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Liquidity Analysis to Ascertain Short-Term Solvency- A Case Study of NTPC

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Abstract

Liquidity is a pre-requisite for the survival of a firm. Liquidity management is thus a crucial and wide aspect of evaluating the financial performance of the corporate entity. The present case analyzes the liquidity of the NTPC from the period 2007-08 to 2016-17. In depth analysis is done over the liquidity position of the company and the results of the study reflecting the gross working capital is declining as well as net working capital has started negative at NTPC.

Keywords: liquidity, working capital, current ratio, quick ratio, super quick ratio

1. Introduction

NTPC was incorporated in 1975 and growing with a vision to "To be the world's leading Power Company, energizing India's growth". The company enjoys Government of India Navratana status, which provides it strategic and operational autonomy to make independent investment decision without the Govt. approval. To realize its vision the company continuously working towards its mission that states to provides reliable power and related solutions in an economical, efficient and environment friendly manner, driven by innovation and agility. The core values of company consists of integrity, focus over customer, organizational pride, mutual respect and trust, innovational and leadership, total quality and safety. To maintain and improve the financial soundness of NTPC the company makes prudent management of the financial resources. The company makes the cautious management of deployed funds and leveraging opportunities in domestic and international financial markets. It helps the company to continuously strive to reduce the cost of capital. The company promotes innovative funding models to support entry into new businesses and sustain long term growth. The NTPC also develop appropriate commercial policies and processes which would ensure remunerative tariffs, balance capital work-in-progress and minimize receivables.

Despite the claims of the company of making judicial use of its financial resources, the liquidity position of the company is reflecting downward trends under the study period 2007-08 to 2016-17. For the various internal and external key stakeholders associated with the company have focus on success and solvency position of the company. For them financial health of an enterprise is utmost important. Liquidity analysis helps to judge the solvency position of the company. To carry on its routine operation smoothly, the company should posses' adequate liquidity position. Thus liquidity management is termed as a crucial and wide aspect of evaluating the financial performance of a corporate entity.

2. Literature Review

Liquidity ratios measure the adequacy of current and liquid assets and aid assess the ability of the company to pay its short-range financial obligation. The ability of a company to pay its short-range financial obligations is frequently referred to as short-term solvency position or liquidity position of the company. Conventionally a business with satisfactory current and liquid assets to pay its current liabilities as and when they become due is considered to have a strong liquidity position while, on the other hand businesses with insufficient current and liquid assets is considered to have weak liquidity position. Short-term creditors like suppliers of goods and commercial banks use liquidity ratios to know whether the business has adequate current and liquid assets to meet its current obligations. Financial institutions hesitate to offer short-term loans to businesses with weak short-term solvency position. To ascertain the short term financial strength of a company, the short term creditors rely mainly on liquidity ratios. The commonly used liquidity ratios are current ratio, quick ratio and super quick ratio.

Current ratio is also termed as working capital ratio; it shows the relationship between current assets and current liabilities. It is computed by dividing total current assets by total current liabilities. Current assets and current liabilities comprises of Cash, Accounts payable /creditors, Marketable securities Accrued payable, Accounts receivables /debtors, Bonds payable, Inventories / stock and Prepaid expenses. The current ratio reflects measure of margin of safety to the creditors. Another important ratio in the basket of liquidity is Quick ratio. Quick ratio is also termed as acid test ratio or liquidity ratio is used to test the ability of a business to pay its short-term debts. Quick ratio measures the relationship between liquid assets and current liabilities. Liquid assets are equal to total current assets minus inventories and prepaid expenses. Inventories and prepaid expenses are excluded from current assets for the purpose of computing quick ratio because inventories may take long period of time to be converted into cash and prepaid expenses cannot be used to pay current liabilities. Thus quick ratio is considered more reliable test of short-term solvency than current ratio because it shows the ability of the business to pay short term debts instantly. The next important ratio is super quick ratio also termed as Absolute Liquid ratio. Super quick ratio expresses the relationship between super quick short range assets and current liabilities. Super quick assets or absolute liquid assets consist of of cash and bank balance or liquid assets minus accounts receivables.

Amir Jafar and Debasish Sur (2006) concluded the study on the efficiency of the working capital management in the National Thermal Power Corporation (NTPC), the only 'Navaratna' Public Enterprise in the Indian power sector, during the period 1983-84 to 2002-03. This study reveals that the company achieved a higher level of efficiency in managing its working capital during the post-liberalization era by adapting itself to the new environment emanated from liberalization, globalization and competitiveness. Vishal Patidar and Nilesh P. Movalia (2016) in their paper "An Empirical Study on Financial Health of NTPC and NHPC" studied the financial performance of NTPC and NHPC for the period from 2010-11 to 2014-15. It is found out that NTPC is successful in its financial performance and not to fall bankrupt, while NHPC is in not healthy zone where its financial, if failure is certain and extremely likely and would occur properly with in a period of 2 years, viability is considered not healthy. Anas Khan (2017) in his paper "Financial Performance Evaluation of National Thermal Power Corporation Limited (NTPC)". Studied the financial performance of NTPC for a period of ten years from 2006-07 to 2015-16. The outcome of the study reveals that the standard current ratio is 2:1 but NTPC has a lower current ratio in the study period except from 2008-2011. To further validate the liquidity position of NTPC the present study is undertaken covering the period 2007-08 to

2016-17. The present study focuses mainly over the short term solvency of NTPC Company and exploring the reasons behind the same.

