# WORKING CAPITAL MANAGEMENT IN INDIAN FERTILIZER INDUSTRY: A COMPARATIVE STUDY

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#### **Abstract**

Working capital to the company is like the blood to human body. If it is carried out effectively, efficiently and consistently, that will assure the health of an organization. Therefore, effective management of working capital is important for the survival of a business. The purpose of this research is to contribute towards a very important aspect of financial management known as working capital management with reference to two Indian Fertilizer Industries .Here an attempt has been made to analyze the financial results based on the financial statements for a period of five years from 2013-2014 to 2017-2018 and the researcher attempts to take result of comparison between two such industries. Four ratios have been selected for measuring the financial performance i.e. .Current Ratio, Liquid Ratio, Cash Ratio, Inventory Turnover Ratio, Debtors Turnover Ratio, Fixed Assets Turnover Ratio and Cash Flow analysis. The result shows that there is still a necessity of effective working capital policy to run the business of the companies under study.

Keywords: Working Capital Management, Cash Flow Analysis, Fertilizer Industry, Ratio Analysis.

#### Introduction

The fertilizer industry in India is in the core sector and second to steel in terms of investment. Fertilizer is an essential component of modern agriculture. Rashtriya Chemicals and Fertilizers Limited (a Government of India undertaking), was established in 1978 consequent to the reorganization of Fertilizer Corporation of India. RCF manufactures Urea and Complex fertilizers (NPK) along with a wide range of Industrial Chemicals. It is fourth largest Urea manufacturer in India after IFFCO, NFL and KRIBHCO. The current market capitalization stands at Rs 3,569.42 crore. The country's oldest fertilizer plant, Fertilizers and Chemicals Travancore (FACT) which was incorporated in 1943, had emerged as an efficient public sector unit. FACT a Government of India Enterprise has business interests in manufacturing and marketing of fertilizers, caprolactam, engineering consultancy and fabrication of equipments. It is 5th largest fertilizer manufacturer in India. The current market capitalization stands at Rs 2,769.47 crore

Working Capital may be regarded as the lifeblood of a business. It means the capital available for meeting the working expenses of a business after acquisition of its fixed assets. Every business needs funds for two purposes. Long term funds are required to create production facilities through purchase of fixed assets such as plants& machinery, land, buildings etc. Funds are also needed for short term purposes for the purchase of raw materials,

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payment of wages and other day -to- day expenses etc. These funds are known as working capital. It is referred to the excess of current assets over current liabilities. Therefore, management of working capital refers to the management and control of each component of current assets and current liabilities. Again, liquidity of a firm is determined by the ratio of Current Assets to Current Liabilities and other relevant ratios.

Cash Flow Analysis is analysis of movement of cash, i.e., inflows and outflows of cash into and from a firm in a given period of time. This shows the changes in cash position (financial position). It is important tool of liquidity analysis. An enterprise presents its cash flows from operating, investing and financing activities in a manner which is most appropriate to its business. This information may be used to evaluate the relationship among those three activities.

# Objectives of the Study

The specific objectives of the study are:

- To review the importance of working capital management and cash flow analysis practices under study area.
- To study the financial performance through Ratio Analysis and Cash flow Analysis.
- To offer findings and suggestions and conclusions of this study

#### Research Methodology

To carry out the present study, the methodologies that have been adopted are stated as follows:

- **Sample Design:** The study has been carried out by selecting a two company namely Rashtriya Chemicals & Fertilizers Ltd. and Fertilizers & Chemicals Travancore Ltd, which are 4<sup>th</sup> and 5<sup>th</sup> leading companies in the Indian Fertilizer Industries.
- **Data Source:** The data required to complete the study has been collected from the published consolidated annual reports of the two companies.
- **Study Period:** The study has been conducted over a very limited period of five years only ie.2013-2014 to 2017-2018
- Tools and Techniques of Data Analysis: The data collected from the published annual reports of the two companies for the five year period have been suitably rearranged, classified and tabulated as per requirements of the study.

## Limitation of the Study

- The study is based on secondary data.
- A sample of two fertilizer industries is taken under study for time constraint which may not give generalized result.
- Five years data for each company has been analyzed but the results may not be proper for long run
- The study is based on consolidated financial statements of the two companies, which may leave some grounds of error.

