629 suggests moderate relative variability. Range: ROA varies widely, from -20.44% (minimum, indicating losses) to 26.41% (maximum, indicating high profitability), with a range of 46.85%.

Table 2: Correlation Between Liquidity and Profitability of Pharma Companies N=100

Variables	Type (Sig.) & N	Return on Asset	Current Ratio	Quick Ratio	Cash Ratio
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Return on Asset	Pearson Correlation	1			
	Sig. (2-tailed)				
Current Ratio	Pearson Correlation	.439**	1		
	Sig. (2-tailed)	.000			
Quick Ratio	Pearson Correlation	.429**	.986**	1	
	Sig. (2-tailed)	.000	.000		
Cash Ratio	Pearson Correlation	.341**	.494**	.532**	1
	Sig. (2-tailed)	.001	.000	.000	

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

Framed Hypotheses

H₁: Current ratio (CR) is positively associated with Return on Asset (RoA)
 H₂: Quick Ratio (QR) is Positively associated with the Return on Asset (RoA)
 H₃: Cash Ratio (CHR) is Positively associated with the Return on Asset (RoA)

Return on Assets (ROA) and Liquidity Ratios

- Current Ratio: A moderate positive correlation ($r = 0.439$, $p < 0.01$) suggests that higher current ratios are associated with better profitability (ROA).
- Quick Ratio: Similarly, a moderate positive correlation ($r = 0.429$, $p < 0.01$) indicates that higher quick ratios also relate to improved profitability.
- Cash Ratio: A weaker but still significant positive correlation ($r = 0.341$, $p < 0.01$) shows that higher cash ratios are modestly associated with higher profitability.

Inter-Relationships Among Liquidity Ratios

- Current and Quick Ratios: A very strong positive correlation ($r = 0.986$, $p < 0.01$) indicates these measures of liquidity move closely together.
- Current Ratio and Cash Ratio: A moderate positive correlation ($r = 0.494$, $p < 0.01$) suggests that firms with higher current ratios tend to have slightly higher cash ratios.
- Quick Ratio and Cash Ratio: A moderate positive correlation ($r = 0.532$, $p < 0.01$) reflects some alignment between these liquidity measures.

Multiple Regression

R (0.468): The correlation between the predicted values and the actual profitability is moderate, indicating a modest linear relationship. R² (0.219): About 21.9% of the variability in profitability is explained by the liquidity ratios, suggesting that other factors also significantly influence profitability. Adjusted R² (0.194): After accounting for model complexity, about 19.4% of the variability in profitability is explained, further confirming a modest explanatory power. F-statistic (8.958, $p = 0.000$): The model as a whole is statistically significant, implying that the liquidity ratios collectively impact profitability.

Table 3: Multiple Regression Measuring Relationship Between Liquidity and Profitability

Variables	Coefficients	SE	t-stat.	Prob.
Constant	6.199	1.216	5.099	.000
Current Ratio	3.500	2.412	1.451	.150
Quick Ratio	-2.800	3.459	-.810	.420
Cash Ratio	1.806	1.027	1.759	.082
R	0.468			
R2	0.219			
Adj. R2	0.194			
F-Statistics	8.958			
Sig.	0.000			

Constant (6.199, $p = 0.000$): The profitability level when all liquidity ratios are zero is positive and statistically significant. Current Ratio ($\beta = 3.500$, $p = 0.150$): While the coefficient suggests a positive relationship, it is not statistically significant, indicating no strong evidence that the current ratio directly influences profitability. Quick Ratio ($\beta = -2.800$, $p = 0.420$): The negative coefficient implies an inverse relationship, but this is also statistically insignificant, showing little evidence of a reliable impact on profitability. Cash Ratio ($\beta = 1.806$, $p = 0.082$): The cash ratio has a positive impact and approaches significance ($p = 0.082$), suggesting a potential weak relationship with profitability.

Summary of Results
 Descriptive Statistics Measuring Liquidity

- Pharma companies generally exhibit healthy liquidity, as reflected by their current and quick ratios. Cash liquidity (cash ratio) is relatively low and shows high variability. There is significant variation in profitability (ROA) across the companies, with some firms experiencing losses while others achieve substantial returns.

Correlation Between Liquidity and Profitability

- Liquidity and profitability are positively related, particularly with the current and quick ratios, suggesting that maintaining liquidity is beneficial for profitability. The strong inter-relationship among liquidity ratios highlights consistency in how these metrics reflect the financial health of pharma companies.

Regression Results

- Liquidity ratios collectively influence profitability to a moderate degree, but their individual effects vary. The cash ratio shows the strongest (though marginally significant) association with profitability, indicating that immediate liquidity might play a slightly more vital role in profitability. The model's moderate explanatory power suggests that while liquidity matters, other factors significantly contribute to profitability in pharmaceutical companies.

Suggestions

- Focus on strategies to improve profitability metrics like ROE and NPM to enhance overall performance. Ensure robust liquidity management to maintain solvency, as it directly affects short-term financial health.
- Liquidity metrics (e.g., QR and CshR) can serve as red flags for potential financial instability. Encourage balanced growth between profitability and liquidity to ensure sustainable financial performance.
- It is recommended that the long term liability, debt and equity needed to be efficiently managed that will lead to the profitability of the Pharmaceutical companies.

CONCLUSION

Profitability is the outcome of various strategic and management decisions. It serves as a key indicator of managerial effectiveness. Higher profitability values indicate greater efficiency in managing costs, resulting in increased profits. The outcome of the data has provided the conclusion that in terms of financial variables considered the ratio analysis indicated that the selected Pharma companies are in favourable position. Though the firms have experienced a positive growth in terms of profitability, there is a significant difference in terms of growth rate.

REFERENCES

1. Ajanthan, A. (2013). A Nexus between Liquidity & Profitability: A Study of Trading Companies In Sri Lanka. *European Journal of Business and Management*, 5(7).
2. Mahmood & Qayyum. A. (2010). Working Capital Management and Corporate Performance of Manufacturing Sector in Pakistan, *International Research Journal of Finance and Economics*, 47.
3. Osiegu .PI and Nwakanma C. (2008). *Financial Management*, (Port Harcourt: Harey publications company) PP. 156 and 171. *Oxford Dictionary of Accounting*, Third Edition