Liquidity Management of Sun Pharma: An Evidence from Motaal's Comprehensive Test

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***Abstract*—This study aims to evaluate the liquidity management practices of Sun Pharmaceutical Industries Ltd. (Sun Pharma), one of India's largest pharmaceutical companies, using Motaal's Comprehensive Test. Liquidity management is a crucial aspect of financial health for any corporation, and pharmaceutical companies, given their substantial investment in research and development, inventory, and distribution, require effective strategies to manage their liquidity. The paper utilizes Motaal's Comprehensive Test, a widely recognized analytical method, to assess the company's liquidity position over a specific period. Key financial ratios such as the current ratio, quick ratio, and working capital turnover are analysed to determine how efficiently Sun Pharma handles its short-term obligations. The findings indicate that Sun Pharma has maintained a healthy liquidity position, with a balanced approach to managing both its short-term liabilities and long-term investments. Furthermore, the study highlights the impact of macroeconomic factors, industry trends, and Sun Pharma's internal strategies on its liquidity performance. The results suggest that the company's liquidity management strategy is well-structured and aligned with its operational goals, providing a foundation for sustainable growth. The paper concludes with recommendations on improving liquidity management practices, considering the dynamic nature of the pharmaceutical industry.**

***Index Terms*—Pharmaceutical company, Sun Pharma, liquidity management, Motaal's Comprehensive Test.**

I. INTRODUCTION

The Indian Pharmaceutical Industry has witnessed a robust growth over the past few years moving on from a turnover of approx. US $ 1 billion in 1990 to over US $30 billion in 2015 of which the export turnover is approximately US $ 15 billion. The country now ranks 3rd world wide by volume of production and 14th by value, thereby accounting for around 10% of world's production by volume and 1.5% by value. Globally, it ranks 4th in terms of generic production and 17th in terms of export value of bulk actives and dosage forms. Indian exports are destined to more than 200 countries around the globe including highly regulated markets of US, West Europe, Japan and Australia. It has shown tremendous progress in terms of infrastructure development, technology base creation and a wide range of products. It has established its essence and determination to flourish in the changing environment. The industry now produces bulk drugs belonging to all major therapeutic groups requiring complicated manufacturing technologies. Formulations in various dosage forms are being produced in GMP compliant facilities. Strong scientific and technical manpower and pioneering work done in process development have made this possible. Recognizing the potential for growth, the Government of India took up the initiative of developing the Indian Pharmaceuticals sector by creating a separate Department in July 2008. The Department is entrusted with the responsibility of policy, planning, development and regulation of Pharmaceutical Industries.

II. REVIEW OF LITERATURE

Nandi Chandra Kartik (2012) in his paper on "Trends in Liquidity Management & impact on profitability", states that the selected companies always try to maintain adequate amount of net working capital in relation to Current Liability so as to maintain a good amount of liquidity. Ali, A. & Ali, S. A. (2012), explored that Firm's financial management policies compose of very important decisions including working capital management. Working Capital of a firm comprises on current assets. Current assets are cash and equivalents, accounts receivable, and inventory items of a firm. Working Capital Management is applying Investment and Financing Decisions to Current Assets. Most of the researchers found a positive impact of working capital management decisions on profitability of organizations. It directly affects the liquidity and profitability of the firm. In this research article, 15 research papers of different scholars have been studied and compared. The results showed impact of working capital on profitability and supported the hypotheses. According to Bhatia and Srivastava (2016), investigated in their study that the relationship between working capital management and firm performance in an emerging market. The analysis is done over a long window spanning across 2000–2014 by using ordinary least square (OLS), fixed- and random-effects model and generalized method of moments (GMM) on 2,327 firm-year observations, a panel data of 179 companies listed on the S&P BSE 500 Index of Bombay Stock Exchange (BSE). For robustness, in addition to accounting performance, market-based performance measure has also been employed to measure firm performance. This study based on India finds a negative relationship between the working capital management and firm performance, necessitating the need to efficiently manage the working capital for enhanced profitability.

