

# Does Liquidity Affect Profitability in FMCG Sector in India?

Shenoy Tanvi Suresh\*

Poornima BG\*\*

Y.V.Reddy\*\*\*

## Key Words:

1. Liquidity
2. FMCG Sector
3. Profitability

## Abstract

Every organization whether public or private, profit oriented or not, irrespective of its size and nature of business, needs adequate amount of working capital. The efficient working capital management is most crucial factor in maintaining survival, liquidity, solvency and profitability of the any business organization. A company needs sufficient finance to carry out purchase of raw materials, payment of day-to-day operational expenses and funds to meet these expenses are collectively known as working capital. An attempt has been made in this paper to find out the working capital management and its impact on liquidity and profitability of selected companies in FMCG sector in India. The sample for the study is 15 companies which are part of NSE CNX FMCG Index over the period of eleven years from 2004-05 to 2014-15. The result indicated that there is weak negative correlation between liquidity and profitability of the industry. The correlation between CR and ROA and ROCA was found to be negative while it was positive with NPM. Contrary to it, DTR and TATR was positively correlated with ROA and ROCE and they had a negative correlation with NPM. In the correlation matrix highest positive correlation is found between ROA and ROCE because both moves in same direction. Further, findings reveal that, there is no significant impact of CR, ITR and DTR on ROCE of the company.

## INTRODUCTION

Management of Working Capital is one of the most important functions of corporate management. Every organization whether public or private, profit oriented or not, irrespective of its size and nature of business, needs adequate amount of working capital. The efficient working capital management is most crucial factor in maintaining survival, liquidity, solvency and profitability of the any business organization. A company needs sufficient finance to carry out purchase of raw materials, payment of day-to-day operational expenses and funds to meet these expenses are collectively known as working capital. Keeping in view the significance of working capital management as a gray area of corporate finance function, an attempt has been made to examine the working capital trends and practices particularly in FMCGs sector in India by

selecting fifteen FMCGs companies. The reason for selecting FMCG industry is it is one of the booming and fastest growing industries in today's business environment and India is one of the world's biggest producers of a number of FMCG products. FMCG goods are popularly known as consumer packaged goods. Items in this category include all consumables (other than groceries/pulses) people buy at regular intervals. The most common in the list are toilet soaps, detergents, shampoos, toothpaste, shaving products, shoe polish, packaged foodstuff, and household accessories and extends to certain electronic goods. These items are meant for daily or frequent consumption and have a high return. The fast moving consumer goods (FMCG) segment is the fourth largest sector in the Indian economy. The market size of FMCG in India is estimated to grow from US\$ 30 billion in 2011 to US\$ 74 billion in 2018.

As FMCG industry caters to the large demand of day-to-day requirements of customers, the working capital management in such industry plays a very important role in the success of the company. So in my study an attempt has been made to do a detail analysis of FMCG industry in India and how the working capital management in FMCG industry affects the liquidity and profitability of the companies.

\*Assistant professor, department of commerce, Goa University.  
can be reached poornima79mysore@gmail.com

\*\*Professor and Dean, Faculty of Commerce, Goa University.  
can be reached at yvreddy@unigoa.ac.in, Corresponding

\*\*\*Professor and Dean, Faculty of Commerce, Goa University  
can be reached at vimaluge@yahoo.com

## LITERATURE REVIEW

DeLoof M (2003) discussed that most of the firms had a large amount of cash invested in working capital. He found a significant relationship between gross operating income and the number of days of working accounts receivable, inventories and accounts payable by using correlation and regression test. He also found out that there is negative relationship between accounts payable and profitability of the firm. .

Niranjan Mandal (2010) conducted study on Oil and Natural Gas Commission (ONGC) and from his study concluded that there is a direct relationship between the liquidity and profitability of the firm and also there is a significant relationship between risk and profitability. From his study he found out the significance of working capital in increasing profitability and reducing risk. His study was based on secondary data and the various statistical tests which he used to analyse the data were t-test, F-test and Durbin and Watson test. He also used correlation, linear regression and multiple regressions.

Shishir Pandey and Vikas kumar Jaiswal(2011) made an attempt to find out various components of working capital and how does it impact the profitability of NALCO. Their study was based on secondary data for the period of 1995 to 2008 and statistical tools used to analyze the data were ratio analysis and percentage method, co-efficient of correlation and multiple regression. They found that working capital management has a direct impact on liquidity and profitability of the firm.

