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Research Paper on
A liquidity Analysis of Selected Fertilizers company of India

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ABSTRACT

The purpose of the study is to know about the liquid position Fertilizer industry in India. Required data for the study has been collected from official website of the company and “www.moneycontrol.com” from March 2008 to March 2017. To identify the liquid position current and liquid ratios were calculated for all company and, Mean, Standard Deviation, correlation coefficient, ANNOVA test were applied. The study conducted is based on the ratio analysis, t-test which helped to analyze the performance of companies in Indian Fertilizer Industry.

KEYWORDS: Growth, Liquidity, Ratio.

Introduction of Selected fertilizer companies

1.Brahmaputra Valley Fertilizer Corporation Limited

The Namrup Fertilizer Complex was renamed as Brahmaputra Valley Fertilizer Corporation Limited after bi-furcation from Hindustan Fertilizer Corporation Limited from 01/04/02. It is located on the bank of dilli river in the south-western border of Dibrugarh District in Assam.

It is the first factory in India, who use natural gas as basic raw material for producing nitrogenous fertilizer.

2. Madras Fertilizers limited

Madras Fertilizers (MFL) has business interest in manufacturing ammonia, urea, complex fertilizers and bio fertilizers and trading in agrochemicals. Incorporated in 1966, the company was a joint venture between the Government of India (GoI) and AMOCO India.

3. National Fertilizers Limited

NFL, a Schedule 'A' & a Mini Ratna (Category-I) Company, having its registered office at New Delhi was incorporated on 23rd August 1974. Its Corporate Office is at NOIDA (U.P). It has an authorized capital of Rs. 1000 crore and a paid up capital of Rs. 490.58 crore out of which Government of India's share is 74.71 % and 25.29 % is held by financial institutions & others.

4. Rashtriya Chemicals & Fertilizers limited

Rashtriya Chemicals and Fertilizers Limited (RCF) a Government of India Undertaking is a leading fertilizer and chemical manufacturing company with about 80% of its equity held by the Government of India. It has two operating units, one at Trombay in Mumbai and the other at Thal, Raigad district, about 100 KM from Mumbai. Government of India has accorded "Mini-Ratna" status to RCF.

5. Fertilizers and Chemicals Travancor Ltd.

FACT, India's first large scale fertilizer unit was set up in 1943. In 1947, FACT Udyogamandal started production of Ammonium Sulphate with an installed capacity of 10,000 MT Nitrogen. FACT became a Kerala State Public Sector Enterprise on 15th August 1960 and 21st November 1962, the Government of India became the major shareholder.

6. Chambal Fertilizers and chemicals Ltd.

Chambal Fertilisers and Chemicals Limited is one of the largest private sector fertilizer producers in India. It was promoted by Zuari Industries Limited in the year 1985. Its two hi-tech nitrogenous fertilizer (urea) plants are located at Gadepan in Kota district of Rajasthan. The two plants produce about 2 million MT of Urea per annum. The first plant was commissioned in 1993 and second plant in 1999. These plants use state-of-the-art technology from Denmark, Italy, United States and Japan. The company is also in process of setting up a third Urea plant at Gadepan with an annual capacity of 1.34 million MT of Urea per annum which is expected to be completed by January 2019. Once commissioned, Gadepan will be a unique and only site in the

7. Gujarat Narmada Valley Fertilizers & Chemicals Limited.

Gujarat Narmada Valley Fertilizers & Chemicals Limited. (GNFC), is a joint sector enterprise promoted by the Government of Gujarat and the Gujarat State Fertilizers & Chemicals Ltd.(GSFC). It was set up in Bharuch, Gujarat in 1976. Located at Bharuch in an extremely prosperous industrial belt, GNFC draws on the resources of the natural wealth of the land as well as the industrially rich reserves of the area.

8. Gujarat State fertilizers & chemicals Ltd.

GSFC was incorporated in 1962 and its plants went into production of fertilizers in 1967. In its very first decade of existence, GSFC became known for its path-breaking achievements, to name a few, it was the first industrial complex in the country set up in joint sector, first company to set up fertilizer plants within a short span of two years of getting requisite approvals, it was the first industrial project to secure direct and active equity participation of farmers, the first fertilizer unit to get assistance from IDBI's Assistance Fund, and the first Company to adopt the Steam Naphtha Reforming process for manufacture of Ammonia.

