CHAPTER - 5

Working Capital Management: Trend Analysis

Chapter Contents

CHAPTER - 5
WORKING CAPITAL MANAGEMENT: TREND ANALYSIS

This chapter examines the Trends in Working Capital Management (WCM), Leverage (LEV) and Profitability (PROF) of Indian Non-Financial Service Industry companies. All the 40 ratios mentioned in Table 4.6 are employed to analyze the trends and direction of change in the WCM, LEV and Profitability of sample 79 Non Financial Service Industry companies over the selected time frame (1994-95 to 2009-10). Arithmetic Mean, Standard Deviation and Coefficient of Variation for all the selected ratios are calculated to analyze the trends. Doughnut graph is used to portray the current asset financing mix whereas Pie graphs are used for graphic presentation of current asset structure and current liabilities structure. The trends have been examined taking the entire Non Financial Service Industry, *i.e.,* 79 companies as well as for individual 6 Service Industry groups.

In order to understand time trends in selected WCM, LEV and PROF ratios, 'Method of Least Squares' is applied using 'Linear Trend Model' and 'Quadratic Trend Model'. Time trend analysis is also conducted on entire sample of 79 companies belonging to 6 service sector industries as well as on the individual service industry group. This chapter is divided into four major sections followed by conclusions.

In Section – I, the methodology adopted is stated. **In Section - II** the overall and time trends in 38 ratios of WCM, LEV and Profitability ratios of all the 79 companies belonging to 6 service industry groups taken together is examined to have a holistic understanding of the WCM of Service Industry. **In Section – III,** industry wise trends (overall and time trends) in WCM, LEV and Profitability ratios is examined. **In Section – IV,** overall and time trends in Working Capital Leverage (WCL) for the entire Non Financial Service Industry, *i.e.,* 79 companies as well as the constituent service industry groups is examined.

SECTION - I

5.1 Methodology Adopted

The various ratios/measures employed to examine the trends in WCM of 79 Indian Non Financial Service Sector companies are categorized as Working Capital Policy Ratios, Current Asset Structure Ratios, Current Liabilities Structure Ratios, Liquidity Ratios, Current Asset Management Efficiency (CAME) Ratios and Operating Cycle Variables.

The LEV and Profitability Ratios are also examined in order to utilize these ratios in the latter part of the analysis. The list of selected ratios as per their respective categorization is given in Table 5.1.

TABLE – 5.1

Ratios for Working Capital Management Analysis

Sr. No.	Name of Category and Ratio	Abbreviated Form
	Leverage Ratios	
1	Long Term Debt to Total Assets Ratio	LTDTAR
2	Total Debt to Total Assets Ratio	TDTAR
	Working Capital Policy Ratios	
3	Current Assets to Total Asset Ratio	CATAR
4	Current Liabilities to Total Asset Ratio	CLTAR
5	Current Liabilities to Current Asset Ratio	CLCAR
6	Net Working Capital to Current Asset Ratio	NWCCAR
7	Current Assets to Net Fixed Assets Ratio	CANFAR
8	Working Capital Leverage	WCL
	Current Asset Investment Ratios	
9	Inventory to Current Asset Ratio	ITCAR
10	Receivables to Current Asset Ratio	RTCAR
11	Cash and Bank Balances to Current Asset Ratio	CBBTCAR
12	Prepaid Expenses to Current Asset Ratio	PETCAR
13	Loans and Advances to Current Asset Ratio	LATCAR
14	Marketable Securities to Current Asset Ratio	MSTCAR
	Current Liabilities Structure Ratios	
15	Trade Credit to Current Liabilities Ratio	TCCLR
16	Deposits & Advances from Customers and Employees to Current Liabilities Ratio	DACECLR
17	Provisions to Current Liabilities Ratio	PCLR
18	Short Term Bank Borrowings to Current Liabilities Ratio	STBBCLR
19	Current Financing Charge to Current Liabilities Ratio	CFCCLR
20	Other Current Liabilities to Current Liabilities Ratio	OCLCLR
	Liquidity Ratios	
21	Current Ratio	CR
22	Quick Ratio	QR
23	Absolute Liquidity Ratio (Cash Ratio)	ALR
	Current Asset Management Efficiency Ratios & Operating Cycle Variables	
24	Total Asset Turnover Ratio	TATR
25	Current Asset Turnover Ratio	CATR
26	Working Capital Turnover Ratio	WCTR
27	Inventory Turnover Ratio	ITR
28	Inventory Holding Period	IHP
29	Receivables Turnover Ratio	RTR
30	Average Collection Period	ACP
31	Cash and Bank Turnover Ratio	CBTR

