Liquidity and Working Capital Practices in Indian Service Sector With reference to Indian Banking and IT Sectors

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ABSTRACT

This analysis based on liquidity and the working capital management performance of the Indian Banking and IT Industries has given estimates for the period 2000-01 to 2009-10. The results for banking industry show that balance sheet ratio can vary widely among institutions with identified liquidity concerns. However, these ratios can be misleading when considered in isolation. Most of the banks have increased loans to total asset ratio in recent years. However, given the changing balance sheet structure and uniqueness of individual bank funding strategies, poor ratios do not necessarily mean banks are under liquidity pressures, and favourable ratios do not always depict a strong liquidity position. For IT industry analysis, relation between CCC and ROCE has been established. It was observed that during 2001-2010, the receivable days in Indian IT industry has increased tremendously. The IT companies which are making use of creditors' capital in its operations. The regression and correlation between CCC and ROCE illustrates that there exist negative relationship between these two parameters. It is consistent with the results of prior studies and establishes that Indian IT Industry will have to manage its working capital efficiently to earn higher returns. The results of the study show that managers can get better profitability of their concern by managing correctly the liquidity and cash conversion cycle. These estimates will be of immense use in benchmarking and performance evaluation of liquidity and working capital management of companies.

Key Words:
Liquidity Management, Banking sector, Working Capital Management, Information Technology Sector, Cash Conversion Cycle, Return on Capital Employed

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INTRODUCTION
Companies approach to better working capital with a goal to lower costs and free up resources for investment and growth. They take full advantage of myriad opportunities to strengthen cash flow, settle payments quickly, reduce working capital liabilities, negotiate favourable payment terms with suppliers, establish clear accountability in accounts payable and receivable, increase the value of collections personnel, and gather better information to support decision making. Decisions about how much to invest in the customer and inventory accounts, and how much credit to accept from suppliers, are reflected in the firm's Cash Conversion Cycle (CCC), which represents the average number of days between the date

when the firm must start paying its suppliers and the date when it begins to collect payments from its customers.

OBJECTIVES:
1. To assess the liquidity position of Indian Banking Industry.
2. To evaluate the days of receivables and days of payable in Indian IT Industry.
3. To establish and test the functional relationship between Cash Conversion Cycle and Return on Capital Employed of Indian IT Industry.

NULL HYPOTHESIS H_0: Analysing working capital performance is that 'there is negative impact of cash conversion cycle on profitability of the Indian IT Industry'.

METHODOLOGY:
1. The concept of working capital management is not applicable to Banking Industry. However, liquidity management is the term used for the same purpose. Liquidity Management of Indian Banking Industry has been estimated using ratios. These have been explained hereunder:
   i. **Demand Deposits to Total Deposits**:
      The ratio gives liquidity needs of an individual bank related to the demands made or likely to be made by depositors. Higher demand deposit to total deposit ratio necessitates maintenance of higher liquidity in the bank and vice versa.
   ii. **Liquid Assets to Demand Deposits:**
      The ratio measures the ability of a bank to meet the demand from depositors in a particular year. Demand deposits offer high liquidity to the depositors and hence banks have to invest these liabilities in a highly liquid asset. The liquid asset includes cash in hand, balance with the RBI, balance with other banks and money at call and short notice.
   iii. **Liquid Assets to Total Assets:**
      Liquid Assets as a percent of total assets show the percentage of liquid assets in the asset structure of the bank. Higher the proportion of Liquid Assets in the total assets, higher is the liquidity of the bank. The liquid asset includes cash in hand, balance with the RBI, balance with other banks and money at call and short notice.

   iv. **Loans to assets**
      The loan, being illiquid assets for a bank, indicates the percentage of illiquid assets to total assets. Other things being equal, a rise in this ratio would indicate lower liquidity and the need to evaluate other liquidity ratios.
2. To assess the working capital position of Indian Information Technology Industry, regression and correlation has been calculated between Cash Conversion Cycle and Return on Capital Employed. These have been explained hereunder:
   i. **Cash conversion cycle (CCC):**
      This variable is calculated as the number of days of receivable plus the number of days of inventory minus the number of days of payable. The longer the cash conversion cycle, the greater the net investment in current assets and the greater the need for financing of current assets

$$CCC = AR - AP$$

CCC is cash conversion cycle; **AR** stands for days of receivables and **AP** for days payable.