9. Khaitan Chemicals & Fertilizers Ltd.

KCFL began its operation in 1987 at Nimrani near Indore, West Madhya Pradesh and has earned cash profits each and every year, since its inception, even though Single Super Phosphate (SSP) Industry has gone through tumultuous times. Today KCFL has earned the distinction of being the largest manufacturer of **Single Super Phosphate (SSP)** in India. The company is producing top quality fertilizer, sold under the brand name of “**Khaitan SSP & Utsav SSP**”, and is a the brand leader in Western Madhya Pradesh.

10. Mangalore Chemicals and Fertilizers Limited

Mangalore Chemicals and Fertilizers Limited (MCF) is a subsidiary of Zuari Fertilisers and Chemicals Limited, an Adventz Group, led by Chairman Saroj Kumar Poddar which holds 53.03% equity shares. Adventz group, is an Indian conglomerate with global ambitions that participates in and contributes to India's economic growth and prosperity through transformational change. The Group is partnered by world leaders in various areas of enterprises and has significant presence in agriculture, engineering & infrastructure, real estate, consumer durables and services which are the key drivers of the Indian economy.

11. Nagarjuna Fertilizers and Chemicals Limited

The Company in terms of the Composite Scheme of Arrangement and Amalgamation of Nagarjuna Fertilizers and Chemicals Limited, Kakinada Fertilizers and Chemicals Limited, Ikisan Limited and Nagarjuna Oil Refinery Limited has merged into Kakinada Fertilizers Limited, its wholly owned subsidiary with Registered Office at A/612, Dalamal Tower, 211, Nariman point, Mumbai-400021.

12. Tata Chemicals Limited

Tata Chemicals Limited is a global company with interests in businesses that focus on essentials for LIFE: Living, Industry and Farm Essentials. The story of the company is about harnessing the fruits of science for goals that go beyond business.

Their story began in Mithapur, Gujarat, in western India in 1939 with a small plant that would raise a wealth of marine chemicals from the ocean. From these humble beginnings, Tata Chemicals has evolved into a market-leading international business, with operations across four continents, and businesses that touch the lives of millions across the globe. Their Innovation Centre, today, is home to world-class R&D capabilities in nanotechnology and biotechnology.

13. Krishak Bharati Cooperative Ltd

Krishak Bharati Cooperative Ltd (KRIBHCO) is a Multi-State Cooperative Society deemed to be registered under the Multi-State Cooperative Societies (MSCS) Act, 2002. The Government of India through the Department of Fertilizers was a member of KRIBHCO but its equity holding was reduced to NIL on 4th July 2013 under the provisions of the MSCS Act 2002. KRIBHCO is not owned nor controlled nor financed by the Government of India / Any State Governments.

14. Indian Farmers Fertiliser Cooperative Limited

Indian Farmers Fertiliser Cooperative Limited (IFFCO) is one of India's biggest cooperative society which is wholly owned by Indian Cooperatives.

Founded in 1967 with just 57 cooperatives, company is today an amalgamation of over 36,000 Indian Cooperatives with diversified business interests ranging from General Insurance to Rural Telecom apart from their core business of manufacturing and selling fertilisers. With their vast marketing network of over 36,000 cooperative societies company reach more than 5.5 Crores (55 million) farmers in India.

MEANING OF FINANCIAL RATIO

A ratio or financial ratio is a relationship between two accounting figures, expressed mathematically. Ratio Analysis helps to ascertain the financial condition of the firm. In financial analysis, a ratio is compared against a benchmark for evaluating the financial position and performance of a firm. Financial ratios help to summaries large quantities of financial data to make qualitative judgment about the firm's financial performance. Profitability and liquidity ratios were calculated for present study.