TABLE – 5.1 (Continued...)		
Ratios for Working Capital Management Analysis		
Sr. No.	Name of Category and Ratio	Abbreviated Form
Current Asset Management Efficiency Ratios & Operating Cycle Variables		
32	Creditors Turnover Ratio	CTR
33	Average Payment Period	APP
34	Operating Cycle	OC
35	Net Trade Cycle	NTC
Profitability Ratios		
36	Operating Profit Margin	OPM
37	Net Profit Margin	NPM
38	Return on Total Assets	ROTA
39	Earnings after Tax to Total Assets	EAT/TA
40	Return on Net Worth	RONW

- Ratios are calculated by taking average values for amounts given in Balance Sheet for respective Balance Sheet variables whereas absolute amount as given in Profit and Loss Account (P & L A/c) for P & L A/c items.
- However, in case of WCL the denominator includes Change in Average Current Assets. Therefore, when change is taken for Average CA, observation for one more year is not available for the study for WCL. Thus, observations are available for 14 years. Hence, for 38 ratios analysis is done for 15 years whereas for 2 ratios *i.e.*, WCL and CANFAR analysis is done for 14 years. Therefore, the analysis of WCL in separate section, *i.e.*, Section – IV.
- After computation of ratios, **as a first step** of analysis, aggregate mean for WCM, LEV and PROF ratios of all the 79 companies for the period (1994-95 to 2009-10) are calculated. To examine the extent of variation, Standard Deviation (SD) and Coefficient of Variation (COV) are also calculated.
- **In the second step**, Year wise average ratios of LEV, each WCM group and PRPF for the sample of 79 companies for the period from 1994-95 to 2009-10 are calculated to observe and analyze the overall trends in WCM, LEV and Profitability over the study period.
- **In the third step,** time trend is carried out to examine the movements in WCM, LEV and PROF over a period of time. In order to examine whether the WCM, LEV and PROF ratios of selected 79 Indian Non Financial Service Industry companies exhibit significant linear trend, the Linear Trend model is applied. Selected ratios are regressed on time to examine the rate of change in ratio per year. Quadratic Trend model is also fitted to examine the best fit model, *i.e.*, whether a ratio follows a Linear Trend or Quadratic Trend. Results of both the models, *i.e.*, Linear Trend

and Quadratic Trend model are jointly interpreted. The Durbin-Watson 'D Statistic' is also computed to check for presence of autocorrelation, if any.

- **In the fourth step,** overall and time trends in WCM, LEV and PROF independently for each of the Non Financial Service Industry group is examined. The sample of 79 companies comprises of *six* industry groups (Table – 4.5). The number of sample companies in each industry group varies from maximum *twenty five* companies in Hotels & Restaurants Industry to a minimum of *two* companies in Communication Services Industry. The same procedure as mentioned above in the *first, second* and *third step* was followed to examine the industry wise trends in WCM, LEV and Profitability.
- **In the fifth step,** the overall and time trends in WCL for all the 79 sample companies as well as independently for each of the Non Financial Service Industry group is examined following the same methodology as presented in *first, second and third step* above.

SECTION II

5.2 Trend Analysis: WCM, LEV and PROF of Non Financial Service Industry (79 companies)

This section examines the overall trends in WCM, LEV and PROF Ratios of the Indian Non Financial Service Industry taken in entirety, *i.e.,* for 79 sample companies. The results of Time Trends (Linear and Quadratic Trend) in the 38 ratios of WCM, LEV and PROF for all the 79 companies over the study period are also presented in this section. The overall trend is presented and interpreted first which is followed by the presentation and elucidation of the time trends analysis.

5.2.1 Trends in WCM, LEV and PROF: Non Financial Service Industry

The overall trends in WCM, LEV and PROF ratios is observed by taking industry average on yearly basis to understand the yearly movements in ratios as well as the nature of WCM, LEV and PROF position in the Service industry. As already discussed, to analyze different aspects of WCM, various ratios related to WCM have been categorized into 6 groups apart from the LEV and PROF ratios and so the results of the analysis are presented and interpreted as per the group to which each ratio belongs.

A. Leverage and Working Capital Policy Ratios

As already discussed in Chapter 4, to examine the LEV and working capital policy of the Service industry 6 measures are studied. The computation for each ratio of LEV and Working Capital Policy (WCP) over the study period is presented in Table 5.2. Chart

5.1 presents the current asset financing mix, *i.e.,* share of current liabilities (CL) and net working capital (NWC) in financing the total current assets.