ii. **Return on capital employed (ROCE):**
This variable has been used as the measure of profitability of the company. This is described as (Profit after tax/Net worth) x 100. For calculating profitability, ROCE is considered as the most fitting method of calculating long-term profitability.

iii. **Regression analysis:**
Assuming a linear relationship between Return on Capital Employed and Cash Conversion Cycle, the Regression Model can be outlined as:

$$ROCE_t = \alpha + \beta\, CCE_t + u$$

iv. **Correlation Analysis:**
To measure the degree and direction of relationship between CCC and ROCE or in other words, working capital and profitability, correlation technique has been applied and significance level has been checked.

THEORETICAL FRAME WORK:

In case of banks, in particular, the term used for working capital management is liquidity management. Banks are primarily engaged in mobilization of funds from various sources for the purpose of lending and investment. They play a crucial role in financial intermediation by canalizing savings for economic development. The activities of banks have become more diversified in response to high expectations from their customers and stiff competition. Banks continue to introduce different products tailor-made for their clients to meet the emerging challenges. With the liberalization and globalization of economy, banks are required to offer different products and services at quite competitive prices. The process of financial intermediation and liberalization expose banks to a variety of risks. Liquidity, or the ability to fund increases in assets and meet obligations as they come due, is crucial to the ongoing viability of any banking organization and is one of the risks that banks abide. Therefore, managing liquidity is among the most important activities conducted by banks. Sound liquidity management can reduce the probability of serious problems. Indeed, the importance of liquidity transcends the individual bank, since a liquidity shortfall at a single institution can have system-wide repercussions. For this reason, the analysis of liquidity requires bank management not only to measure the liquidity position of the bank on an ongoing basis but also to examine how funding requirements are likely to evolve under various scenarios, including adverse conditions. A Bank is liquid if it can meet all the demands made for cash against it at precisely those times when cash is demanded. Moreover whatever sources of funds bank may choose to draw upon must be available at a reasonable cost and time. Assets that can be classified as liquid assets and serve as primary sources of liquidity must be of high credit quality. They should be either of short maturity or easily marketable with little chance of loss. The amount of liquid assets may be limited by the willingness of the bank to hold such assets, since such assets generally earn less than loans or less liquid assets. The sources of bank liquidity are mostly available through money market and banks rely on it for meeting liquidity needs in the normal course of business.

Table-1 Working Capital Constraints in Banking Sector (Average values for 37 Banks)

Working Capital Constraint	2000 -01	2001 -02	2002 -03	2003 -04	2004 -05	2005 -06	2006 -07	2007 -08	2008 -09	2009 -10	Aver age
Demand Deposits to Total Deposits	0.123	0.126	0.116	0.107	0.109	0.122	0.111	0.114	0.113	0.112	0.116

Liquid Assets to Demand Deposits	1.681	1.418	1.442	1.541	1.139	1.156	1.297	1.073	1.258	1.276	1.345
Liquid Assets to total Assets	0.153	0.137	0.129	0.113	0.091	0.100	0.093	0.092	0.102	0.106	0.110
Loan to Total Assets	0.401	0.421	0.437	0.455	0.463	0.446	0.504	0.555	0.578	0.583	0.488

Source: Prowess Database of CMIE-Results Interpretation in Banking Industry
Higher demand deposit to total deposit ratio necessitates maintenance of higher liquidity in the bank and vice versa. Therefore, interpretation of other ratios vis-à-vis liquidity of a bank depends largely on this ratio, in other words, the ratio is synonymous to liquidity needs of any banking organization. Table-1 throws light on the position of Indian banking industry with regard to demand deposit to total deposit ratio. The interpretation is based on the premises that lower the ratio; lower are the liquidity needs of the bank. Average Industry ratio has moved between 0.11 and 0.12 through 2001-2010, depicting very less variation in last one decade. For instance, liquidity need of Federal Bank, Karnataka Bank and South Indian Bank have been very less throughout the period of study. They have kept very less amount of demand deposit in total deposit; which is petite in comparison of industry average. Among the banks with high demand deposits to total deposits ratio, SBI, Kotak Mahindra Bank, UTI Bank and IDBI Bank are on the zenith.