Sandeep Goel(2012) in his study highlighted the various components of working capital and the relationship between working capital efficiency and profitability for the largest 5 companies in the Indian retail sector based on the sales over the past 3 years i.e. 2008-09 to 2010-11.They analyzed the data by using ratio analysis, regression analysis, and graphs (time series). He concluded that proper management of working capital helps in efficient utilization of resources.

Avinash Kumar Shukla (2012) investigated the traditional relation between working capital management and organizations performance. For this purpose 97 companies listed in BSE, Mumbai were selected and the data was analyzed from financial year 2006 to 2011. For the analysis, advanced statistical tools such as research hypothesis and Pearson's Correlation Coefficient were used. He concluded that there is a significant impact of efficient working capital management over the

performance of any firm in Indian economy.

Gumber and Kumar(2012) have studied the efficiency of working capital management in public and co-operative sectors of fertilizer industry and concluded that the co-operative sector was better off than the public sector as regard to liquidity and payment to creditors as their credit period were much shorter than public sector.

Bhavesh Chadamiya and Dr. Vijay Pithadia (2012) conducted a study on management of working capital in selected IT companies in India. For their study they selected only two companies to analyze the working capital position and liquidity position of both companies by doing ratio analysis and conducting t-tests. The results suggested that there is no uniformity in both the companies.

Barot Hareesh (2012) associate professor, in his paper concluded that profitability can be enhanced if firms manage their working capital in a more efficient way. He conducted a study on profitability performance on top 10 CNX Pharmaceutical companies listed on NSE of India. Thus the findings of this paper suggested that managers can create value for their shareholders by reducing the number of days for accounts receivables. If firms properly manage their accounts receivables, accounts payables and inventories in proper way, then this can increase the profitability of the companies.

N. VenkataRaman and K. Ramakrishnaiah (2013) conducted a study to find out the impact of accounts receivable on working capital and profitability in cement industry. Their study is based on secondary data for a period of 10 years and for analysis purpose they used ratio analysis and annova.They concluded that receivables management is efficient across the cement industry and it has a significant impact on working capital and profitability. Sandhar Simranjeet Kaur and Janglani (2013) investigated on the liquidity and profitability of the cement companies. They reported that the liquidity and profitability was inversely related or there must always be a trade off between profitability and liquidity. Their study was based on the secondary data and the data was analysed by using ratio analysis, correlation analysis, regression modelling approach and hypothesis testing. They concluded that higher the company's margin of safety to the short-term creditors, the lower is the profitability of the company.

Madhusudana(2014) made an analysis of working capital management in cotton textile industry, man-made textile industry, cement industry, chemical industry and iron and steel industry during 1999-2000 to 2010-2011.For the



purpose of comparison and drawing meaningful conclusions, statistical tools such as mean, median, standard deviation, coefficient of variance, t-test and various ratios have been used. He concluded that ratio of current assets to total net assets was low in selected industries, except in chemical industry. The efficiency in utilizing the inventories was very poor in all selected industry except in chemical industry.

Nirmal Chakraborty (2014) examined the working capital performance during the period 2004-05 to 2012-13. Different financial ratios and statistical techniques such as t-tests and Karl Pearson's Correlation Coefficient are applied for measuring the working capital efficiency. He concluded that there is an inverse relationship between liquidity and profitability under the study period. However the study was constrained only on single company for a limited period of nine years.

Monika Maheshwari (2014) opined that achieving both liquidity and profitability of a company efficient working capital management is necessary. She found out that cash conversion cycle was of more importance as a measure of liquidity than the current ratio that affects profitability. Her study was based on the top four steel companies for 5 years period. The study also suggested that the managers can increase profitability by shortening the cash conversion cycle, the receivables collection period and the inventory conversion period.

### OBJECTIVES OF THE STUDY

To study the relationship between liquidity and profitability of the select FMCG companies.

To study the impact of working capital on the profitability of the select FMCG companies.

### RESEARCH METHODOLOGY:

#### Sample and data collection

The present study is based on the secondary data. The sample selected for the study include all 15 companies from NSE CNX FMCG Index . The fifteen companies are ITC, Marico, Emami, Dabur, Britannia, Rasoya, ITC, United Breweries, Godrej Consumer, HUL, Jubilant, Colgate Palmolive, Goderj Industries, McLeod Russel India and Godsmith. The study covered a period of eleven years for the companies starting from 2003-04 to 2013-14.