Liquidity ratios

Liquidity ratios are highly useful to creditors and commercial banks that provide short-term credit. Short-term refers to a period not exceeding one year. Liquidity ratios measure the firm's ability to meet current obligations, as and when they fall due.

A firm should ensure that it does not suffer from lack of liquidity and also does not have excess liquidity. Both inadequate and excess liquidity are not desirable. It is necessary for the firm to strike a proper balance between high liquidity and lack of liquidity.

1. Current Ratio

Current ratio is defined as the relationship between current assets and current liabilities.

This is calculated by dividing total current assets by total current liabilities.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

The two basic components of the ratio are current assets and current liabilities. Current assets are those that can be realised within a short period of time, generally one year. Similarly, current liabilities are those that are to be paid, within a period of one year. The components of current assets and current liabilities are shown, hereunder. It is significant to note, even, prepaid

expenses are included in current assets as they have been paid, in advance, and are not needed to be paid, again. Similarly, current liabilities include bank overdraft or cash credit account as they are, normally, sanctioned by the bank for a period of one year. Technically, they are sanctioned for one year, but banks renew them, unless there are significant adverse reasons or firm does not require renewal. Reason for inclusion of Bank overdraft/Cash credit in current liability category is the availability of written sanction of bank for one year only.

2. Liquid / Quick /Acid Test Ratio / Near Money Ratio

Liquid ratio establishes the relationship between liquid assets and liquid liabilities. Liquid assets are those that can be converted into cash, quickly, without loss of value. Cash and balance in current account with bank are the most liquid assets. Other assets that are considered, relatively, liquid are debtors, bills receivable and marketable securities (temporary, quoted investments purchased, instead of holding idle cash). Inventory is excluded from this category. Normally, most of the sales are on credit basis, in the normal course of business. So, the first stage in a sale is credit sale and the second stage is its realization. Inventory is excluded from liquid assets, as even the first stage of sale is not over. Inventories are considered less liquid as they require time for realising into cash and have a tendency to fluctuate, in value, at the time of realization.

$$\text{Liquid Ratio} = \frac{\text{Liquid Assets}}{\text{Liquid Liabilities}}$$

Liquid Assets = Current assets – Stock

Liquid Liability = Current liability – Bank Overdraft.

Research Hypothesis:

H₀ = There is no significance difference in the financial performance of different company and different year within sector Current ratio. ($\mu_1 = \mu_2 = \mu_3 \dots = \mu_6$)

H₁ = There is significance difference in the financial performance of different company and different year within sector Current ratio. ($\mu_i \neq \mu_j$)

H₀ = There is no significance difference in the financial performance of different company and different year within sector liquid ratio. ($\mu_1 = \mu_2 = \mu_3 \dots = \mu_6$)

H₁ = There is significance difference in the financial performance of different company and different year within sector liquid ratio. ($\mu_i \neq \mu_j$)