The industry average for the liquid asset to demand deposit ratio for the period under study is 1.345. However, ICICI Bank, South India Bank and Karnataka Bank are keeping much higher liquid assets than the industry average. The point to be noted here is that South India Bank and Karnataka Bank are among those which have least ratio of demand deposits to total deposits and hence need less liquidity in comparison to other banks. But, they are preserving higher liquid ratios than other banks to maintain liquidity and solvency. Moreover, HDFC Bank, Vijaya Bank, Corporation Bank, SBI, UBI and Laxmi Vilas Bank are upholding less liquid assets to meet payment of demand deposits. HDFC Bank and UBI are maintaining low liquid assets respectively against demand deposits; which can be termed as stringent and risky policy decision by the management of these banks. Liquid Assets as a percent of total assets show the percentage of liquid assets in the asset structure of the bank. Higher the proportion of Liquid Assets in the total assets, higher is the liquidity of the bank. The liquid asset includes cash in hand, balance with the RBI, balance with other banks and money at call and short notice. Bank of Baroda, Bank of Rajasthan, SBI and UTI Bank are keeping higher percentage of their assets as liquid than other banks. Whereas, Federal Bank, Kotak Mahindra Bank, Lakshmi Vilas Bank and IDBI Bank have very less liquid assets in their kitty; the industry average for the liquid assets to total assets ratio for the period under study is 0.110 percent.

The loan, being illiquid assets for a bank, indicates the percentage of illiquid assets to total assets. The ratio has increased substantially from 2001 to 2010; it was 0.401 in 2000-01and increased to 0.583 in 2009-10. HDFC Bank, Bank of Rajasthan and CBI fall under the category of banks with low loans to assets ratio. It can be considered as good sign as far as liquidity is concerned but profitability of these banks might suffer due to less deployment of funds in loans. Most of the banks have increased this ratio in recent years. Top banks among them are CUB, Federal Bank, IDBI Bank, South Indian Bank and UBI. The industry average for the loans to total assets ratio for the period under study is 0.488 percent

Table-2 Working Capital Constraints in IT Sector (Average values for 40 IT Companies)

Working Capital Constraint	2000 -01	2001 -02	2002 -03	2003 -04	2004 -05	2005 -06	2006 -07	2007 -08	2008 -09	2009 -10	Aver age
Receivable Days	105. 81	140. 57	167. 70	161. 12	209. 22	214. 17	223. 13	190. 74	209. 46	152. 00	187.7 3
Payable Days	33.5 7	23.3 6	20.9 3	37.2 8	21.8 7	42.3 1	43.6 4	45.6 6	38.6 1	42.2 6	32.63
Cash Conversion Cycle (in Days)	73.2 5	95.4 3	128. 08	138. 48	168. 46	151. 89	164. 94	128. 29	110. 16	71.3 3	122.0 3
Return of Capital Employed (in %)	36.5 0	31.2 8	29.9 7	20.1 0	15.7 6	16.3 6	20.0 3	19.7 4	20.3 4	17.3 6	22.04

Source: Prowess Database of CMIE-Results Interpretation in IT Industry

The results of analysis pertaining to working capital management in Indian IT Industry have been discussed hereunder. The analysis has been made one by one for all the variables. The issues involved in managing receivables are vital in order to achieve a proper balance between risk and return. The companies, that are able to maintain low number of receivable days, may earn higher profits as lesser amount is blocked in receivables and vice versa. However, too little receivable days confirm aggressive financing strategy. Table 2 throws light on this imperative aspect. The IT companies, as depicted by the table, that are efficient enough to uphold lesser number of receivable days include all top-notch companies of the industry, namely, Infosys, TCS, Wipro and HCL. They are maintaining much lesser receivable days than industry average. Hinduja, I-Flex, CMC, SSI, Penta soft, Polaris, Ramco and Zensar are continuing with high receivable period. Reason behind this may be that these companies are unable to bargain on payment time with their clients or that the companies are unable to get timely payment due to inefficiency on the part of the companies itself. Moreover, during 2001-2010, the receivable days in Indian IT industry has increased tremendously. In 2000-01, it was 105.81, whereas, in 2008-09, it went up to 209.46 but again reduced to the level of 152 days in 2009-10.