3. Objectives of the Study

The aim of the study is to measure the short term solvency of NTPC through exploring the liquidity analysis and to present suggestions to strengthen the short term solvency of NTPC.

4. Research Methodology

The present study is concerned with the analysis of short range soundness of NTPC Ltd. The study is based on secondary data collected from official website and annual reports of the company. The study period is from 2007-08 to 2016-17.

Table 1

Composition and Trend of Current Assets (In ₹,crore)

Period	Current Investments	Inventories	Trade Receivables	Cash & Cash Equivalents	Short Term Loans & Advances	Other Current Assets	Total Current Assets
Mar-08	0	2,675.70	2,982.70	14,933.20	9,936.20	0	**30,527.80**
Mar-09	0	3,243.40	3,584.20	16,271.60	7,825.00	1.1	**30,925.30**
Mar-10	0	3,347.70	6,651.40	14,459.50	6,355.00	2.1	**30,815.70**
Mar-11	1,812.00	3,639.12	1,434.96	16,185.26	3,777.86	9,264.44	**36,113.64**
Mar-12	1,622.46	3,702.85	5,832.51	16,146.11	2,754.73	8,853.86	**38,912.52**
Mar-13	1,622.46	4,057.19	5,365.49	16,867.70	1,745.53	11,508.71	**41,167.08**
Mar-14	1,636.96	5,373.35	5,220.08	15,311.37	3,117.08	9,211.95	**39,870.79**
Mar-15	1,878.06	7,453.00	7,604.37	12,878.81	2,407.59	5,141.60	**37,363.43**
Mar-16	343.63	7,192.53	7,843.99	4,406.36	2,249.26	7,710.54	**29,746.31**
Mar-17	0	6,504.81	8,137.92	2,930.49	236.92	11,112.59	**28,922.73**