# **Data Analysis**

# Ratio Analysis

Ratio analysis is the most widely used tool to interpret quantitative relationship between two variables of the company. It becomes a necessity to measure the short-term solvency or liquidity position of the company by the management as well as the external interested parties before taking a decision. This paper concerns with a critical evaluation and analytical interpretation of the financial performance of Rashtriya Chemicals & Fertilizers Ltd. and Fertilizers & Chemicals Travancore Ltd. as a comparative study relating to Short-term solvency for the study period from 2013-14 to 2017-18. From this study, the following liquidity Ratios are to be considered.

#### Current Ratio

The most used ratio as a measure of liquidity is the Current Ratio. It is calculated by taking current asset as numerator and current liabilities as denominator. The higher is the current ratio, the larger the amount of current asset per rupee of current liabilities, the more the farm's ability to meet current obligations and vice-versa. The formula to calculate current ratio is as follows.

Table 1

Ratio of Current Assets and Current Liabilities of
Rashtriya Chemicals & Fertilizers Ltd. and Fertilizers & Chemicals Travancore Ltd.

	Rashtriya C	hemicals & Fertili	sers Ltd	Fertilisers & Chemicals Travancore Ltd.				
Year	Current Asset	Current Liabilities	Ratio	<b>Current Asset</b>	Current Liabilities	Ratio		
2013-14	3,737.68	2,356.95	1.58	1,544.00	1,953.70	.79		
2014-15	4,442.93	2,747.87	1.62	1,318.32	2,113.95	.62		
2015-16	5,622.31	4,157.28	1.35	1,327.79	1,181.70	1.12		
2016-17	4,501.00	2,893.62	1.56	1,192.34	1,181.45	1.01		
2017-18	3,9868.41	2,424.36	1.64	1,433.15	1,515.18	.95		
Average	-	-	1.50	-	-	.90		

The current ratio is used as a test of liquidity. It is customary to take 2:1 ratio as an ideal ratio of current assets and current liabilities. This means that short term liabilities can be met approximately twice over by existing short term sources of fund. The current ratio of Rashtriya Chemicals & Fertilizers Ltd is lower than the acceptable norms during the years, which is greater than the ratio of 1;1 by applying 'Just in Time'(JIT) principle of current asset management(S.Sikider). In case of Fertilizers & Chemicals Travancore Ltd is lower than the ideal 1:1 during the study period of time except 1.12:1 in 2015-16 and1.01:1in2016-17. Generally the liquidity position of Fertilizers & Chemicals Travancore Ltd is comparatively is not so good which is below all the ratios throughout the year.

# Liquid Ratio or Quick Ratio

This ratio is known as Acid Test Ratio or Quick Ratio. It establishes a relationship between liquid assets and current liabilities. The objectives of computing this ratio is to measure the ability to convert its current assets into cash or equivalent at a short notice so as to meet its current liabilities at the shortest possible notice. Liquid assets include Current Investments, Trade Receivables, Cash and equivalents and Other Current Assets. The formula to calculate Liquid ratios is as follows.

 $Liquid Ratio = \frac{Liquid Assets}{Current Libilities}$ 

Table 2
Ratio of Liquid Assets and Current Liabilities of
Rashtriya Chemicals & Fertilizers Ltd. and Fertilizers & Chemicals Travancore Ltd.

	Rashtriya (	Chemicals & Ferti	lisers Ltd	Fertilisers & Chemicals Travancore Ltd.				
Year	Quick Asset	CAsset Current Ratio Quick Asset		Current Liabilities	Ratio			
2013-14	2,935.14	2,356.95	1.24	923.11	1,953.70	.47		
2014-15	3,451.29	2,747.87	1.26	766.99	2,113.95	.36		
2015-16	4,406.86	4,157.28	1.06	939.16	1,181.70	.79		
2016-17	3,707.70	2,893.62	1.28	763.23	1,181.45	.65		
2017-18	3,226.76	2,424.36	1.33	954.40	1,515.18	.63		
Average	-	-	1.23	-	-	.58		

Generally a liquid ratio of 1:1 is prepared. This ratio is more rigorous measure of a firm's ability to service quick liabilities. It can be observed that the liquid ratio of Rashtriya Chemicals & Fertilizers Ltd is greater than the acceptable norms under the study. The ratio of the company is becoming a fluctuating trend which is above the 1:1 during the study period. In case of Fertilizers & Chemicals Travancore Ltd, the entire liquid ratio is less than the acceptable norms. The liquid ratio of the 1st company is comparatively is much better to the 2nd Company.

