A Study on Liquidity and its Impact on Profitability of Selected Food Processing Companies in India

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Abstract - Finance is the life blood of any organization. It plays an important role in day-to-day activities of human life. The study makes an attempt to analyse the liquidity and its impact on profitability of selected Food Processing companies in India. Liquidity describes the degree to which an asset or security can be quickly bought or sold in the market without affecting the asset's price. Liquidity is the amount of money that is readily available for investment and spending. Profitability is the ability of a business to earn a profit. Food processing industry has been selected as it is one of the largest industry in India and it ranked 5th in terms of production, consumption and export. India is the second largest food producer in the world after China. The country's food processing industry is expected to reach US$482 billion by 2020 (ASSOCHAM). The present study is based on secondary data. The data for the study has been collected from "CAPITALINE" database for a period of 10 years (2007-08 to 2016-2017). The study uses various statistical tools like Ratio analysis, ANOVA and regression analysis.

Keywords: ANOVA, Financial performance, Food Processin/g Industry, Liquidity, Profitability, Regression.

I. FOOD PROCESSING INDUSTRY IN INDIA

Food processing industry is one of the largest industry in India and is ranked 5th in terms of production, consumption and export. Food processing sector is indispensable for the overall development of an economy as it provides a vital linkage and synergy between the agriculture and industry. "Food processing is going to be one of the principal industries of India in future, and an entrepreneur in 2017 should think of the industry from the perspective of where it will be in 2040,2050," The sector has been growing at the rate of 12% annually.

India is the second largest food producer in the world after China. According to government estimates for the fiscal year 2015-16, the country's total food market valued at US$39.71 billion and is projected to double in the next 10 years. It contributes to around 14 percent of manufacturing Gross Domestic Product (GDP) and 13 percent of India's total food exports.

According to a 2017 report by the Associated Chambers of Commerce and Industry of India (ASSOCHAM), the country's food processing industry is expected to reach US$482 billion by 2020, driven by growth in organized retail, changing consumer behaviour, and increasing consumerism in tier II and tier III cities.

II. REVIEW OF LITERATURE

Simranjeet Singh, Harwinder Kaur (2017)[1], "Working capital management and profitability: evidence from selected steel manufacturing companies in India" . The sample units include 40 steel manufacturing companies operating in Indian market; the companies were selected using convenience random sampling. The variables were collected from 2004 to 2016. The relationship between variables have been established by framing the panel data and checked using descriptive analysis, Pearson correlation and regression line on E-Views 8 statistical software. The study results exhibit that there is a significant relationship between dependent variables (Net Profit and Return on Assets) and independent variables. **S.Saravanan, K.Janani (2015)[2],** evaluated "A study on measuring the financial soundness of Bharath Petroleum Corporation Limited (BPCL)". The study aims at creating awareness among the management and shareholders regarding the importance of financial performance through proper analysis. The study is based on secondary data. The data has been collected from "Prowess and Capitaline Database". The study uses 10years (2004-05 to 2014-15) data for analysis. The study uses various statistical tools like Ratio analysis, CAGR, ANOVA and Multiple Regression analysis. The study concludes that the liquidity position of the company was strong. **M. Thyigarajan and Mr. J. Uday Kumar (2015)[3]** in their paper "Profitability analysis of select aluminium companies in India" the main objective of this research paper is to analyse the profitability position of the selected aluminium companies for 10 years (2005-2014). The study based on the secondary data, the tools used for analysis are Mean, Standard deviation, co-efficient of variation and compound annual growth. **Kavita Rani (2015)[4],** in her study " The impact of capital structure on financial