Payable days demonstrate how much time a company takes in paying back to its creditors. The higher the value, the longer firms take to settle their payment commitments to their suppliers. Extremely short payable period elaborates that the company is unable to make efficient use of credit period extended by its creditors. The IT companies that are having very short payable period are Infosys, Wipro, TCS, KPIT, Kale Consultants, Patni, Orient, I Flex and I gate. The IT companies which are making use of creditors' capital in its operations for long duration are HCL, GTL, Financial Technologies, NIIT, Onward and Ramco. Average payable days have fluctuating during this period; it was reducing up to 2006 but started increasing after that and reached 42.26 days in 2009-10.

Considering above variables jointly, the cash conversion cycle (CCC) has been estimated. CCC captures liquidity risk. If creditors exceed the sum of receivables, CCC is negative. The negative cash conversion cycle implies that company may be following the strategy of collecting its receivables as quickly as possible, and paying payables as late as

possible without involving intangible costs of stretching payables. If it is negative, the probability a firm defaulting in its current obligations is high. HCL is the only company, which has overall negative payable days, reflecting stringent collection and payment policies, it may be the result of its efficiency but liquidity risk is also with such negative numbers. The IT companies, which block their capital in working capital for long period, are Hinduja, I Flex, Pentasoft, Ramco and Zenith. Most of the IT companies have managed their current assets and current liabilities very well and the chunk of such companies include all major players like infosys, TCS, Wipro, Satyam, Patni, Tata Elaxi and Sonata. Indian IT sector has moved their working capital conversion cycle up and down many times during 2001-2010. In 2000-01, average days of working capital were 73.25, and in 2006-07, it increased to 164.94 as elucidated by Table 2. Afterwards, again it declined to 71.33 days in 2009-10.

Return on Capital Employed, a term that becomes evidence for the overall efficiency of the company, has specified startling results. In 2000-01, as provided by the Table 2, the average ROCE was 36.50, but in 2009-10, it reduced to 17.36. In spite of the fact that Indian economy is growing in a great pace and specifically Indian IT Industry is the flag bearer of this growth story, ROCE of the industry has reduced during the period under study. TCS has earned highest ROCE and other IT companies that have made higher ROCE are Infosys, Tata Elaxi and Wipro. The list of banks IT companies that have earned comparatively less ROCE adds to the surprise. And such IT companies are Kale Consultants, GTL, Maars, Patni, Polaris, Pentasoft, Onward and Orient. Moreover, after 2003, there has been drastic decline in the industry ROCE and it turned negative for most of the companies in 2010 due to exchange rate fluctuations. However, top companies of the industry maintained high ROCE in 2009-10 as well.

Table-3 Regression & Correlation between CCC and ROCE

Year	Coefficients	B Coefficient	Standard Error	Beta Value	T Test	Significance	R Square
2000-01	(Constant)	35.29625	8.173684		4.318279	0.000218	0.004
	CCC-1	0.023486	0.075588	0.062023	0.310711	0.758596	
2001-02	(Constant)	31.24158	4.411320		7.082139	8.62E-08	0.002
	CCC-2	0.008374	0.033164	0.046838	0.252509	0.802429	
2002-03	(Constant)	32.80523	5.513659		5.949812	1.22E-06	0.010
	CCC-3	-0.01866	0.033545	-0.09784	-0.55613	0.581987	
2003-04	(Constant)	27.89558	5.174112		5.391376	5.44E-06	0.091
	CCC-4	-0.05325	0.028887	-0.30143	-1.84334	0.074011	
2004-05	(Constant)	22.5225	4.278703		5.263862	8.64E-06	0.120
	CCC-5	-0.03804	0.017948	-0.34613	-2.11935	0.041671	
2005-06	(Constant)	19.05173	4.338029		4.391794	9.91E-05	0.014
	CCC-6	-0.01405	0.019863	-0.11872	-0.70733	0.484042	
2006-07	(Constant)	25.19007	4.911757		5.128526	1.03E-05	0.061
	CCC-7	-0.0297	0.019366	-0.24763	-1.53352	0.133889	
2007-08	(Constant)	23.78531	4.630673		5.13647	1.16E-05	0.039
	CCC-8	-0.02739	0.023166	-0.19873	-1.1824	0.245251	
2008-09	(Constant)	24.46002	4.532444		5.396651	4.92E-06	0.054
	CCC-9	-0.03459	0.024382	-0.23317	-1.41858	0.164865	
2009-10	(Constant)	21.57666	5.28306		4.084121	0.000399	0.035
	CCC-10	-0.04000	0.041996	-0.18712	-0.95245	0.349989	