CurrentRatio ofselectedCompanies											
Company Name	Mar 17	Mar 16	Mar 15	Mar 14	Mar 13	Mar 12	Mar 11	Mar 10	Mar 9	Mar 8	Mean
BRAMPUTRA	4.01 446	3.13 318	0.73 502	0.32 727	0.43 526	0.40 427	1.66 873	1.43 19	0.99 274	1.74 303	1.48 859
CHAMBHAL	0.99 204	1.01 877	1.08 445	1.05 645	1.06 944	1.02 737	0.95 125	1.21 629	0.81 684	1.05 383	1.02 867
GNFC	1.23 372	1.08 099	1.04 576	1.02 482	1.03 203	0.88 296	1.09 455	1.15 988	1.15 67	1.50 968	1.12 211
GNFC	1.97 351	1.79 585	2.23 286	1.93 347	1.71 85	1.92 671	1.93 668	1.41 076	1.21 638	1.25 246	1.73 972
IIFCO	5.63	5.77	5.01	5.39	4.65	8.51	4.04	2.66	2.41	4.21	4.82 8
KHAITAN	1.23 317	1.28 49	1.10 143	1.11 07	1.13 144	1.21 479	1.20 588	1.24 704	1.43 482	1.50 742	1.24 716
KRIBHCO	5.52 755	6.22 451	5.32	3.57	3.23	2.85	1.99	2.75	3.61	4.11	3.87 862
MADRASH_FERT	0.60 036	0.65 054	0.76 784	0.88 94	0.69 734	1.59 232	0.90 413	0.74 301	0.47 203	0.55 347	0.78 705
MANGLOR	0.95 876	0.97 091	1.05 56	1.05 571	1.07 941	1.11 298	1.51 488	1.24 755	1.16 218	1.21 556	1.13 735
NAGAR	0.73 586	0.86 006	0.61 312	0.77 073	0.93 46	0.91 244	NIL	NIL	NIL	NIL	0.80
NAT_FERT	1.11 95	1.14 049	1.10 505	1.13 992	1.13 381	1.10 71	1.67 251	1.73 695	1.32 478	1.07 592	1.25 56
RCF	1.55 549	1.35 24	1.61 686	1.58 447	1.41 918	1.40 461	1.84 933	1.32 871	1.18 151	1.17 295	1.44 655
TATA_CHEMIC	1.74 294	1.34 075	1.33 875	1.32 296	1.09 557	1.15 108	1.32 2	0.58 394	0.61 843	0.67 636	1.11 928
TRAVNCO R	1.08 837	1.12 363	0.62 363	0.79 03	0.91 74	1.17 146	1.14 952	0.85 504	0.80 53	0.99 533	0.95 2

SUMMARY	COUNT	SUM	AVERAGE	VARIANCE
BRAMPUTRA	10	14.88586	1.488586	1.51475
CHAMBHAL	10	10.28673	1.028673	0.01041
GNFC	10	11.2211	1.12211	0.027593
GNFC	10	17.39718	1.739718	0.114696
IIFCO	10	48.28	4.828	3.002018
KHAITAN	10	12.4716	1.24716	0.017841
KRIBHCO	10	38.78623	3.878623	1.867508
MADRASH_FERT	10	7.870451	0.787045	0.098921
MANGLOR	10	11.37354	1.137354	0.026478
NAGAR	10	4.826811	0.482681	0.180816
NAT_FERT	10	12.55603	1.255603	0.06081
RCF	10	14.46551	1.446551	0.04361
TATA_CHEMIC	10	11.19278	1.119278	0.144881
TRAVNCOR	10	9.519974	0.951997	0.033689
Mar17	14	28.40575	2.028982	2.951533
Mar16	14	27.74696	1.981926	3.249204
Mar15	14	23.65037	1.689312	2.350359
Mar14	14	21.96166	1.56869	1.78795
Mar13	14	20.54467	1.467476	1.262238
Mar12	14	25.272	1.805143	4.0488
Mar11	14	21.29946	1.52139	0.797544
Mar10	14	18.37108	1.31222	0.531892
Mar9	14	17.2017	1.228693	0.768386
Mar8	14	20.68012	1.477151	1.308102

ANOVA						
Source of Variation	SS	Df	MS	F	P-value	F crit
Rows	192.3891	13	14.79916	31.28898	5.2E-32	1.804692
Columns	8.957166	9	0.995241	2.104178	0.034403	1.960818
Error	55.33902	117	0.472983			

The P value is less than 0.05 in both cases so we are rejecting our null hypothesis. It means there is significance difference between year wise and company wise current ratio.