TABLE – 5.2

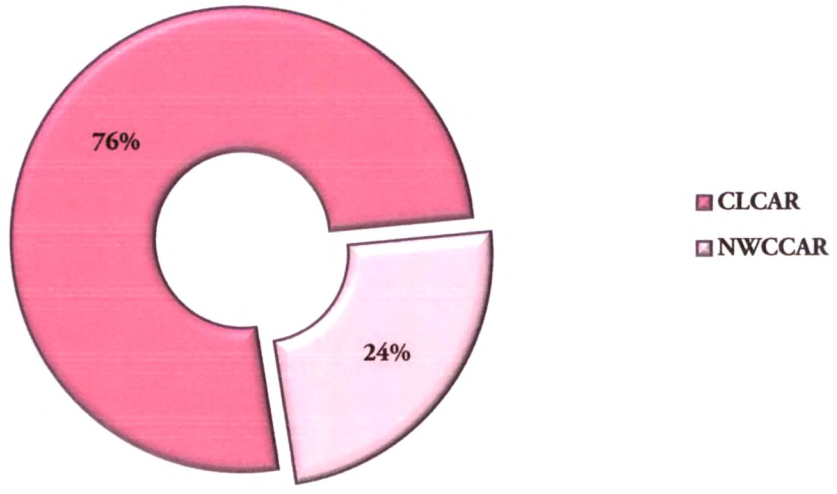
Working Capital Policy and Leverage Ratios: Non Financial Service Industry

Year	Leverage Ratios		Working Capital Policy Ratios			
	LTDTAR	TDTAR	CLTAR	CATAR	CLCAR	NWCCAR
Mar-96	0.20	0.46	0.26	0.46	0.70	0.30
Mar-97	0.20	0.46	0.26	0.45	0.76	0.24
Mar-98	0.20	0.46	0.26	0.44	0.77	0.23
Mar-99	0.20	0.46	0.26	0.44	0.78	0.22
Mar-00	0.18	0.43	0.25	0.43	0.79	0.21
Mar-01	0.18	0.42	0.24	0.43	0.81	0.19
Mar-02	0.17	0.41	0.24	0.43	0.78	0.22
Mar-03	0.18	0.42	0.24	0.42	0.80	0.20
Mar-04	0.17	0.43	0.26	0.43	0.79	0.21
Mar-05	0.16	0.44	0.28	0.44	0.77	0.23
Mar-06	0.16	0.44	0.28	0.45	0.72	0.28
Mar-07	0.16	0.44	0.28	0.45	0.74	0.26
Mar-08	0.17	0.45	0.28	0.45	0.77	0.23
Mar-09	0.16	0.44	0.28	0.45	0.74	0.26
Mar-10	0.17	0.45	0.28	0.45	0.75	0.25
Mean	**0.18**	**0.44**	**0.26**	**0.44**	**0.76**	**0.24**
SD	**0.02**	**0.02**	**0.02**	**0.01**	**0.03**	**0.03**
CV(%)	**8.91**	**3.69**	**6.03**	**2.55**	**3.95**	**12.84**

- From the perusal of Table 5.2, it can be observed that LTDTAR of the service industry ranged between 16% and 20% with 18% of the total assets of the Service Industry financed by long term debts on an average, which seems to be a reasonable policy of debt financing being pursued in the Service Industry. CLTAR ranged between 24% and 28% and on an average, 26% of the total assets of the service industry were financed by the current liabilities. It is interesting to note that in all the years CLTAR is greater than LTDTAR and indicates that firms in Service Industry had utilized more of short term debt as compared to long term debt to finance its total assets. It can also be observed that on an average, 44% of the total assets of the Service Industry are financed by total debt, which seems to be a conservative debt financing policy in the service industry. Also, it is observed that of the total debt, current liabilities form the major portion. Due to decline in LTDTAR and increase in CLTAR, TDTAR has remained in the range of 41% to 46% with lower fluctuations which is also evident from CV of 3.69%.
- From Table 5.2, it can also be observed that the ratio of current assets to total assets ranged between 42% and 46%. On an average, 44% of the service industry's funds are invested in current assets (CA) indicating that the industry is following a

conservative current asset investment policy which is characterized with higher proportion of current assets and results to liquid asset structure with lower risk. Such high proportion of CA is generally found in manufacturing industries. However, this ratio is lower as compared to the results observed by Ansari[1] for 11 manufacturing industry groups where this ratio was observed to be 50%. But it is very high when compared with the study of Kantawala and Joshi[2] in Steel Industry where CATAR was observed to be 38%. From the above discussion it is concluded that even the Non Financial Service Industry is characterized with high CATAR.

Chart 5.1: Current Asset Financing Mix of Non Financial Service Industry



- From the perusal of Chart 5.1, it is observed that current liabilities finance 76% of current assets whereas net working capital contributes 24%. A higher use of CL is indicative of an aggressive working capital financing policy being pursued by the Non Financial Service Industry of India. From perusal of Table 5.2, it can be observed that CLCAR ranged between 0.72 and 0.81 whereas NWCCAR ranged between 0.19 and 0.28 and overall it can be observed that the industry is operating with lower level of NWC. Thus the firms in industry are utilizing more of short term funds in the form of current liabilities to finance the current assets as compared to NWC which is in line with the analysis of LTDTAR and CLTAR in preceding paras. Similar phenomenon was observed in the study of Ansari[1]. Thus, it can be concluded that the Service Industry is following an aggressive approach of financing its current assets which was also observed in the study of Pradhan[3] for 6 manufacturing industries. The reason can be assigned to the good reputation, established business and creditworthiness due to which the Service Industry has access to and is able to utilize more short term funds to finance its current assets. Lower values of SD and CV indicate that over a period of time the leverage