performance of different sectors in India" investigates the impact of capital structure (Debt, Equity ratio) on financial performance of selected companies. On the basis of objectives the data from mainly three sectors were taken from 2003-2012 of 60 listed companies taken from automobile, electronic and metal industries. The analysis was done by applying correlation and regression statistics. The findings indicated that the capital structure has a no significant impact on financial performance in the automobile sector on the other hand electronic and metal sector had shown that financial performance was significantly affected by capital structure. **Subramanian and Venkatachalam (2014)[5],** studied the financial performance of Seshasayee Paper and Board Limited by using ratios like profitability, activity and liquidity ratios and found financial performance analysis is vital for the success of an enterprise. it is an appraisal of the feasibility, solidity and fertility of a business, sub-business or mission. **Shishir Pandey and Vikas Kumar Jaiswall (2014)[6],** in their paper" Comparative Study of Profitability Analysis of Indian Aluminium Industries between public and private sector "the main objective of this research paper is to analysis the profitability position of the selected Aluminium companies for 5 year (2008-2014).the study based on the secondary data the tools used for the analysis is different profitability ratio and regression analysis, the study found that Aluminium industries in India shows Satisfactory performance in concern with profitability. **Rooplata.P, R. Sathya(2013)[7], "**A Case Study on Financial Stability of Nestle India Ltd" finds out the Financial performance analysis of Nestle India Ltd by using various ratios. The study is primarily based on the secondary data taken from the CMIE, Annual Reports and other relevant publications. **OBJECTIVE OF THE STUDY:** To know the financial performance and their impact on liquidity and profitability position of selected companies.

SCOPE OF THE STUDY: The present study is undertaken to assess the long term liquidity position and its impact on profitability of selected food processing companies in India. The study is confined to 10 companies only.

RESEARCH METHODOLOGY: The present study is designed to measure the Liquidity and Profitability position of selected food processing industries in terms of various financial characteristics embodied in the accounting ratios. The data used for the study is secondary in nature.

SAMPLE DESIGN: The food processing industry is purposely selected for the study considering its important role in day to day consumption, production and export. The

A period of five years from 2011 to 2015 is adopted to draw the meaningful inferences. Financial position of Nestle India Ltd. is satisfactory, but decreasing due to certain external factors so there is a need to strengthen them and make such policies which again improve the financial position of the company. **Anilbhai (2013)[8],** made an attempt to study financial performance of two selected steel companies of India, SAIL and JSW. The study covered a period of five years from 2008 to 2012.Various financial tools and techniques were used to analyze profitability, liquidity and management efficiency of both the units and t-test was used to test the hypothesis. It was concluded that SAIL has been better than JSW in terms of profitability, liquidity and management efficiency during the period under study. **Venkataramana, M.N. et al (2012)[9],** in their study evaluated the profitability and financial position of selected cement companies in India through various financial ratio and applied correlation, mean, standard deviation and variance. The study uses liquidity and profitability ratios for evaluation of impact of liquidity ratios on profitability performance of selected cement companies.

III.   RESEARCH GAP

The above reviews clearly states that many studies have been done on profitability, financial performance and liquidity analysis of various industries. No attempt has been made to analyze the liquidity and its impact on profitability particularly on selected food processing companies in India. So the present study is undertaken to fill the research gap in these areas.

sample consists of 10 companies listed in BSE & NSE. The companies were selected on the basis of Total Sales.

PERIOD OF STUDY: The present study covers a period of 10 years from 2007-08 to 2016-2017.

SOURCES OF DATA: The study is mainly based on secondary data. The data relating to the study has been collected from "Capitaline" database which is one of the most reliable and empowered corporate database of BSE. Also various websites like money control.com, journals, magazines, etc were used.

STATISTICAL TOOLS USED: The collected data has been analyzed with the help of various financial, statistical tools like Ratio analysis, Mean, Standard Deviation, Minimum, Maximum, Compound Annual Growth Rate, ANOVA and Regression analysis.

IV.   ANALYSIS AND INTERPRETATION

Table No.1 Current Ratio

Companies	Mean	SD	Min	Max	CAGR
Britannia	1.18	0.30	0.82	1.84	4.17
Kwality	1.39	0.09	1.30	1.63	1.53
Hatsun	0.59	0.10	0.43	0.70	-2.10
Glaxo Smith Kline	1.95	0.41	1.41	2.73	5.68
KRBL	1.43	0.18	1.24	1.77	3.62
Heritage foods	0.89	0.20	0.66	1.32	-4.88

LT food	1.10	0.05	1.05	1.25	0.00
Prabhat Dairy	1.72	0.98	0.61	3.68	-4.19
Kohinoor foods	1.25	0.23	1.01	1.89	-6.07
Lakshmi energy	1.70	0.30	1.37	2.30	3.96

Source: Secondary data

From the above table it can be seen that Glaxo SmithKline has the highest mean value of 1.95, Prabhat Dairy has highest SD of 0.98, Hatsun has the minimum value of 0.43 and Prabhat Dairy has the maximum value of 3.68 and Glaxo smith Kline has the highest CAGR value of 5.68.