# Cash Ratio or Absolute Liquid Ratio

Cash is the most liquid asset. The relationship is between Cash & Bank Balance and Current Liabilities. The objectives of computing this ratio is to solve the Liquidity immediately or in given time. The formula to calculate Cash ratios is as follows.

Table 3
Ratio of Cash and Current Liabilities of
Rashtriya Chemicals & Fertilizers Ltd. and Fertilizers & Chemicals Travancore Ltd.

	Rashtriya Cl	nemicals & Fertiliz	ers Ltd	Fertilizers & Chemicals Travancore Ltd.				
Year	Cash & Bank Balance	Current Liabilities	Ratios	Cash & Bank Balance	Current Liabilities	Ratio		
2013-14	70.95	2,356.95	3.01%	77.38	1,953.70	3.96%		
2014-15	85.33	2,747.87	3.11%	88.39	2,113.95	4.18%		
2015-16	3.15	4,157.28	.08%	57.57	1,181.70	4.87%		
2016-17	13.01	2,893.62	.45%	52.18	1,181.45	4.42%		
2017-18	5.95	2,424.36	.25%	63.65	1,515.18	4.20%		
Average	-	-	1.38%	-	-	4.33%		

It is established rule that the cash ratio should be at least .50:1.It is also regarded as an absolute liquid ratio. The absolute liquid ratio of both the Company remained below the acceptable standard norm during all the years of the study. The performance of the Rashtriya Chemicals & Fertilizers Ltd. in terms of liquidity position is very week throughout the year. It can be observed that the liquidity position of the 1st Company is lower in comparison to the 2nd Company. This means very short-term liquidity position is very dangerous. It must be improved.

#### **Inventory Turnover Ratio**

Inventory Turnover is also known as Stock Velocity. It shows the number of times stock is sold or the selling period of the average amount of stock. It determines how quickly

stocks are converted into cash or cash equivalent. A high ratio is good from the viewpoint of liquidity. It is calculated as:

Inventory Turnover Ratio (Time) = 
$$\frac{Net \ sales}{Average \ Inventory}$$

Average Inventory=Total Inventory/2

Table 4

Ratio of Net Sales and Average Inventory of
Rashtriya Chemicals & Fertilizers Ltd. and Fertilizers & Chemicals Travancore Ltd.

Year	Rashtriya (	Chemicals & Ferti	lizers Ltd	Fertilizers & Chemicals Travancore Ltd.				
	Net Sales	Average Inventory	Ratio	Net Sales	Average Inventory	Ratio		
2013-14	3,807.03	401.27	9.49	1,325.98	310.44	4.27		
2014-15	4,053.15	495.82	8.17	1,206.02	275.665	4.37		
2015-16	3,106.93	607.725	5.11	1,293.93	194.31	6.66		
2016-17	7,318.63	396.65	18.45	1,928.67	214.555	8.99		
2017-18	3,087.47	370.825	8.33	1,350.27	239.375	5.64		
Average	-	-	9.91	-	-	5.99		

From the above table it can be observed that the ITR showed a fluctuating trend during the period of study. The ITR of the first Company has 9.49(times) in 2013-14 which decreased to 5.11(times) in 2015-16 but it showed a highly increased 18.45(times) in 2016-17 and again decreased to 8.33(times) in 2017-18. The ITR of 2<sup>nd</sup> Company showed a increasing cum decreasing trend. The ratio of the Company has 4.27(times) in 2013-14 which increased to 8.99(times) in 2016-17 and again decreased to 5.64(times) in 2017-18 .The average ratio of both the Company are 9.91 times and 5.99 times respectively.

### **Debtors Turnover Ratio**

This ratio is also known as Debtors Velocity or Average Collection Period. This ratio indicates the velocity of the debtors converted into cash. It also gives the supplement information regarding liquidity of other items in the current assets portfolio. It may review the credit policy and may determine a new policy so as to enable faster realisation of debtors. The ratio is calculated as

Debtors Turnover Ratio (time) = 
$$\frac{Net\ Credit\ sales}{Average\ Account\ Recivable}$$

Average Account Receivable=Trade Debtors + Bill Receivable

Table 5

Ratio of Net Credit Sales and Average Account Receivables of Rashtriya Chemicals & Fertilizers Ltd. and Fertilizers & Chemicals Travancore Ltd.