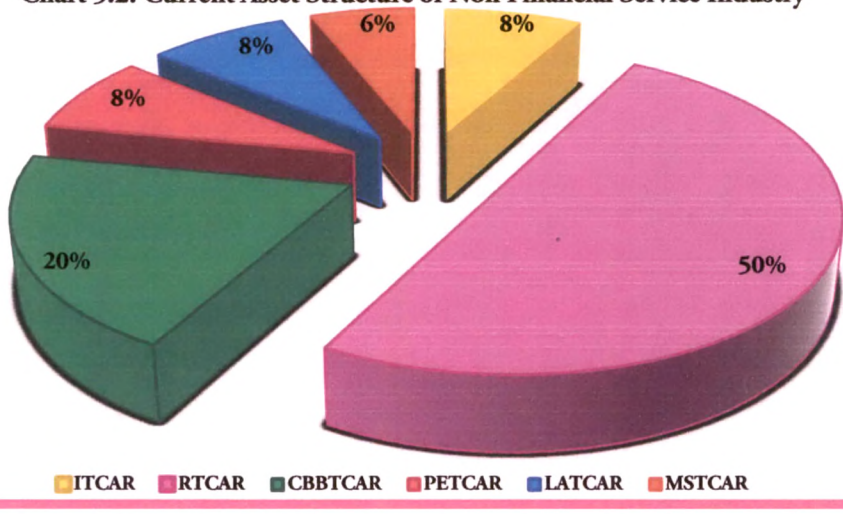
position as well as the working capital policy of the Service Industry has not undergone high fluctuations.

B. Analysis of Current Asset Structure

As mentioned in Chapter 4, to examine the structure of CA, the composition of CA with reference to various components of CA is studied. The computation for each ratio over the study period is presented in Table 5.3 whereas Chart 5.2 presents the share of each CA in pie of total current asset.

- As observed from Chart 5.2, Receivables formed the highest share in the current assets of Non Financial Service Industry with 50% on an average followed by Cash and Bank Balance at 20%; Inventories, Loans and Advances and Prepaid Expenses at 8% each and Marketable Securities at 6%.

Chart 5.2: Current Asset Structure of Non Financial Service Industry



- The lower ratio of inventory to CA necessarily distinguishes the Non Financial Service Industry from the Manufacturing Industries where inventory is generally noted to be very high proportion of current assets. For *e.g.* Kantawala and Joshi[2] observed it to be 39% in Steel Industry; Alam and Hossain[4] in their study in Ship building industry observed ITCAR to be 62%; Janakiramudu[5] observed it to be 39.47% in Indian Commercial Vehicle industry; Kannadhasan[6] observed ITCAR to be 31.75% in Public Limited companies; Khatik and Singh[7] found it to be 26.42% in fertilizer industry; Mallick and Sur[8] observed it to be 56% in HLL; Padachi *et al*[9] observed it to be 48% in Mauritian Small Manufacturing firms; Reddy and Rao[10] observed it to be 37% in PSUs; whereas Sarma and Chary[11] observed to be 57% in Tobacco manufacturing company. Also, reduction in the level of inventory is observed indicating improvement in inventory management of the Non Financial Service Industry over the study period.

◈ From the perusal of Table 5.3 it is observed that receivables ranged between 44% and 58% of current assets with on an average 50% of investment in CA being in the form of receivables. Thus the mean RTCAR of the Non Financial Service Industry is very high when compared with manufacturing industries. For *e.g.*, Janakiramudu[5] observed it to be 33.9%; Kannadhasan[6] observed RTCAR to be 31%; Khatik and Singh[7] found it to be 23.27%; Mallick and Sur[8] observed it to be 23.9%; Padachi *et al*[9] observed it to be 34%; Reddy and Rao[10] observed it to be 37% whereas Sarma and Chary[11] observed to be 16.54%. Loans and advances ranged between 5% and 10% with the firms in Non Financial Service Industry having 8% of average Loans and Advances in their CA Structure. A declining trend is observed in receivables over the study period indicating reduction in the level of investments in receivables resulting to an improvement in receivables management of firms in Non Financial Service Industry.