Table no 1.1 ANOVA for Current Ratio

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	15.046	9	1.671778	10.38867	7.57E-11	1.985595
Within Groups	14.48309	90	0.160923			
Total	29.52909	99				

The ANOVA table shows that there is significant difference among the mean value of selected companies. Since the calculated value (F is 10.38) which is greater than the table value 1.98. The calculated value is greater than the table value at 5% level of significant the null hypothesis is rejected. So the mean value of companies belonging to same industry varies from one company to another.

Table No. 2 Quick Ratio

Companies/ Values	Mean	SD	Min	Max	CAGR
Britannia	0.70	0.25	0.44	1.29	8.77
Kwality	1.19	0.09	1.09	1.37	2.31
Hatsun	0.24	0.07	0.14	0.36	-5.71
Glaxo Smith Kline	1.55	0.40	0.71	2.30	12.47
KRBL	0.23	0.04	0.17	0.29	-2.29
Heritage foods	0.42	0.19	0.25	0.89	-10.61
LT food	0.40	0.04	0.34	0.46	0.48
Prabhat Dairy	1.61	0.97	0.45	3.38	-5.43
Kohinoor foods	0.32	0.16	0.15	0.73	-14.64
Lakshmi energy	0.47	0.23	0.17	0.86	3.82

Source: Secondary data

From the above table it can be seen that Prabhat Dairy has the highest mean value of 1.61, Prabhat Dairy has highest SD of 0.97, Hatsun has the minimum value of 0.14, Prabhat Dairy has the maximum value of 3.38 and Glaxo smith Kline has the highest CAGR value of 12.47.

Table no 2.1 ANOVA for Quick Ratio

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	25.89363	9	2.87707	19.9052	6.08E-18	1.985595
Within Groups	13.00847	90	0.144539			
Total	38.9021	99				

Since the calculated value (F is 19.90) which is greater than the table value 1.98. The calculated value is greater than the table value at 5% level of significant the null hypothesis is rejected.

Table No.3 Inventory Ratio

Companies	Mean	SD	Min	Max	CAGR
Britannia	14.97	3.68	8.58	20.76	4.99
Kwality	24.58	8.15	12.57	40.14	-4.40
Hatsun	19.25	7.84	9.93	36.34	-3.67
Glaxo Smith Kline	8.27	1.63	5.72	11.95	2.56
KRBL	1.59	0.25	1.21	2.02	2.57
Heritage foods	15.85	2.33	11.80	19.52	4.18

LT food	2.23	0.57	1.51	3.02	6.04
Prabhat Dairy	24.71	14.56	0.00	41.12	0.00
Kohinoor foods	1.20	0.09	1.10	1.43	-1.50
Lakshmi energy	1.43	0.65	0.90	2.86	-6.70

Source: Secondary data

From the above table it can be seen that Kwality has the highest mean value of 24.58, Prabhat Dairy has highest SD of 14.56, Prabhat Dairy has the minimum value of 0.00, and maximum value of 41.12 and LT Foods has the highest CAGR value of 6.04.

Table no 3.1 ANOVA for Inventory Ratio

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	8388.727	9	932.0807	23.14871	6.95E-20	1.985595
Within Groups	3623.842	90	40.26491			
Total	12012.57	99				

Since the calculated value (F is 23.148) which is greater than the table value 1.98. The calculated value is greater than the table value at 5% level of significant the null hypothesis is rejected.