Source: Raw data has been taken from Prowess Database of CMIE

Table 3 presents results of regression analysis for the period 2000-2009, where ROCE is the dependent variable and CCC is independent variable. The regression coefficient between cash conversion cycle and return on capital employed is negative, which is consistent with the view that a decrease in the cash conversion cycle will generate more profits for the company. This analysis adds to existing literature such as Shin and Soenen (1998) who found a strong negative relationship between the cash conversion cycle and corporate profitability for listed American firms for the 1975- 1994 period. However, the regression coefficient is not significant in most of the years, only in the years 2003-04 and 2004-05 cash conversion cycle is showing significant impact on ROCE of the industry. R square is also very low in all the models, which depict low explanatory power of the Cash Conversion Cycle, which is yet again consistent as there are many other variable that affect Profitability of the Indian IT Industry. Correlation is also showing negative relationship between the variables.

The above Analyzing tables indicate that working capital performance is negative impact of cash conversion cycle on profitability of the Indian IT Industry'. Hence the null hypothesis accepted.

FINDINGS AND CONCLUSIONS:
- The liquidity and the working capital management performance of the Indian Banking and IT Industries were conducted for the period 2000-01 to 2009-10. The results for Banking industry show that balance sheet ratios can vary widely among institutions with identified liquidity concerns.
- Most of the banks have increased loans to total asset ratio in recent years. However, given the changing balance sheet structure and uniqueness of individual bank funding strategies, poor ratios do not necessarily mean banks are under liquidity pressures, and favourable ratios do not always depict a strong liquidity position.
- For IT industry analysis, relation between Cash Conversion Cycle (CCC) and Return on Capital Employed (ROCE) has been established. It was identified that during 2001-2010, the receivable days in Indian IT industry has increased tremendously. The IT companies which are making use of creditors' capital in its operations.
- The regression and correlation between CCC and ROCE illustrates that there exist negative relationship between these two parameters. It is consistent with the results of prior studies and establishes that Indian IT Industry will have to manage its working capital efficiently to earn higher returns.

Suggestions:
1. Liquidity need of the banks is an area that requires sincere and regular contemplation on part of professionals and academicians as well. Liquidity of banking system impacts whole economy, rather, it may have global impact, as what is evident from current US liquidity crunch. Only a handful of banks have adopted liberal liquidity management policy in terms of maintaining more liquid funds in comparison to total demand deposits. Majority of banks are following aggressive liquidity policy or they keep fewer amounts blocked in liquid securities to enhance their overall profitability. They have also increased amount of loans in their total assets, it points towards two sided pressure on their liquidity. Enhancement of loans in total assets may be justified with their profit motives; however, keeping fewer sums in liquid securities may prove

detrimental in long run for these banks and they may need to revisit their liquidity policy.

2. For IT industry, the regression and correlation between CCC and ROCE illustrates that there exist negative relationship between these two parameters. It may be established that most of the companies are well managed in terms of working capital. They make timely payments to their creditors and receive timely payments from clients. Industry needs to maintain this practice in future as well. It indicates that other not so successful companies are facing problems or their receivable days have increased during the period of last ten years. These companies might have to arrange funds from other sources to meet their business requirements because of this delay in receiving payments from clients. Therefore, there is a need to move towards a more favourable and may be stringent receivables policy for reduction of such delays in receiving payments.

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