TABLE – 5.3

Current Asset Structure Ratios: Non Financial Service Industry

Year	ITCAR	RTCAR	CBBTCAR	PETCAR	LATCAR	MSTCAR
Mar-96	0.10	0.56	0.22	0.04	0.06	0.02
Mar-97	0.11	0.58	0.19	0.05	0.05	0.02
Mar-98	0.10	0.57	0.18	0.07	0.06	0.02
Mar-99	0.10	0.57	0.18	0.07	0.06	0.02
Mar-00	0.08	0.53	0.20	0.07	0.09	0.03
Mar-01	0.08	0.50	0.20	0.08	0.10	0.04
Mar-02	0.08	0.49	0.20	0.08	0.10	0.05
Mar-03	0.08	0.49	0.19	0.09	0.09	0.06
Mar-04	0.08	0.48	0.20	0.08	0.09	0.07
Mar-05	0.08	0.46	0.22	0.08	0.09	0.07
Mar-06	0.06	0.45	0.23	0.09	0.09	0.08
Mar-07	0.06	0.45	0.23	0.10	0.07	0.09
Mar-08	0.06	0.44	0.21	0.11	0.07	0.11
Mar-09	0.06	0.44	0.20	0.12	0.07	0.11
Mar-10	0.06	0.44	0.20	0.13	0.06	0.11
Mean	**0.08**	**0.50**	**0.20**	**0.08**	**0.08**	**0.06**
SD	**0.02**	**0.05**	**0.02**	**0.02**	**0.02**	**0.03**
CV(%)	**21.55**	**10.56**	**7.81**	**28.74**	**21.86**	**57.74**

◈ The share of cash and bank balance has ranged between 18% and 23% wherein fluctuations can be observed. The share of marketable securities has ranged between 2% and 11% which has shown an increasing trend throughout the study period. CV is also observed to be highest for MSTCAR due to the consistent rising trend in MSTCAR. The increasing share of marketable securities in current asset structure indicates that firms in Non Financial Service Industry are investing their idle lying excess cash and signifies efforts made toward efficient cash management

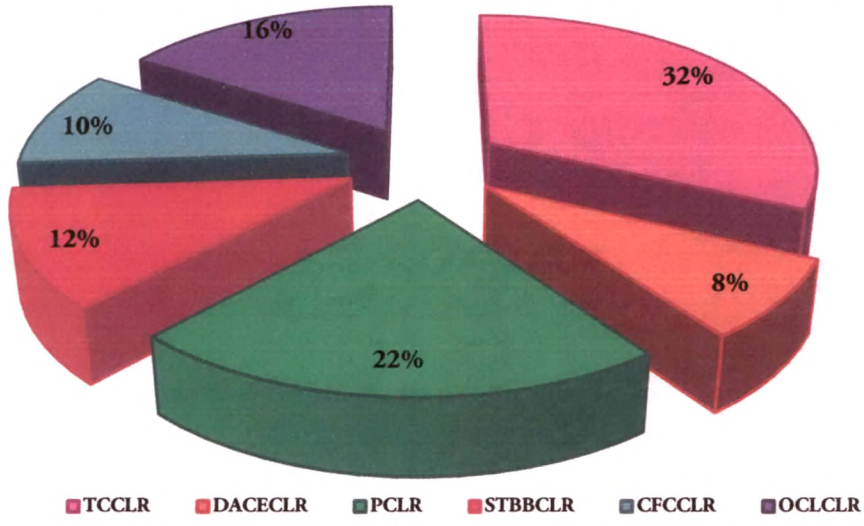
which can further be substantiated from the analysis of efficiency ratios. The mean share of cash assets *i.e.*,[Cash and Bank Balance (CBB)+ Marketable Securities (MS)] of 26% indicates a good liquidity position of the Service Industry which can further be substantiated by the analysis of liquidity ratios.

- From the perusal of Table 5.3 it is observed that the share of prepaid expenses has increased which means increased blocking of funds in the form of Prepaid Expenses by the firms in the Service Industry over the period under study. The changes in current asset ratios have been progressive and with lower volatility throughout the study period as evidenced by the values of SD.

C. Analysis of Current Liabilities Structure Ratios

In order to examine the structure of current liabilities, the composition of CL with reference to various components of CL is studied. The computation for each ratio over the study period is presented in Table 5.4. Chart 5.3 presents the share of each CL in pie of total current liability.

Chart 5.3: Current Liabilities Structure of Non Financial Service Industry



- From the perusal of Chart 5.3, it can be observed that Trade Credit with 32% of the total CL is the major source of financing the current assets of the Service Industry, followed by Provisions at 22%, Other Current Liabilities (OCL) at 16%, Short Term Bank Borrowings (STBB) at 12%, Current Financing Charge (CFC) at 10%, Deposits and Advances from Customers and Employees (DACE) at 8%. Also, among the current liabilities, the Spontaneous source of short term finance (Trade Credit, CFC, Provisions and OCL) is dominating the current liabilities structure at 80% and balance 20% comprises of the negotiated sources of short term finance (STBB and DACE). TCCLR was also observed to be major source of financing

current assets in the study of Padachi *et al*[9]. However in the study of Akon and Hossain[12] and Khandelwal[13] it was observed to be Bank Borrowings.