#### Tools and Techniques Used

To evaluate the liquidity and profitability position of the selected companies ratio analysis have been used for all the

15 companies. The liquidity and working capital ratios are analysed with the help of current ratio (CR), quick ratio (QR), cash ratio (CR), inventory turnover ratio (ITR), debtor's turnover ratio (DTR), total asset turnover ratio (TATR) and working capital cycle. The profitability position have been analysed with the help of return on asset ratio(ROA), return on capital employed(ROCE), operating profit margin (OPM), gross profit margin (GPM) and net profit margin (NPM).The ratios have been taken from Bloomberg, moneycontrol.com and some have been calculated with the help of annual reports. The annual ratios are converted into average ratios for the study period and have been analysed using statistical tools such as Spearman Rank Correlation Coefficient, t-tests, correlation analysis and multiple regression analysis.

**Spearman Rank Correlation Coefficient:** The formula for calculating rank correlation is:-

$$R \text{ rank} = 1 - \frac{6 \sum d_i^2}{n(n^2-1)}$$

Where n = number of pairs of observation

$d_i$  = difference in ranks

t-tests: To test the significance of the above relationship between two variables (liquidity and profitability) we 't' test. The 't' static is as follows:-

$$t = \frac{r \sqrt{(n-2)}}{\sqrt{1-r^2}}$$

Where, r = correlation coefficient, n = number of observations.

if the T calculated value is less than the T Critical Value we do not reject the null hypothesis of Spearman Rank

**Correlation Coefficient.** On the other hand if the T calculated value is greater than the than the T Critical Value we reject the null hypothesis of Spearman Rank Correlation Coefficient.

**Correlation analysis:** In order to find out the relationship between the variables (liquidity and profitability) Correlation coefficient has been used. The study also constructs the correlation matrix to study the relationship between the variables.

**Multiple Regression Analysis:** This helps in understanding and analysing the extent to which independent variables have impact on the dependent variable.



## An Impact Of Promotional Strategies On Sales Of MSME's

COMPANY	CR	RANK ON CR	ROCE	RANK ON ROCE	$d = X_1 - X_2$	$d^2 = (X_1 - X_2)^2$
MARICO	1.29	6	24.64	8	-2	4
TATA	1.72	3	11.63	12	-9	81
EMAMI	3.06	1	26.65	7	-6	36
DABUR	1.25	8	41.11	3	5	25
BRITANNIA	1.08	11	21.41	9	2	4
RASOYA	1.20	9	12.19	11	-2	4
ITC	1.62	4	29.00	6	-2	4
UBL	1.55	5	11.27	13	-8	64
GODREJ CONSUMER	1.19	10	36.41	4	6	36
HUL	1.04	12	74.03	2	10	100
JUBILANT	0.80	14	13.95	10	4	16
COLPAL	0.95	13	96.64	1	12	144
MCLEOD	0.64	15	10.47	14	1	1
GODREJ INDUSTRIES	1.26	7	9.40	15	-8	64
GLAXOSMITH	2.00	2	30.52	5	-3	9
						$d^2 = 592$

**DATA ANALYSIS**

In order to study the relationship between liquidity and profitability of the select FMCG companies the following null hypothesis is tested:

**H01:-** there is no significant relationship between liquidity and profitability of select FMCG companies

In order to study the impact of working capital on the profitability of the select FMCG companies the following null hypothesis is tested:

**H02:-** there is no significant impact of CR, ITR, DTR and TATR (independent variables) on ROCE (dependent variable) of the select FMCG companies.

Liquidity and Profitability Analysis by using simple rank correlation

In the following table the relationship between liquidity and profitability of companies in FMCG industry is analyzed with the help of Spearman's Rank Correlation Coefficient.

In the above table current ratio is representing the overall

**Correlation matrix**

	CR	ITR	DTR	TATR	ROA	ROCE	NPM
CR	1						
ITR	-0.31103	1					
DTR	-0.314	0.900283	1				
TATR	-0.29211	0.099678	0.369356	1			
ROA	-0.07452	0.399571	0.541331	0.616024	1		
ROCE	-0.14089	-0.07558	0.170696	0.803665	0.676384	1	
NPM	0.01564	-0.15493	-0.14951	-0.03039	0.350045	0.194155	1

liquidity position of the company and return on capital employed (ROCE) is representing the overall profitability position of the firm. We obtain  $R_{rank} = -0.06$  which indicates that there is a weak negative correlation between liquidity and profitability of the companies. It means when the liquidity (independent variable) of the companies increases the profitability of the companies decreases. So there is an inverse relationship between

**liquidity and profitability of companies in FMCG industry.**

To test the significance of the above relationship between liquidity and profitability, we use t-test:

$$t = \frac{-0.06\sqrt{15-2}}{\sqrt{1-(-0.06)^2}} = -0.216$$

Where  $t_{0.05,13} = 2.160$  and  $t_{0.01,13} = 3.012$  (table value of t)

Since computed value of t (-0.216) is smaller than the table value of t (i.e. 2.160 at 5% level and 3.012 at 1% level of significance), we do not reject the null hypothesis, both at 5% and 1% level of significance. Therefore, we may conclude that there is inverse relationship between liquidity and profitability of the firm under study.