Table No.4 Debt-Equity Ratio

Companies	Mean	SD	Min	Max	CAGR
Britannia	0.21	0.40	0.00	1.08	-23.76
Kwality	2.74	1.14	1.38	4.61	0.43
Hatsun	2.94	1.16	1.99	5.86	-3.93
Glaxo Smith Kline	0.05	0.03	0.01	0.10	7.68
KRBL	1.21	0.42	0.56	2.14	-12.55
Heritage foods	1.21	0.66	0.44	2.22	-10.27
LT food	2.96	0.37	2.40	3.54	-1.84
Prabhat Dairy	1.12	0.87	0.18	2.79	-14.92
Kohinoor foods	2.86	0.97	1.66	4.76	-2.74
Lakshmi energy	1.77	1.08	0.90	3.79	13.82

Source: Secondary data

From the above table it can be seen that LT Foods has the highest mean value of 2.86, Hatsun has highest SD of 1.16, Britannia has the minimum value of 0.00, and Hatsun maximum value of 5.86 and Lakshmi Energy has the highest CAGR value of 13.82.

Table no 4.1 ANOVA for Debt-Equity Ratio

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	113.3935	9	12.59928	17.60976	1.91E-16	1.985595
Within Groups	64.39241	90	0.715471			
Total	177.7859	99				

Since the calculated value (F is 17.60) which is greater than the table value 1.98. The calculated value is greater than the table value at 5% level of significant the null hypothesis is rejected.

Table No.5 Gross Profit Ratio

Companies	Mean	SD	Min	Max	CAGR
Britannia	9.51	3.97	4.45	16.02	5.50
Kwality	3.49	0.61	2.43	4.18	5.56
Hatsun	5.20	1.21	3.36	7.50	3.43
Glaxo Smith Kline	22.38	2.11	20.13	26.96	2.00
KRBL	12.13	3.33	7.75	19.09	7.97
Heritage foods	3.31	2.05	-1.40	5.72	11.58

LT food	4.54	1.53	2.58	7.63	-7.55
Prabhat Dairy	2.36	1.51	0.00	4.47	0.00
Kohinoor foods	0.45	10.32	-19.94	24.29	0.00
Lakshmi energy	2.08	19.38	-50.26	21.71	-23.83

Source: Secondary data

From the above table it can be seen that Glaxo Smith Kline has the highest mean value of 22.38, Lakshmi Energy has highest SD of 19.38, Prabhat Dairy has the minimum value of 0.00, and Kohinoor foods has the maximum value of 24.29 and Heritage foods has the highest CAGR value of 11.58.

Table no 5.1 ANOVA for Gross Profit Ratio

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	3909.033	9	434.337	7.462585	4.49E-08	1.985595
Within Groups	5238.176	90	58.20195			
Total	9147.209	99				

Since the calculated value (F is 7.46) which is greater than the table value 1.98. The calculated value is greater than the table value at 5% level of significant the null hypothesis is rejected.

Table No.6 Net Profit Ratio

Companies	Mean	SD	Min	Max	CAGR
Britannia	6.19	2.41	3.42	10.03	3.11
Kwality	2.46	0.68	1.38	3.79	6.82
Hatsun	1.80	0.86	0.23	3.27	4.80
Glaxo Smith Kline	13.51	1.51	11.77	16.47	2.85
KRBL	7.73	2.74	3.72	12.74	8.90
Heritage foods	0.94	2.11	-4.49	3.11	34.61
LT food	2.14	1.19	0.45	4.92	-11.50
Prabhat Dairy	1.09	1.09	0.00	3.30	0.00
Kohinoor foods	-0.20	7.84	-14.14	19.06	0.00
Lakshmi energy	-1.85	18.82	-54.55	13.23	0.00

Source: Secondary data

From the above table it can be seen that Glaxo Smith Kline has the highest mean value of 13.51, Lakshmi Energy has highest SD of 18.82, Prabhat Dairy has the minimum value of 0.00, and Kohinoor foods has the maximum value of 19.06 and Heritage foods has the highest CAGR value of 34.61.

Table no 6.1 ANOVA for Net Profit Ratio

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1858.161	9	206.4624	4.228199	0.000138	1.985595
Within Groups	4394.688	90	48.82986			
Total	6252.849	99				

Since the calculated value (F is 4.22) which is greater than the table value 1.98. The calculated value is greater than the table value at 5% level of significant the null hypothesis is rejected.