TABLE – 5.4

Current Liabilities Structure Ratios: Non Financial Service Industry

Year	TCCLR	DACECLR	PCLR	STBBCLR	CFCCLR	OCLCLR
Mar-96	0.35	0.03	0.21	0.12	0.10	0.19
Mar-97	0.34	0.04	0.22	0.12	0.10	0.18
Mar-98	0.34	0.05	0.21	0.12	0.10	0.18
Mar-99	0.34	0.05	0.19	0.13	0.11	0.18
Mar-00	0.32	0.06	0.20	0.13	0.12	0.17
Mar-01	0.31	0.10	0.20	0.12	0.11	0.16
Mar-02	0.34	0.10	0.20	0.12	0.11	0.13
Mar-03	0.35	0.10	0.20	0.12	0.11	0.12
Mar-04	0.33	0.10	0.22	0.12	0.10	0.13
Mar-05	0.32	0.10	0.23	0.12	0.10	0.13
Mar-06	0.32	0.09	0.24	0.11	0.10	0.14
Mar-07	0.31	0.10	0.24	0.12	0.08	0.15
Mar-08	0.29	0.10	0.25	0.13	0.08	0.15
Mar-09	0.29	0.09	0.26	0.13	0.07	0.16
Mar-10	0.29	0.08	0.26	0.13	0.08	0.16
Mean	**0.32**	**0.08**	**0.22**	**0.12**	**0.10**	**0.16**
SD	**0.02**	**0.03**	**0.02**	**0.01**	**0.01**	**0.02**
CV(%)	**6.57**	**32.48**	**10.52**	**4.84**	**14.53**	**14.16**

◈ From the perusal of Table 5.4 it is observed that TCCLR has ranged between 0.29 and 0.35. DACECLR has ranged between 0.03 and 0.10. PCLR has ranged between 0.19 and 0.26. STBBCLR has ranged between 0.11 and 0.13. CFCCLR has ranged between 0.07 and 0.12. OCLCLR has ranged between 0.12 and 0.19. It is also observed that DACECLR has increased over the study period whereas TCCLR, and OCLCLR has reduced over the study period whereas, STBBCLR has remained stable with 4.84% variation which is lowest amongst the CL Structure Ratios.

D. Liquidity Analysis

The outcome of computations for the liquidity ratios over the study period is presented in Table 5.5.

◈ From the perusal of Table 5.5, it is observed that the industry CR ranged between 1.68 and 2.03 whereas the QR ranged between 1.89 and 2.35. The yearly mean CR is above the thumb rule in all the years except, 2008 & 2009 whereas the yearly mean QR is above the thumb rule in all the years. Since the investment in inventories is only 8% of the current assets, it can be observed that the difference in the mean current ratio and quick ratio is also very less. The industry ALR ranged between 0.49 and 0.91 with yearly ALR being above the thumb rule in all years

except 1997 & 1998. On an average the Non Financial Service Industry maintains ₹ 2.28 of current assets, ₹ 2.10 of quick assets and ₹ 0.70 as cash assets against ₹ 1 of current liabilities indicates a comfortable liquidity position in the industry.

TABLE – 5.5

Liquidity Ratios: Non Financial Service Industry

Year	CR	QR	ALR
Mar-96	2.45	2.29	0.72
Mar-97	2.22	2.05	0.49
Mar-98	2.28	2.12	0.49
Mar-99	2.33	2.18	0.52
Mar-00	2.49	2.35	0.67
Mar-01	2.34	2.21	0.67
Mar-02	2.31	2.18	0.70
Mar-03	2.31	2.18	0.75
Mar-04	2.19	2.06	0.69
Mar-05	2.11	1.98	0.73
Mar-06	2.17	2.07	0.80
Mar-07	2.22	2.12	0.83
Mar-08	1.98	1.89	0.75
Mar-09	1.99	1.89	0.80
Mar-10	2.06	1.96	0.91
Mean	**2.23**	**2.10**	**0.70**
SD	**0.15**	**0.14**	**0.12**
CV(%)	**6.79**	**6.46**	**17.45**

- CR indicates that the industry is having a very good liquidity position which is also substantiated by the fact that that the industry is maintaining high level of current assets in proportion to total assets. However, as quick ratio is considered to be a more rigorous test of liquidity when compared with current ratio, it can be concluded that the Non Financial Service Industry enjoyed sound liquidity position for the selected time frame. ALR indicates liquidity position in absolute sense and the mean ALR of 0.70 indicates that the Non Financial Service industry is technically solvent, cash rich with very good short term liquidity. Further, a rising trend in ALR whereas a falling trend in CR and QR is observed. This phenomenon indicates that over the study period there is increase in cash assets whereas decline in receivables, inventories and other current assets.

E. Current Asset Management Efficiency Analysis

The computation for each CAME Ratio and Operating Cycle Variables over the study period is presented in Table 5.6.