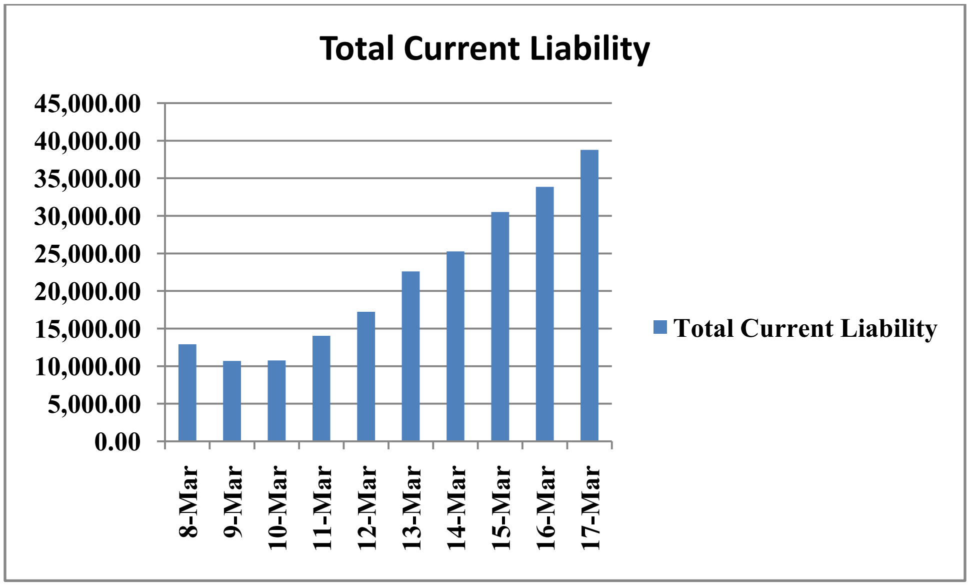

Figure 1: Graphical presentation of current assets trends at NTPC

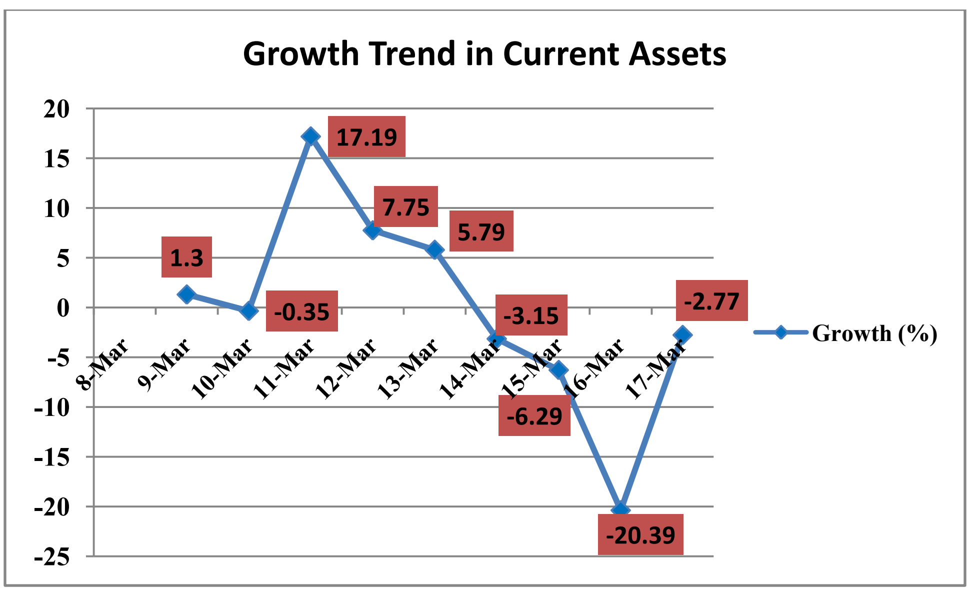

Figure 2: Graphical presentation of percentage growth trend in current assets at NTPC

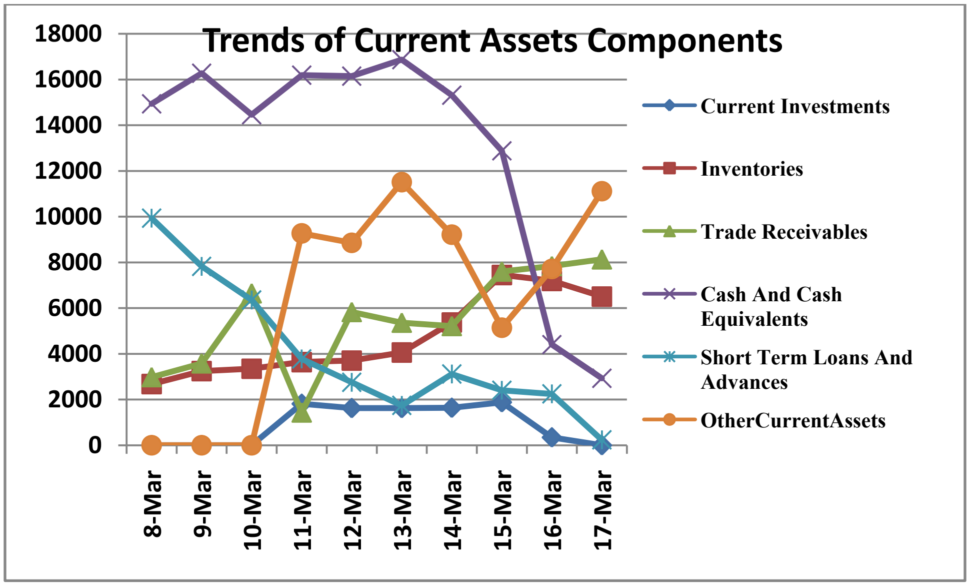

Figure 3: Graphical presentation of trends of various components of current assets at NTPC

Table 2

Composition and Trend of Current liabilities (In ₹,crore)

Period	Short Term Borrowings	Trade Payables	Other Current Liabilities	Short Term Provisions	Total Current Liabilities
8-Mar	0	1,610.80	3,937.50	7,360.60	**12,908.90**
9-Mar	0	2,840.20	4,598.90	3,249.50	**10,688.60**
10-Mar	0	2,581.50	5,106.10	3,070.50	**10,758.10**
11-Mar	0	4,088.01	7,762.50	2,190.53	**14,041.04**
12-Mar	0	4,468.07	9,554.95	3,215.62	**17,238.64**
13-Mar	0	5,158.77	10,446.72	7,004.54	**22,610.03**
14-Mar	0	6,633.34	11,343.86	7,302.60	**25,279.80**
15-Mar	0	5,953.15	16,807.62	7,758.75	**30,519.52**
16-Mar	1,299.50	5,502.86	18,384.41	8,659.62	**33,846.39**
17-Mar	3,000.56	4,876.08	22,939.64	7,964.92	**38,781.20**