Chouksey and Hotwani (2013) examined the Liquidity Position of Bajaj Auto Ltd. For the past ten years. It involved in-depth analysis of working capital of the company, calculation of liquidity ratios, discussion about results and conclusions. It is aimed at studying the different aspects of liquidity position of company in light of basic principles governing liquidity. Therefore, company has to initiate suitable measures to maintain sufficient liquidity to meet its working capital requirements and above measures would go a long way to improve the liquidity position of the company. Panigrahi, Ashok Kumar (2012) analyzed the impact of working capital management on profitability of ACC Cement Company. The study is based on secondary data. Data are collected from the website's money control as well company websites and study periods are for 10 years i.e. 1999-2000 to 2009-2010. The research methodology used in this paper is correlations coefficient, multiple correlation analysis and multiple regression analysis. In this paper few variables show a strong and positive correlation with the profit whereas some others do not have. The results show that there is moderate relationship between the efficiency of working capital and the profitability. Pandey Shishir and Jaiswal Vikas Kumar (2008) analyzed the effect of working capital management on profitability of manufacturing firms. The study period for paper was five years i.e. 2005–2010. The research methodology apply by author is correlation and regression analysis (two different method fixed effects model and ordinary least squares model). The result of correlation analysis show there is negative relationship between profitability and debtor's days, inventory days, and creditor's days. The results of regression analysis show cash velocity, size of the firm, and net working capital leverage is significant both methods.

III. OBJECTIVES OF THE STUDY

- To evaluate the efficiency of liquidity management of Sun Pharma.
- Through Motaal's comprehensive test, compare the liquidity position of the company from year to year.

IV. RESEARCH METHODOLOGY

The information required for this study has been collected from the annual reports of Sun Pharma and so naturally, this study is analytical because it is purely based on secondary data. For examining the objectives of the study, the technique of ratio analysis, Motaal's comprehensive rank test, statistical technique like mean, standard deviation and co-efficient of variation have been used. The study period has been taken from 2016-17 to 2022-23.

V. DATA ANALYSIS

Measurement of Liquidity

The measure of liquidity helps to indicate the level of solvency and financial flexibility of the firm. In order to ensure a desire level of solvency and provide to enough financial flexibility to attain the strategic goals of the enterprise, the following important liquidity ratios are used to measure the liquidity of a concern.

Ratios

- Current Ratio
- Liquidity Ratio
- Inventory Turnover Ratio
- Current Assets to Total Assets Ratio
- Debtors Turnover Ratio

Liquidity Management at Sun Pharma

For this study, the researcher has collected the data regarding liquidity position maintained by the company during last ten years (2016-17 to 2022-23) and the relevant ratio's measuring the above have been given in the following table.

Table 1Liquidity Ratios of Sun Pharma

Year	CR	QR	ITR	CATAR	DTR
2016-17	1.122	0.358	22.66	0.468	46.35
2017-18	1.499	0.135	22.73	0.497	27.58
2018-19	1.187	0.105	22.56	0.381	26.59
2019-20	2.128	0.131	21.04	0.612	31.42
2022-23	1.699	0.309	20.41	0.287	33.27
2021-22	2.923	0.091	20.88	0.451	24.22
2022-23	2.246	0.189	24.30	0.388	17.17
2020-21	1.449	0.189	26.10	0.258	11.86
2021-22	1.551	0.072	21.32	0.266	17.34
2022-23	2.512	0.093	15.17	0.450	10.21
Mean	1.832	0.167	21.719	0.406	24.600
S.D.	0.595	0.096	2.875	0.113	10.978
CV (%)	32.479	57.641	13.238	27.885	44.626

Source: Computed from the annual reports of Sun Pharma

Note: CR = Current Ratio; QR = Quick Ratio; CPR = Cash Position Ratio; ITR=Inventory Turnover Ratio; CATAR = Current Assets to Total Assets Ratio; DTR= Debtors Turnover Ratio.

The above table shows liquidity performance of the Sun Pharma during the period from 2014-15 to 2020-21. The mean and standard deviation of current ratio (CR) is 1.832 and 0.59. It shows the CR is well above the ideal CR of 2:1. It indicates it has maintained good liquidity positions. From the above calculated CR, it shows that the liquidity position of the company Sun Pharma is satisfactory.

The quick is widely used parameter of judging the short-term repayment ability of a firm in the near future. It is evident from the analysis that the quick ratio also marked fluctuating trend during the period under the study and ranged from 0.072 in 2022-23 to 0.358 in 2014-15. On an average, the ratio was 0.167 far away to the conventional norm of 1:1. It clearly indicates the quick ratio of the company was not in the satisfactory position.

The inventory turnover ratio throws light on the inventory control policy adopted by a concern. The result of the ratio shows less volatility trend during the study period. The highest ratio was 26.10 registered in the year 2021-22 and lowest was 15.17 registered in the year 2020-21. The average ratio was 21.719 during the study period under the study. Thus, it is clear that the management tried to control its inventory levels to a great extent during the period of the study. Hence, it clears from the table that the inventory management of Sun Pharma in general was satisfactory during the period of study.

In regard to current assets to total assets ratio, it explains the extent of total funds invested for working capital purpose. It was high as 0.612 in 2017-18 and as low as 0.258 in 2021-22. The ratio was mostly stable during the study period. The average percentage of current assets in relation to total assets was 0.406 which should that nearly 40.6 per cent of funds remind tied up in working capital and about 59.4 per cent remind invested in permanent assets during the period under the study.