- From the perusal of Table 5.6 it is observed that, TATR has ranged between 0.74 and 0.88 and on average total assets of the Service Industry have been turned over

0.82 times which is considerably a good situation. It is also observed that current assets have been turned over 2.25 times on an average which indicates effective utilization of current assets..

- WCTR for Service industry is observed to be errant and has ranged between -6.61 and 20.07. The results indicate that firms in Non Financial Service Industry utilize lower level of NWC and at times resort to negative NWC for operating sales. However, looking at the mean of NWCCAR in Table 5.2, negative values are not found in any year and hence the data was examined. On examination, a very low level of negative NWC *i.e.,* in decimal points was observed for 34 of the 79. For a given level of sales as numerator and such low negative NWC as denominator, the resultant value of WCTR is bound to be very high and negative. Also, for the years 2000 and 2002 majority companies had negative NWC which has resulted to negative WCTR for these 2 years.
- ITR ranged between 18.90 and 74.90 which is again a very wide range and on an average the inventory is converted into sales 47.07 times which indicates a very very high turnover of inventory in the industry. Such high ITR is also indicative of overtrading situation which arises when a higher level of sales is supported with lower level of inventory and this has been found true of the Service Industry which is operating at 8% inventory. However, the reason for such a low level of inventory is attributable to the nature of the industry and hence carrying lower level of inventory is justified in case of Service Industry which means that this overtrading situation is actually not a risky preposition for the industry. IHP has ranged between 5 and 21 days.
- From the perusal of Table 5.6 it can be observed that, RTR ranged between 4.26 and 7.32 with an increasing trend overall. ACP ranged between 103 and 152 days except 291 days in 1999 on account of Informed Technologies Ltd. When this company is eliminated from analysis for 1999, the mean ACP comes to 122 days instead of 132 days. Overall it is observed that the RTR has increased indicating an improvement in receivables management of the Service Industry over the study period as also observed from findings of Table 5.3. There seems to be conscious efforts of restricting the liberal credit policy. However, ACP of 122 days is very high for an industry like involved in provision of services and is a sign of deep concern with an ample scope for further improvement in managing its receivables.

TABLE 5.6												
Year	Efficiency Ratios and Operating Cycle Variables: Non Financial Service Industry											
	TATR	CATR	WCTR	ITR	IHP (In Days)	RTR	ACP (In Days)	CBTR	CTR	APP (In Days)	OC (In Days)	NTC (In Days)
Mar-96	0.88	2.10	0.30	18.02	21	4.51	152	19.77	16.05	55	173	118
Mar-97	0.86	2.17	1.15	18.73	20	4.50	138	22.00	17.17	48	158	110
Mar-98	0.85	2.17	1.12	21.61	17	4.39	133	21.63	15.75	47	150	103
Mar-99	0.82	2.18	3.75	26.25	14	4.26	291 (134)	22.53	15.39	170 (46)	305 (148)	135 (102)
Mar-00	0.80	2.18	-0.83	28.95	13	4.64	132	22.97	19.72	43	145	102
Mar-01	0.84	2.44	20.07	33.91	11	6.19	126	22.50	22.56	42	137	95
Mar-02	0.75	2.21	-6.61	37.77	10	5.59	132	19.54	527.36 (20.60)	51	142	91
Mar-03	0.74	2.30	2.96	46.31	8	5.78	116	21.93	21.19	49	124	75
Mar-04	0.77	2.42	6.14	60.40	6	6.19	108	22.83	22.35	47	114	67
Mar-05	0.82	2.41	7.20	65.83	6	6.86	103	19.56	20.20	43	109	66
Mar-06	0.86	2.36	3.55	68.62	5	6.88	109	21.45	22.77	43	114	71
Mar-07	0.88	2.37	12.16	74.90	5	6.92	103	15.70	20.23	38	108	70
Mar-08	0.83	2.30	6.24	71.02	5	7.32	106	16.40	20.73	40	111	71
Mar-09	0.81	2.15	5.72	71.93	5	6.87	113	21.89	26.59	42	118	76
Mar-10	0.73	1.95	3.55	61.79	6	5.54	125	22.19	23.77	51	131	80
Mean	**0.82**	**2.25**	**4.43**	**47.07**	**10**	**5.76**	**132 (122)**	**20.86**	**54.12 (20.34)**	**54 (46)**	**143 (132)**	**89 (87)**
SD	**0.05**	**0.14**	**6.05**	**21.54**	**5.66**	**1.08**	**46.20 (14.90)**	**2.25**	**130.96 (3.18)**	**32.44 (4.66)**	**49.04 (20.15)**	**21.16 (17.38)**
CV(%)	**6.04**	**6.17**	**136.52**	**45.76**	**55.81**	**18.81**	**34.88 (12.21)**	**10.81**	**241.96 (15.61)**	**60.16 (10.19)**	**34.39 (15.25)**	**23.87 (20.10)**

Figures in bracket represent values after eliminating companies with abnormal observation. For ACP and APP, Informed Technologies Ltd is eliminated whereas for CTR Infosys Technologies Ltd is eliminated.