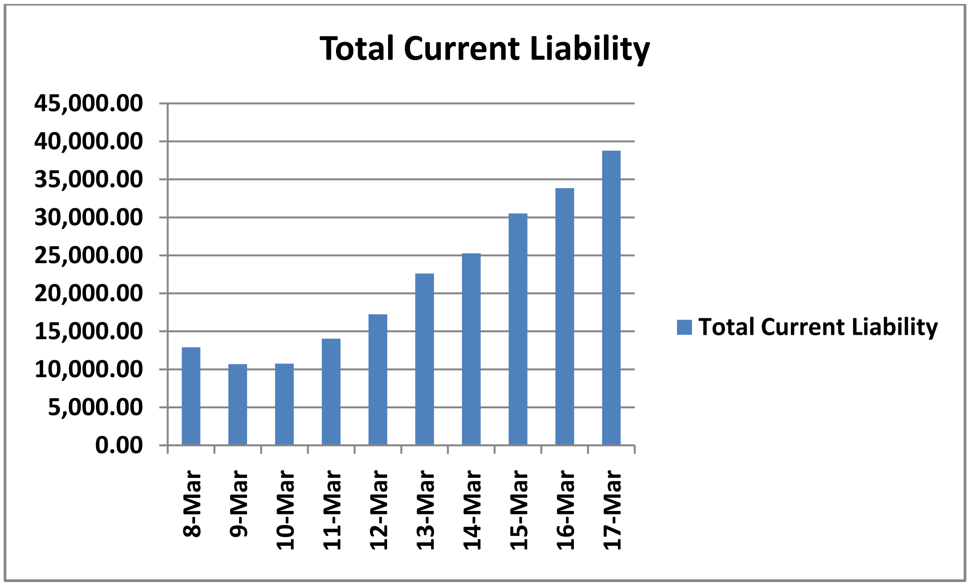

Figure 4: Graphical presentation of current liabilities trends at NTPC

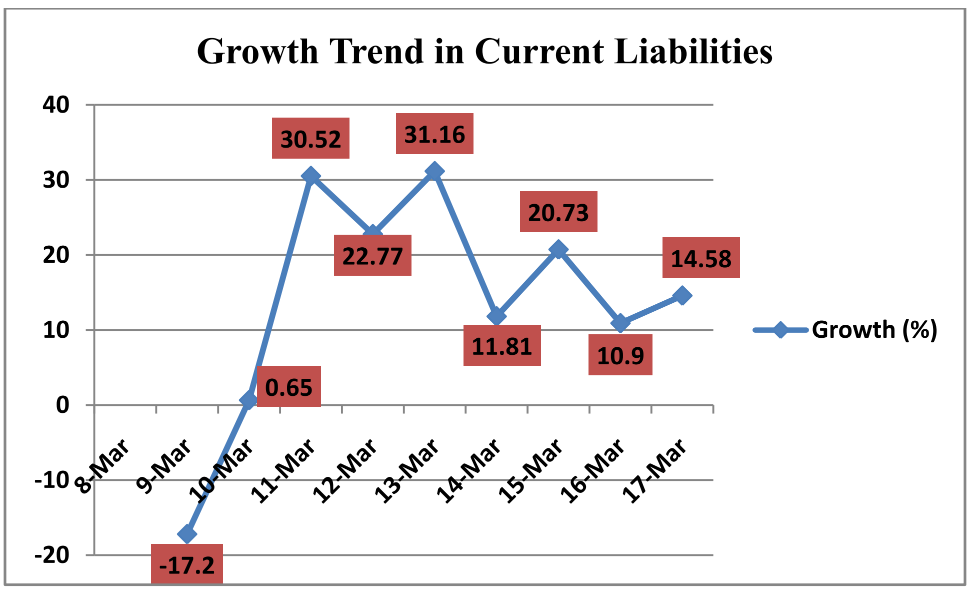

Figure 5: Graphical presentation of percentage growth trend in current liabilities at NTPC

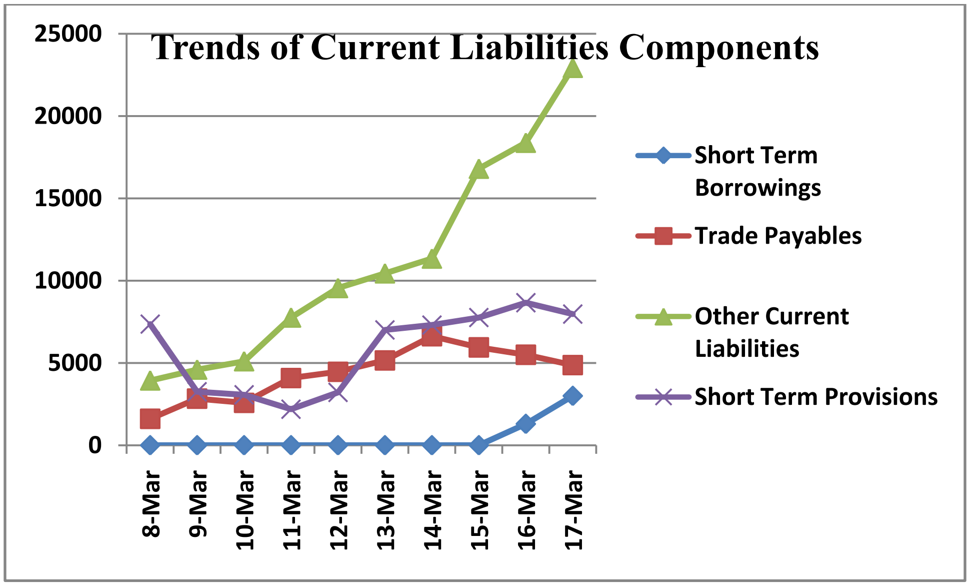

Figure 6: Graphical presentation of trends of various components of current liabilities at NTPC