	Rashtriya (	Chemicals & Fertilise	rs Ltd	Fertilisers & Chemicals Travancore Ltd.				
Year	Year Net Credit Average Account Sales Receivables		Ratio	Net Credit Sales	Average Account Receivables	Ratio		
2013-14	3,807.03	2,769.09	1.37	1,325.98	11.47	115.60		
2014-15	4,053.15	3,297.36	1.23	1,206.02	10.21	118.12		
2015-16	3,106.93	4,311.42	0.72	1,293.93	7.10	182.12		
2016-17	7,318.63	3,641.72	2.01	1,928.67	506.07	3.81		
2017-18	3,087.47	2,955.41	1.04	1,350.27	450.09	3.00		
Average	-	-	1.28	-	-	84.56		

From the above table it can be noted that the DTR showed a fluctuating trend during the period of study. The DTR of Rashtriya Chemicals & Fertilisers Ltd has 1.37(times) in 2013-

14 which decreased to 0.72(times) in 2015-16 but it showed an increased 2.01(times) in 2016-17 and again decreased to 1.04(times) in 2017-18. The DTR of Fertilisers & Chemicals Travancore Ltd showed a increasing cum decreasing trend. The ratio of the Company has 115.60(times) in 2013-14 which highly rise up to 182.12(times) in 2016-17 and again fell up to 3.00(times) in 2017-18. The average ratio of both the Company are 1.28 times and 84.56 times respectively.

#### **Fixed Assets Turnover Ratio**

There is no "rule of thumb "or standard for Assets turnover ratio. A ratio higher than one is preferred. The efficiency in utilizing the firm's assets is reflected in assets turnover ratio. Higher, the turnover ratio, the more efficient is the management in utilizing the assets. It is calculated as:

Fixed Asset Turnover Ratio = 
$$\frac{Net \, Sales}{Fixed \, Assets}$$
Table 6
Ratio of Net Sales and Fixed Assets of

Rashtriya Chemicals & Fertilizers Ltd. and Fertilizers & Chemicals Travancore Ltd. Rashtriya Chemicals & Fertilisers Ltd Fertilisers & Chemicals Travancore Ltd. **Fixed Assets** Net Sales Ratio Net Sales **Fixed Assets** Ratio 3,807.03 1696.86 2.24 1,325.98 299.89 4.42 4,053.15 1,562.20 2.59 1,206.02 306.67 3.93 3,106.93 1.646.53 1.89 1,293.93 291.59 4.44

#### Year 2013-14 2014-15 2015-16 2016-17 7,318.63 1,654.08 4.42 1,928.67 321.48 6.00 2017-18 3,087.47 2,062.36 1,350.27 313.55 1.50 4.31 Average 2.53 4.62

Observation on Rashtriya Chemicals & Fertilizers Ltd shows that a fluctuating trend's ratio of FAT during the study, which is increased from 2.24 in 2013-14 to 2.59 in 2014-15 but fell up to 1.89 in 2015-16 but and again rose up to 4.42 in 2016-17 and fell up to 1.50 in 2017-18. The average ratio of both the Company is 2.53 and 4.62 respectively. In case of Fertilizers & Chemicals Travancore Ltd., the ratio begins at 4.42 in 2013-14 and fell up to 3.93 in 2014-15 and increased up to 6.00 and again decrease to 9.67 in 2017-18. The average ratio of both the Company is 2.53 and 4.62 respectively.

# **Cash Flow Analysis**

Cash flow analysis is' analysis of movement of cash, i.e. inflows and outflows of cash into and from a firm in a given period of time'. It also shows inflow of cash from various sources and uses (outflow) of cash to which it has been applied. Thus, it changes in cash position (financial position).

Table 7 The Cash Flow Analysis of Rashtriya Chemicals & Fertilizers Ltd. and Fertilizers & Chemicals Travancore Ltd.

Company Name	Rashtriya Chemicals & Fertilisers Ltd				Fertilisers & Chemicals Travancore Ltd.					
	2014	2014 2015 2016 2017 2018					2015	2016	2017	2018
Particulars										
Opening Cash & Cash	45.20	68.72	83.23	1.36	10.31	7.03	2.05	4.79	3.67	32.29
Equivalent										
Net Cash from	313.65	228.05	0.00	1595.40	1078.12	70.33	192.04	-	-	99.42
operating Activities								221.79	329.71	

Net Cash from	-81.88	-216.4	0.00	-180.28	-495.67	-	-9.21	-3.16	-4.11	-3.19
Investing Activities						59.59				
Net Cash from	-	2.87	0.00	-	-587.52	-	-	223.83	346.03	-
financing Activities	208.25			1406.17		15.71	180.09			82.40
Net(decrease/increas	23.52	14.51	-	8.95	-5.07	-4.97	2.74	-1.12	12.21	13.83
e)cash and			81.87							
Equivalents										
Closing Cash & cash	68.72	83.23	1.36	10.31	5.24	2.06	4.79	3.67	32.41	46.12
Equivalent										

Figures in this table are taken as available from the Annual Reports of the Companies under study.