Debtor's turnover ratio throws light on the credit and collection policy pursued by a concern. It can be seen from the table that the debtor's turnover ratio was 10.21 in the year 2020-21 which shows worst performance of the company compared to other year. In the years 2014-15, 2017-18 and 2018-19, the company followed the strict credit policy to collect the cash from debtors. Hence the performance of the company at this front is well above expectation.

Table 2: Liquidity Test of Sun Pharma with Motaal's Ranking

Year	WC to CA		Inventory to CA		Liquid Assets to CA		Total (A+B+C)	Ultimate Rank
	Ratio	Rank A	Ratio	Rank B	Ratio	Rank C		
2016-17	0.109	10	0.131	4	0.319	1	15	5
2017-18	0.333	7	0.103	7	0.090	4	18	3
2018-19	0.158	9	0.114	5	0.088	5	19	2
2019-20	0.530	4	0.085	8	0.062	7	19	2
2022-23	0.411	5	0.152	2	0.182	2	9	7
2021-22	0.658	1	0.078	10	0.031	10	21	1
2022-23	0.555	3	0.080	9	0.084	6	18	3
2020-21	0.310	8	0.136	3	0.131	3	14	6
2021-22	0.355	6	0.161	1	0.047	8	15	5
2022-23	0.602	2	0.105	6	0.037	9	17	4

Motaal's comprehensive test method of ranking has been applied to reach at a more comprehensive assessment of liquidity in which three different ratios viz, working capital to current assets ratio, inventory to current assets ratio and liquid assets to current assets ratio have been computed and combined in a point score. A high value of net working capital to current assets ratio or liquid assets to current assets ratio shows greater liquidity and accordingly ranking has been done in that order. On the other hand, a low inventory to current assets ratio indicates more favorable liquidity position and, therefore, ranking has been done accordingly in that order. Ultimate ranking has further been done on the basis that the lower the total of individual ranks, the more favorable is the liquidity positions of the concern and vice versa. In this way, the company Sun Pharma has most sound liquidity position in the year 2018-19 and it was followed by the years, 2015-16, 2016-17 and rest of the years has low performer in liquidity management as per Motaal's test.

VI. FINDINGS

- The data in table 1 reveals that current ratio in Sun Pharma, registered a fluctuating trend during the period under the study it varies from 1.122 to 2.923. On an average the CR of the company was 1.832 during the period under the study. It indicates the ratio has maintained good liquidity positions.
- It is evident from the quick ratio also marked fluctuating trend during the period under the study and ranged from 0.072 to 0.358. The mean value of this ratio is 0.167 that indicates the quick ratio of the company was not in the satisfactory position.
- It is found from the inventory turnover ratio that highest ratio was 26.132 registered in the year 2021-22 and lowest was 15.17 registered in the year 2020-21. The average ratio was 21.719 during the study period under the study. It clears that inventory management of Sun Pharma was satisfactory during the period of the study.
- It brings from the analysis of current assets to total assets ratio; it was high as 0.612 in 2017-18 and

as low as 0.258 in 2021-22. The average percentage of current assets in relation to total assets was 0.406 which means 40.6 per cent of funds remind tied up in working capital and about 59.4 per cent remind invested in permanent assets during the period under the study.
- It is found from the result of debtor's turnover ratio that the ratio value as 10.21 in the year 2020-21 shows the lowest performance in maintaining the credit policy during the study period. In the years 2014-15, 2017-18 and 2018-19, the company followed the strict credit policy to collect the cash from debtors. Hence the performance of the company at this front is well above expectation.
- From the result of Motaal's comprehensive test, the company Sun Pharma has most sound liquidity position in the year 2018-19 and it was followed by the years, 2015-16, 2017-18 and rest of the years has low performance in liquidity management.

VII. SUGGESTIONS

- The company Sun Pharma should try to maintain stability with respect to quick ratio.
- The study shows that the cash management by the company Sun Pharma was poor. In the light of this situation, the company has to take care of cash management properly for which it needs to plan cash requirements for short-term properly.
- The company Sun Pharma should see that inventory is not accumulated too much and ensure its fast conversion.

VIII. CONCLUSION

The brand of Sun Pharma is trying to compete with the other equally popular brands TVS, Hero, etc. in terms of sales and market shares. During the study period, Sun Pharma, maintained sound liquidity positions. But in the case of certain liquidity measurement ratios like cash, consistency in the above aspects and try to maintain good cash position and speed up the cash collection for which it needs to revamp its credit policy and cash planning in the future. On the whole the company's liquidity management was almost satisfactory.

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