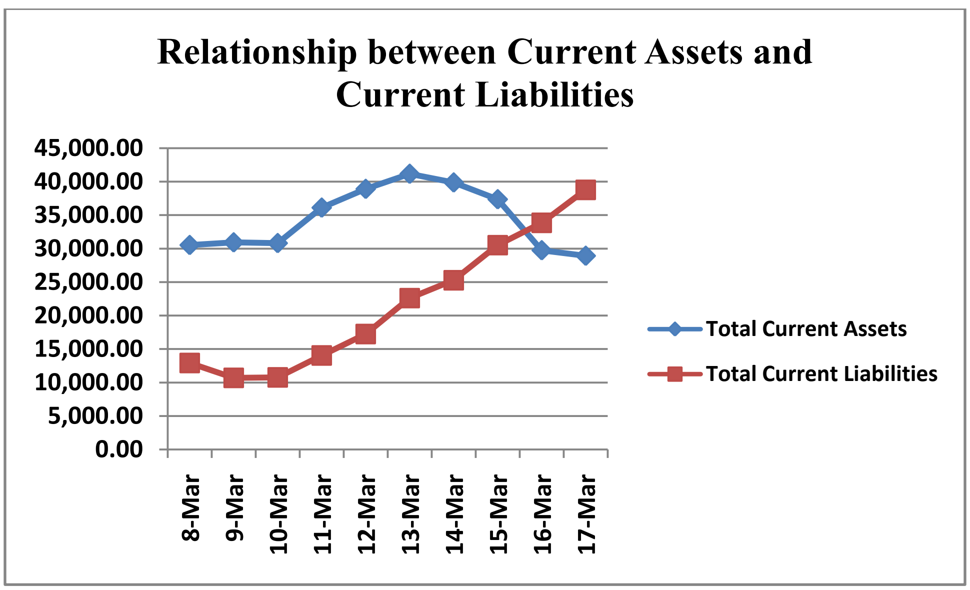

Figure 7: Relationship between Current Assets and Current Liabilities at NTPC

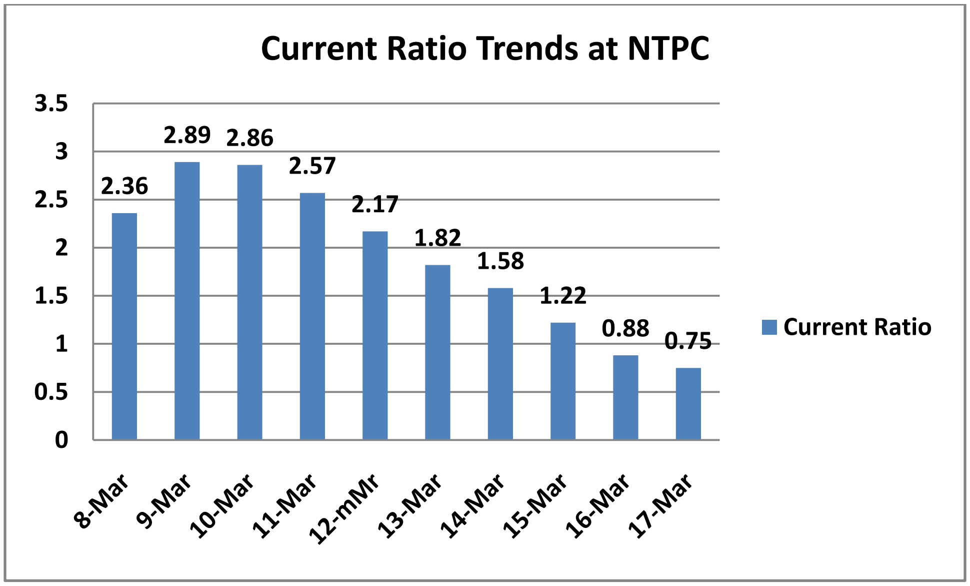

Figure 8: Current Ratio Trends at NTPC

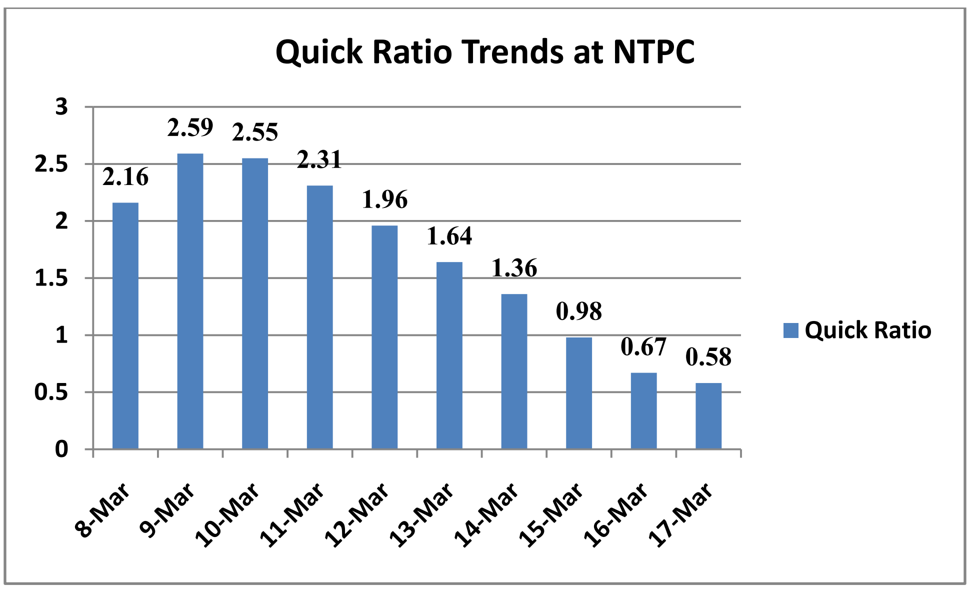

Figure 9: Quick Ratio Trends at NTPC

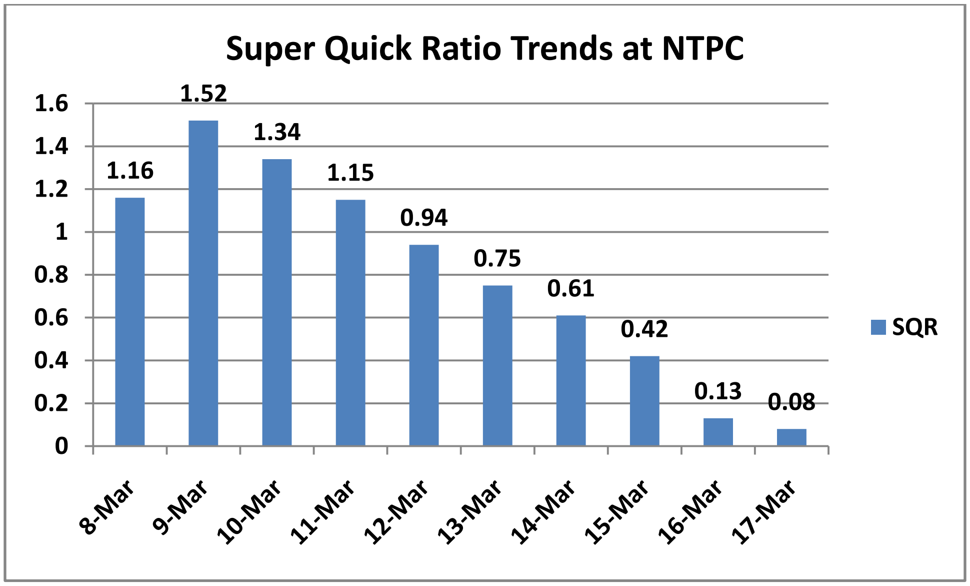