LiquidRatio of SelectedCompanies											
Company Name	Mar 17	Mar 16	Mar 15	Mar 14	Mar 13	Mar 12	Mar 11	Mar 10	Mar 9	Mar 8	Mean
BRAMPUTRA	3.51503	2.8613	0.67391	0.29244	0.38904	0.3647	1.49393	1.21372	0.75951	1.39976	1.29633
CHAMBHAL	0.79196	0.837	0.89872	0.90071	0.81733	0.8706	0.75086	0.98138	0.65161	0.7318	0.8232
GNFC	0.90142	0.81215	0.78919	0.75398	0.73666	0.59562	1.09455	1.15988	1.1567	1.50968	0.95098
GNFC	1.58937	1.5209	1.78864	1.51962	1.41948	1.52803	1.42272	1.00095	0.59654	0.72704	1.31133
IIFCO	4.78	4.97	4.07	4.14	3.87	7.00	3.34	2.06	1.87	3.06	3.92
KHAITAN	0.83155	0.98365	0.56076	0.5342	0.58233	0.63841	0.41436	0.32674	0.88822	0.65953	0.64197
KRIBHCO	4.58	5.62	4.87	3.16	2.84	2.52	1.65	2.49	3.19	3.28	3.42
MADRASH_FERT	0.37126	0.51862	0.63998	0.75739	0.36973	0.69719	0.40611	0.41897	0.25331	0.30825	0.47408
MANGLOR	0.80428	0.84178	0.82658	0.96953	0.90967	0.9634	0.99737	0.84784	0.91043	0.94277	0.90136
NAGAR	0.63724	0.77736	0.54016	0.66321	0.86037	0.82154	0.00	0.00	0.00	0.00	0.72
NAT_FERT	1.00807	1.05764	1.06179	1.06872	1.02184	0.92194	1.38215	1.44788	1.02198	0.79339	1.07854
RCF	1.28134	1.06003	1.25599	1.24426	0.99812	0.97764	1.41107	1.17233	0.9739	0.72909	1.11038
TATA_CHEMIC	1.50454	1.02658	0.86449	1.08449	0.88465	0.7815	0.95394	0.42043	0.43556	0.47982	0.8436
TRAVNCO R	0.69862	0.79476	0.36282	0.4725	0.46349	0.60811	0.65519	0.47066	0.40183	0.44646	0.53744

<i>SUMMARY</i>	<i>COUNT</i>	<i>SUM</i>	<i>AVERAGE</i>	<i>VARIANCE</i>
BRAMPUTRA	10	12.96333	1.296333	1.200315
CHAMBHAL	10	8.231968	0.823197	0.009245
GNFC	10	9.509836	0.950984	0.075293
GNFC	10	13.1133	1.31133	0.156905
IIFCO	10	39.16	3.916	2.23776
KHAITAN	10	6.419744	0.641974	0.042954
KRIBHCO	10	34.2	3.42	1.508044
MADRASH_FERT	10	4.740818	0.474082	0.029433
MANGLOR	10	9.013633	0.901363	0.004557
NAGAR	10	4.299885	0.429988	0.145362
NAT_FERT	10	10.7854	1.07854	0.038513
RCF	10	11.10376	1.110376	0.03993
TATA_CHEMIC	10	8.436005	0.843601	0.113824
TRAVNCOR	10	5.374447	0.537445	0.020262
Mar17	14	23.29468	1.663906	2.205995
Mar16	14	23.68178	1.691556	2.658752
Mar15	14	19.20303	1.371645	1.869914
Mar14	14	17.56105	1.25436	1.169262
Mar13	14	16.1627	1.154479	0.987795
Mar12	14	19.28868	1.377763	2.89529
Mar11	14	15.97225	1.140875	0.634281
Mar10	14	14.01077	1.000769	0.467362
Mar9	14	13.10959	0.9364	0.624502
Mar8	14	15.0676	1.076257	0.939799

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Rows	145.7748	13	11.21345	31.15324	6.3E-32	1.804692
Columns	8.488019	9	0.943113	2.62016	0.008535	1.960818
Error	42.11355	117	0.359945			
Total	196.3764	139				

The P value is less than 0.05 in both cases so we are rejecting our null hypothesis. It means there is significance difference between year wise and company wise liquid ratio

Conclusion

The current ratio of co-operative sector is very much higher which shows very higher liquid position of this sector. In both sector (Public and private) the Average Current ratio is near to 1:1 which means the company needs a high amount of working capital. If we calculate average of all companies only in 2017 the ratio is higher than 2:1

The Liquid ratio of co-operative sector is also very much higher which shows very higher liquid position of this sector. In both sector (Public and private) the Average Liquid ratio is less than 1 which means the liquid position of the companies is critically week. If we calculate average of all companies only in 2017,2016,2015,2014,& in 2012 the ratio is higher than 1:1

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