**Correlation analysis between liquidity and profitability**  
In order to find out the strength and relationship between liquidity and profitability, Correlation coefficient has been used. Current ratio (CR), inventory turnover ratio (ITR), debtor's turnover ratio (DTR) and total asset turnover ratio (TATR) are taken as variables which represents liquidity. Return on asset ratio (ROA), return on capital employed (ROCE) and net profit margin (NPM) are variables representing profitability.

In the above table current ratio is representing the overall liquidity position of the company and return on capital

employed (ROCE) is representing the overall profitability position of the firm. We obtain Rank=-0.06 which indicates that there is a weak negative correlation between liquidity and profitability of the companies. It means when the liquidity (independent variable) of the companies increases the profitability of the companies decreases. So there is an inverse relationship between liquidity and profitability of companies in FMCG industry.

To test the significance of the above relationship between liquidity and profitability, we use t-test:

$$t = -0.06 \sqrt{\frac{15-2}{1-(-0.06)^2}} = -0.216$$

Where  $t_{0.05,13} = 2.160$  and  $t_{0.01,13} = 3.012$  (table value of t)

Since computed value of t (-0.216) is smaller than the table value of t (i.e. 2.160 at 5% level and 3.012 at 1% level of significance), we do not

### Multiple regression analysis results

variable	Coefficients	Standard Error	t Stat	P-value
Intercept	0.793874872	19.43326261	0.040851343	0.968218524
CR	2.403629565	8.533924833	0.281655816	0.783949949
ITR	0.355177965	0.9270736	0.383117333	0.709650921
DTR	0.028049096	0.229379642	0.122282411	0.905097894
TATR	8.931789577	2.723681727	3.279307376	0.008298657
R square=0.67		adjusted R2=0.54		
multiple correlation coefficient=0.82				

reject the null hypothesis, both at 5% and 1% level of significance. Therefore, we may conclude that there is inverse relationship between liquidity and profitability of the firm under study.

### Correlation analysis between liquidity and profitability

In order to find out the strength and relationship between liquidity and profitability, Correlation coefficient has been used. Current ratio (CR), inventory turnover ratio (ITR), debtor's turnover ratio (DTR) and total asset turnover ratio (TATR) are taken as variables which represents liquidity. Return on asset ratio (ROA), return on capital employed (ROCE) and net profit margin (NPM) are variables representing profitability.

It is observed from the above Table that the correlation

coefficients between CR and ROA, ROCE and NPM is -0.07, -0.14 and 0.01 respectively. CR is negatively correlated with ROA and ROCE which shows that higher the company's margin of safety to the short-term creditors, the lower is the profitability of the company. CR has a positive weak correlation with TATR which indicate that efficiency of firm in generating revenue from its asset helps in increasing profitability but to a lesser extent. ITR is positively correlated with ROA which indicates that as more inventories is turned into sales, higher amount of revenue will be generated. The correlation between ITR and other profitability variables (ROCE and NPM) is negative. This indicates that if larger amount is blocked in the inventory there will be lower profitability.

The correlation between the DTR and ROA and ROCE is 0.54 and 0.17 respectively which indicates that there is a



positive correlation between them. If more number of times the debtors are converted into cash, the higher will be the profitability of company. The correlation coefficient between TATR and ROCE is 0.80 which indicates that there is a high degree of positive correlation between TATR and ROCE. It indicates that higher the revenue company is generating by utilizing its assets, the more will be its profitability. In the correlation matrix highest positive correlation is found between ROA and ROCE because both moves in same direction.

### Impact of Liquidity Ratios on Profitability of The Companies

In order to find out the impact of liquidity ratios on profitability of the companies multiple regression analysis is used. In the regression equation ROCE has been taken as dependent variable and CR, ITR, DTR and TATR are taken as independent variables. So the multiple regression equation is as follows:-

The following hypothesis is tested:

H0:- there is no significant impact of CR, ITR, DTR and TATR on ROCE of the selected companies

$$Y = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4$$

Where  $y$  = return on capital employed (ROCE),  $b_0$ =constant,  $x_1$ = current ratio (CR),  $x_2$ =inventory turnover ratio (ITR),  $x_3$ =debtors turnover ratio (DTR),  $x_4$ =total asset turnover ratio.