Figure 10: Super Quick Ratio Trends at NTPC

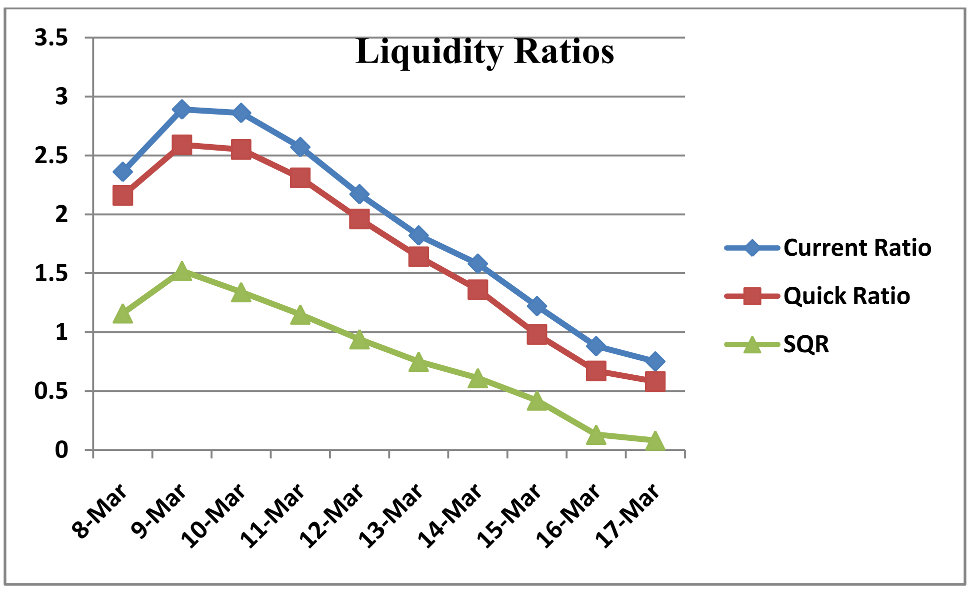

Figure 11: Trends of Liquidity Ratios at NTPC

Table 3

Descriptive Statistics of Liquidity Ratios

Descriptive Statistics			
	Mean	**Std. Deviation**	**Coefficient of Variation**
Current Ratio	1.91	0.79	41.18
Quick Ratio	1.68	0.75	44.87
Super Quick Ratio	0.81	0.50	61.47