The above table shows the impact of operating, financing and investing activities on cash. The net cash increase and decrease from all the activities of the two Companies under study shows a fluctuation more towards negative. It shows a frequent fluctuation in the activities which is also evident from debtors turnover ratio. There had been a constant decrease in working capital as there had been a decrease in cash and cash equivalents in all the years under study. Although there is an increase in working capital but it is moderate. If compared, the position of Fertilizers & Chemicals Travancore is better than that of Rashtriya Chemical & Fertilizers Ltd. so far Cash Flow Statement is considered. In order for a Company to survive, the ability to make profits may not be enough. It is also important for the business to generate sufficient cash for its survival.

# **Findings**

Following are the important findings of the study:

- The current ratio of RCF & FCT Ltd Company always remained below the standard norm of 2:1, during all the years under study. Hence the performance of both the company is not satisfactory in terms of current ratio during the study period.
- The performance of the 1st company in terms of quick ratio is satisfactory other than 2<sup>nd</sup> Company; while the ratio remained below the standard norm 1:1 during all the years under study.
- The performance of both the company in terms of cash ratio is not satisfactory. The ratio remained below the standard acceptable norm 0.50:1 during the study period of time.
- The ITR and DTR show a different picture. The average inventory turnover ratios (ITR) are higher in 1<sup>st</sup> Company as compared to 2<sup>nd</sup> Company and the debtors turnover ratio are adverse affect.
- The fixed assets turnover ratio of Fertilizers Chemicals Travancore Ltd is better than Rashtriya Chemicals & Fertilizers Ltd. Because FCT Limited Company is having more times fixed assets turnover ratio in comparison to RCF Limited Company.
- Under Cash flow analysis (both the Company), the outflows during a period are higher than the cash inflows during the same period. Negative cash flow does not necessarily mean loss, and may be due only to a mismatch of expenditure and income. Although, it holds some importance so far working capital is considered.

Working Capital is one of the crucial elements in the overall financing of a business. The management of working capital concerns the management of money, inventories, accounts receivable, accounts payable, sundry debtors and sundry creditors etc. The study has analyzed the financial performance through ratio analysis of Rashtriya Chemicals & Fertilizers Ltd. and Fertilizers & Chemicals Travancore Ltd. The result of the above study reflects that

current ratio, liquid ratio (satisfactory in case of  $1^{\rm st}$  company) and cash ratio is not satisfactory in overall terms. But the DTR and FATR of  $2^{\rm nd}$  Company are better than the  $1^{\rm st}$  Company except ITR. The companies must go for a sound working capital management policy.

# Suggestions

Following points can be suggested:

- According to the findings to the study it is suggested that particular norms for faster
  rolling of money via debtors will keep the current ratio in control. Since, early
  payments to creditors can save interest cost and earn discount which will have a direct
  impact on the profits of the company.
- It should be maintained that the quick ratio of the company always remained above the standard norm of 1:1 during the study period and it should be improved the quick ratio include using long-term financing rather than cash on hand to acquire inventory or selling unnecessary assets.
- According to the cash ratio, it should be maintained the proper level of cash, bank balance and short-term investment in current assets. At the same way try to increase reserves by investing profit or decreasing level of current liabilities.
- A low stock turnover ratio is an indication of the maintenance of a very high level of stock and, in effect, the company may face the problem of overstocking. This stock has to be reduced without, in any way, affecting service to the customers.
- A low debtor's turnover ratio is an indication of long credit period or slow realization
  of debtors and, in effect, the company may be facing serious liquidity problems. As it
  should be changed its credit policy in order to expedite the collection of debtors in
  time.
- A low ratio indicates that the fixed assets are not being efficiently employed. It should be maintained the norms as per requirement.
- Negative cash flow may be arisen due to ineffective management, leakage of funds through fraud or actual loss. Temporary mismatch is covered usually by arranging an overdraft facility. A growing company may have a negative cash flow from operating and investing activities and a positive cash flow from financing activities as it continues to consume money to grow. A mature firm will have a positive cash flow from operating activities and possibly a negative balance in its investing activities.

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