Table No.7 Return on Capital Employed

Companies	Mean	SD	Min	Max	CAGR
Britannia	42.86	16.44	22.54	67.34	4.49
Kwality	19.69	6.92	10.87	32.16	-0.10
Hatsun	10.61	4.95	0.92	18.02	2.89
Glaxo Smith Kline	26.94	4.15	19.54	34.87	-2.15
KRBL	16.19	4.09	8.97	21.36	4.75
Heritage foods	7.71	11.00	-15.80	23.75	45.68

LT food	8.39	3.55	1.52	15.17	-6.16
Prabhat Dairy	3.13	3.71	0.00	12.55	0.00
Kohinoor foods	-3.22	21.46	-51.72	40.49	0.00
Lakshmi energy	2.02	16.48	-38.78	23.40	0.00

Source: Secondary data

From the above table it can be seen that Britannia has the highest mean value of 42.86, Kohinoor foods has highest SD of 21.46, Prabhat Dairy has the minimum value of 0.00, and Britannia has the maximum value of 67.34 and Heritage has the highest CAGR value of 45.68.

Table no 7.1 ANOVA for Return on Capital Employed Ratio

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	16748.92	9	1860.991	13.33566	2.56E-13	1.985595
Within Groups	12559.49	90	139.5499			
Total	29308.41	99				

Since the calculated value (F is 13.33) which is greater than the table value 1.98. The calculated value is greater than the table value at 5% level of significant the null hypothesis is rejected.

Regression Analysis:

ROCE is considered as Independent variable while (CR, QR, ITR and DER) is considered as dependent variables.
Return on capital employed (ROCE)=β_0+ β_1 CR+ β_2 QR + β_3 ITR+ β_4 DER+ε

Table No. 8 Regression analysis of selected companies.

Companies	Multiple R	R^2	Adjusted R2	Durbin Watson	F-Value	Sig.F
Britannia	.923	.852	.734	2.846	7.199	.026
Kwality	.788	.621	.318	1.527	2.051	.225
Hatsun Agro	.860	.740	.532	2.854	3.553	.098
Glaxo Smith Kline	.805	.647	.365	1.610	2.295	.193
KRBL	.746	.556	.201	2.426	1.564	.314
Heritage	.905	.819	.674	2.681	5.650	.043
LT Foods	.376	.142	-.545	1.692	.206	.924
Prabhat Dairy	.475	.226	-.393	1.610	.365	.825
Kohinoor Foods	.796	.633	.340	2.155	2.158	.211
Lakshmi energy	.807	.651	.371	2.007	2.328	.190

(ROCE= Return on Capital Employed **CR**= Current Ratio**,
QR**= Quick Ratio**, ITR**= Inventory Turnover Ratio**,
DER**=Debt Equity Ratio).

The above table shows the relationship between Dependent and independent variables. The adjusted R^2 of our regression model was found to be highest (.734) in Britannia industries and it was found to be lowest (.201) incase of KRBL. Which explains the linear regression with a highest value of 85.2% and lowest value of 55.6% of variance in data. it can be seen from the above table that Hatsun agro has highest value of 2.854, followed by Britannia 2.846. Kwality has the lowest value of 1.527.

FINDINGS: The findings of the present study is as follows

LIQUIDITY:

- Glaxo SmithKline has the highest mean value of 1.95 of current ratio.
- Prabhat Dairy has the highest mean value of 1.61 as its quick ratio.

- Kwality has the highest mean value of 24.58 as its Inventory ratio.
- LT Foods has the highest mean value of 2.86 as its Debt-equity

PROFITABILITY:

- Glaxo Smith Kline has the highest mean value of 22.38 as its gross profit.
- Glaxo Smith Kline has the highest mean value of 13.51 as its Net profit.
- Britannia has the highest mean value of 42.86 as its Return on capital employed.

V. CONCLUSION

Financial Performance helps in identifying the strengths and weakness of the firm and also helps in forecasting the short term and long term goals. The liquidity position of the

selected companies was found to be good as it keeps on increasing gradually. Glaxo Smith Kline has good liquidity position when compared to other companies. Kwality has its highest inventory when compared to other companies. Similarly the profitability position of the selected companies seems to increase at early stages and decreases during the later. Britannia and Glaxo Smith Kline companies are found to have good profitability position during the years. Attention has to be made on liquidity position of the companies so as to increase its profitability position. Thus liquidity has an impact over the profitability position. Hence it is advisable for any companies to maintain its rule of thumb so as to avoid any hard circumstances.

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