5. Discussion: Liquidity Analysis

The current assets are also termed as gross working capital. The adequacy of current assets, together with their efficient handling, virtually determines the survival of a business concern. Working capital is said to be life blood and nerve centre of any firm. Therefore, working capital management is a delicate part of financial management. It involves a continuous process of taking decisions regarding sources and uses of working capital funds. Therefore, working capital management is concerned with the problems that arise in attempting to manage the current assets, the current liabilities and the interrelationship that exists between them. The objective of working capital management is to manage the firm's current assets and current liabilities in such a manner that an adequate level of working capital is maintained. Sufficient amount of working capital provides a business with operational flexibility. "A business with an adequate level of working capital has more options available to it, and can make it own choice as to when working capital will be used and how it will be used. On the other hand, if a firm is short of working capital, it may be forced to limit business operations, extension of credit to customers and the amount that it invests in inventory. This will adversely affect production as well as sales which in turn will affect profitability of the concern. Thus the management of adequate level of working capital is crucial for the success of a business firm.

To analyze the liquidity we have firstly explored the gross working capital i.e. current assets from the period 2007-08 to 2016-17. During the study period the total current assets at NTPC are showing downward trend since year 2012-13 (see Table 1) The total current assets initially increasing and after reaching to its peak in year 2012-13, it started falling and reached to lowest in year 2016-17. There is drastic fall of 20.39 % in total current assets in 2015-16 that continued in its subsequent year 2016-17(see Fig. 2). In the fig. 3 the major reason behind downward trend of current assets is due to sudden steep fall in the NTPC cash and its equivalents; and reduction in its short term loans and advances. Except trade receivables and other current assets of the company all the components are reflecting downward tendency. The drastic fall in the cash and its equivalent indicating, dent in the super quick assets of the company. Inventories are increasing with the passage of time while trade receivables are growing with faster rate reflecting company credit policy and cash conversion cycle need to be improved.

The current liabilities are showing lowest in the year 2008-09 and 2009-10 and subsequent years it has begin increasing (see fig. 4). The yearly growth trend reflecting continuous increase in NTPC current liabilities (see fig. 5) The Company in the period of 10 years has first time taken short term borrowing in year 2015-16 and onwards. The composition of current liabilities are increasing at faster rate is the major reason behind quick jump in total current liabilities (see fig 6).

During the study period it is found that majority of the years the company has sufficient current assets to pay of its obligations but in the year 2015-16 and onwards it is found that proportion of current liabilities is more than the current assets. The relationship of current assets and current liabilities reflecting steep increase in the current liabilities over the current assets in the year 2015-16 and 2016-17 respectively(see fig. 7). Thus we can also say that the net working capital (current assets minus current liabilities) of the company is negative in the year 2015-16 and its subsequent year 2016-17.

Liquidity Ratio's Analysis

The liquidity ratios considered in the study are Current Ratio (CR), Quick Ratio (QR) and Super Quick Ratio (SQR). The study indicates downward trend of liquidity ratios. The current ratio reflects measure of margin of safety to the creditors. The present study reflects decline in the current ratio that further represents deterioration in the liquidity position of NTPC.

Conventionally 2:1 is deemed as ideal current ratio, but under certain studies it is said for PSUs, the ratio of 1:1 is considered enough. Table 6 reveals a declining trend of this ratio, which varies from 0.75 to 2.89 during the period under study. The current ratio is lowest in the year 2016-17, which is beyond the alarming value 1:1. On an average, the ratio is 1.91 during the period with S.D. 0.79 and coefficient of variation 41.18%. Thus, we observe from the current ratio that on an average NTPC has sufficient current assets to pay off its current liabilities. However the trend also signifies that in the past two years the short-term solvency of NTPC is under serious strain as its liquidity position is highly vulnerable. The creditors stand at considerable risk as the company is not in a position to meet its current obligations without infusion of working capital from the government or some other external sources. In the past two years NTPC couldn't achieve even the minimum standard applicable to a PSU i.e. 1:1. The downward trend of the current ratio in year 2015-16 and 2016-17 is a matter of concern. The current ratio was positive and far above the conventional standards but gradually moving downward. For greater clarity and visibility we take the help of the (see Fig. 8). In the fig. 8 we observe that the curve depicting the current ratio shows a downward trend. We observe that mostly affected year is 2015-16 and 2016-17 and this has happened due to increase in other current liabilities. Other current liabilities has increased in the year 2015-16 mainly due to increase in payables for capital expenditure which has increased from ` 6,421.73 crore as on 31.03.2015 to ₹ 7,926.23 crore as on 31.03.2016 and also due to advances from customers and others amounting to ₹1,240.54 crore as on 31.03.2016 as compared to ₹ 461.70 crore as on 31.03.2015. The reason for further increase in Other current financial liabilities in the year 2016-17 has increased mainly due to increase in payables for capital expenditure which has increased from ₹7,926.23 crore as on 31.03.2016 to ₹9,578.24 crore as on 31.03.2017 and also due to payables to employees which has increased from ₹ 269.17 crore as on 31.03.2016 to ₹516.88 crore as on 31.03.2017.