When we include the respective values from the above table the regression equation is as follows: - ROCE = 0.7938+2.403X1-0.355X2+0.0287X3+8.931X4

From the above table it is clear that out of four liquidity variables, only TATR is having a significant impact on ROCE. The CR, ITR and DTR have a p-value of more than 0.05 which indicates that there is no significant impact of these liquidity variables on the profitability of the company. So, in this case we do not reject our null hypothesis.

On the other hand the TATR has a significant impact in the ROCE of the company. For one unit increase in TATR (keeping all other independent variables constant), the company's profitability (ROCE) is increased by 8.39 units. The impact of liquidity ratio on profitability (ROCE) is found to be statistically significant at 1% in this case. So, in this case we reject our hypothesis.

The multiple correlation coefficient of ROCE on CR, ITR, DTR and TATR is 0.82 which reflects that the profitability of the company was highly influenced by liquidity

variables. The value of R square is 0.67 which indicates that 67% of total variation in ROCE is reflected due to the total variation in all the variables of liquidity.

### CONCLUSION

It is evident from the above analysis that the total assets turnover ratio has greater impact on return on capital employed. This indicates that the companies in the study are efficiently using their own assets in the process of revenue regeneration through sales. Moreover the study also shows high degree of relationship between total assets turnover and return on capital employed. From the above analysis it may be concluded that working capital management is very much useful to ensure better productive capacity, good profitability and sound liquidity of an industry, specifically the FMCG sector in India, for managerial decision making regarding the creation of sufficient surplus for its growth and survival stability in the present competitive and complex environment. From our observation it is also clear that the overall financial health of an enterprise not only depends on the profitability of the concern but also it depends on the liquidity position of the firm. Liquidity and profitability both are the two sides of coin and there should be balance in both for long term survival and growth of any industry. It is obvious that our study suffers from the inherent limitations of the qualitative factors such as quality of the product, technological changes, demand for the products change in taste and preferences which play a very important role in determining the success of any industry. Hence this area is indicated as a scope for future research.

### REFERENCES

- Deloof, M. (2003). Does Working Capital Management Affect Profitability of Belgian Firms? *Journal of Business Finance and Accounting*,30(3-4)573-578.
- Mandal, N. (2010). Impact of working capital management on liquidity, profitability and non-insurable risk and uncertainty bearing: A case study of oil and natural gas commission (ONGC). *Great Lakes Herald*, 4, (2)22.
- Pandey, S., & Jaiswal, V. K. (2011.). Effectiveness on Profitability: Working Capital Management. *SCMS Journal of Indian Management*, 3(1),73.
- Goel, S. (July 2013). Working Capital Management Efficiency and Firm Profitability: A Study of Indian Retail Industry. *South Asian Journal of Management*, Vol. 20 (3), pp104
- Kumar Shukla, D. A. (2012). Impact of working capital management on firm's performance: evidences from listed. *International Journal of Research in Commerce, it &*



Management, 2(9), 6.

Gumber, M., & Kumar, D. S. (2012). A Comparative Analysis of Management of Working Capital in Fertilizer Industry. International Journal of Innovations in Engineering and Technology (IJJET), 1(2), 7.

Dhadamiya, B., & Pithadia, D. V. (2012). A study on management of working capital. national monthly refereed Journal of Research in Commerce & Management, 1(9), 10.

Barot, H. (2012). Working Capital Management and Profitability: Evidence from India – An Empirical Study. GFJMR, 5(2), 16.

Ramana, N. V., Ramakrishnaiah, K., & Chenga, P. (2013). Impact of receivables management on working capital and profitability: a study on select cement companies in india. International Journal of Marketing, Financial Services & Management Research, 2(9), 10

Sriranjee Kaur, S., & Janglani, S. (2013). A study on liquidity

and profitability of selected Indian cement companies: a regression modeling approach. International Journal of Economics, Commerce and Management, UK, 1(1) 24.

Sudana, d. t. (2014). Analysis of working capital management in indian industry: a comparative study of. International Journal of Research in Commerce, IT & Management, Volume no. 4(10) 8.

Chakraborty, n. (2014). Working capital management and its impact on profitability: A Case Study of Dr. Reddy's. International Journal of Research in Commerce, IT & Management, 4(2) 7.

Maheshwari, D. M. (May 2014). Measuring Efficiency and Performance of Selected Indian Steel Companies. Pacific Business Review International, 6(11), 6.

Website: <http://www.myaccountingcourse.com>

Website <http://www.moneycontrol.com/>