The Quick Ratio depicts the relationship between quick assets and current liabilities. This ratio is computed based on the following formula: Quick Ratio = Quick Assets/ Current Liabilities. This ratio is widely accepted as the best available test of the liquidity position of a firm. As a rule of thumb a quick ratio of 1:1 is considered satisfactory because of its immediate ability to meet the short-term obligations.

However, many well-managed companies in this industry are operating successfully even with quick ratio below 1:1. For PSUs, the ratio can even be less than 1:1.

The Fig. 9 shows that the quick ratio of the NTPC moving downward gradually and reach to its lowest in 2016-17. The downfall in the quick ratio is visible since the year 2014-15 and steeped down afterwards. The mean value of Quick Ratio over a study period has been found to be 1.68 which is far above the standard norm of 1. This means the company well off to pay off its current obligations, if such a need arises at once. We observe from the quick ratio that NTPC has sufficient of quick assets to pay off every rupee of its current liabilities. However, the quick ratio is moving below the required industry standards 1:1. The major reason is the increase in short terms other current liabilities and reduction in short term loans and cash and its equivalent balance. The company needs to take corrective steps to improve its liquidity position.

The coefficient of variation 44.87 % indicates that it is little more volatile than Current Ratio but less than super-quick ratio (see Table 3). Fig. 10 exhibits that there is also a downward trend in this ratio and mostly affected year is 2015-16 and 2016-17.

The Super Quick Ratio is the ratio between super quick assets and Current liabilities. This ratio is calculated based on the following formula: Super Quick Ratio = Super Quick Assets / Current Liabilities. The super quick assets or absolute liquid assets here include only cash and bank balances as there is no short-term or marketable security. This ratio is the most rigorous and conservative tests of a firm's liquidity position. Normal standard for this ratio is 0.5:1. The Super Quick Ratio (SQR) turns out to be the worst of three liquidity ratios in the year 2015-16 and 2016-17. Similar downward trend is visible even in the super quick ratio during the period of study fig.10. This ratio lowest in 2016-17 0.08 while highest in the year 1.52, in the year 2008-09.The average of this ratio over ten years from 2007-08 to 2016-17 has been calculated to be 0.81 is far above the liberal standard of 0.5. As this ratio is the most rigorous and conservative test of a company's liquidity position, trade creditors attach great importance to this ratio for judging the creditworthiness of the company. From this perspective, the credit score of NTPC is one of the lowest since 2014-15. This does not augur well for either the company or its stakeholders. Moreover, this ratio has the highest variability among all the liquidity ratios with 61.47% coefficient of variation (see Table 3). The graphical presentation of this ratio shown in fig.10 clearly demonstrates that this ratio has a downward trend, which indicates that the company is disperse its strength over the years to pay its immediate liabilities. The reason behind weak super quick ratio is increase in cash outflow on operating and financing activities.

6. Conclusion

Overall Inference on Short-term Solvency of NTPC during 2007-08 to 2016-17 it is evident from the liquidity analysis that the liquidity position of the company is moving downward. On the whole, the liquidity analysis of NTPC exposes the serious weakness of the company in managing its working capital. The three liquidity ratios which are considered to be the best available tests of the company's creditworthiness are far from satisfactory from past two years. Current ratio, Quick ratio, and Super Quick ratio are all less than the standard norms i.e. less than 2:1, 1:1 and 0.5:1 respectively in the year 2015-16 and 2-016-17. We can call them illiquidity ratios as they testify to illiquidity of the company. On an average NTPC have satisfactory current assets to pay off every rupee of its current liabilities. Since NTPC is a public sector company, low liquidity may not have a significant impact on its borrowing power, but this situation may not continue forever. With more measures of liberalization and reforms in the coming years, the govt. may ask the company to stand on its own feet and generate internal resources to take care of its short-term capital requirements. In our view, the lack of adequate liquidity and resultant working capital shortage are adversely telling on the earning capacity and financial health of NTPC. The graphical presentation clearly reflecting all the three liquidity ratios are showing downfall trend and getting far below the conventionally accepted liquidity standards in the year 2015-16 and 2016-17. It is suggested to the company to reduce its other current liabilities. The company must work on its credit policies and cash conversion cycle. The cash and its equivalents have reduced drastically, leading weak liquidity position. Company need to have adequate level of current assets to pay of its immediate short range obligations.

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