- It is also observed that CTR ranged from 15.39 to 26.59 except in 2002 when it was observed to be 527.36 on account of Infosys Technologies Ltd. When this company is eliminated from analysis for 2002, the CTR obtained is 20.60 and the industry average turns out to be 20.34 which is much lower. APP ranged between 38 and 55 days except in 1999 which is observed to be 170 days on account of Informed Technologies Ltd. When this company is eliminated from analysis for 1999, the APP becomes 46 days and the industry average turns out to be 46 days instead of 54 days. Overall it can be observed that creditors are turned over 20.34 times on an average with 46 days as the time taken by the industry to repay its creditors. The high CTR indicates that the Service Industry is prompt in paying its dues. This promptness has resulted to good reputation of the Service Industry as well as easy access to short term funds which can be the possible cause for highly relying on current liabilities to finance the current assets in the industry.
- In addition, it is also observed that throughout the study period the CTR has been greater than RTR meaning thereby that the industry is repaying its liabilities regularly and more frequently than the industry's debtors. Ideally, it is believed that there should be a positive difference between RTR and CTR. However, for the Non Financial Service Industry the difference is negative indicating that the companies in the industry are extending credit greater than what they are receiving from their trade creditors which needs attention and improvement on the part of management of Service Industry for efficient credit management.
- CBTR has remained in the range of 19 to 22 times except in 2007 and 2008 indicating that the CBTR has remained more or less stable. Mean CBTR is 20.86 times which indicates high turnover of cash in the industry which is a sign of better utilization of cash assets in the industry which further leads to a good liquidity position. Thus, cash management of Non Financial Service Industry is efficient as also observed form the analysis of CBBTCAR and MSTCAR in Para B.
- Operating cycle of Service Industry has ranged between 108 and 173 days except in 1999 when it was observed to be 305 days which was due to abnormally high ACP of Informed Technologies Limited. NTC has ranged between 66 days to 118 days except in 1999 when it was observed to be 135 days which was due to abnormally high ACP and APP of Informed Technologies Limited. The effect of its elimination is very much evident from the values given in bracket which becomes normal. In addition, it is observed that the working capital investments of Service Industry in the form of total current assets remains blocked for 143 days on an average whereas

it gets realized in cash in 89 days. Overall it can be observed that both OC and NTC have declined over the study period which is indicative of improvement in management of inventory as well as receivables. Further OC and NTC of Non Financial Service Industry is very high considering the fact that it is mainly involved in provision of services and hence, operates with lower level of inventories. Thus, the cause of high OC and NTC is mainly can be attributed to the liberal credit policy of the industry as already discussed in the preceding paras. And, with further improvement in receivables management, the length of OC and NTC can be reduced.

F. Profitability Analysis

The computations for each of the profitability ratio of the Non Financial Service Industry over the study period are presented in Table 5.7.

TABLE – 5.7

Profitability Ratios: Non Financial Service Industry

Year	OPM	NPM	ROTA	EAT/TA	RONW
Mar-96	24.74	15.16	16.41	11.49	19.91
Mar-97	19.96	9.40	13.93	9.09	16.09
Mar-98	18.42	9.32	11.91	7.93	13.76
Mar-99	18.06	8.84	11.25	7.17	12.51
Mar-00	17.60	9.40	12.02	7.95	15.83
Mar-01	14.60	6.26	10.49	7.84	19.52
Mar-02	10.18	1.82	7.39	3.50	4.50
Mar-03	13.64	5.22	7.87	3.77	0.59
Mar-04	14.25	6.94	8.98	5.01	17.58
Mar-05	18.08	10.52	11.25	7.17	13.09
Mar-06	23.39	16.33	14.97	10.57	30.60
Mar-07	23.58	15.56	15.69	11.00	20.40
Mar-08	23.25	14.16	15.10	9.81	15.13
Mar-09	19.09	10.22	11.79	7.35	12.28
Mar-10	21.02	11.41	10.25	6.36	15.37
Mean	18.66	10.04	11.95	7.73	15.14
SD	4.20	4.08	2.79	2.43	6.88
CV(%)	22.51	40.63	23.36	31.44	45.41

- From the perusal of Table 5.7, it is observed that the operational efficiency in terms of OPM is good. However, a RONW has been very fluctuating thereby indicating that firms in Non Financial Service Industry have not given stable returns to its shareholders over the study period.
- Further, the years 2001 – 2004 have not been good for the financial health of the industry. The returns on total assets have also substantially gone down in these years. Moreover, post tax return on total assets is lesser than the risk free rate of return – 8.10%[14] in 10 of 15 years which is a dismal situation.

5.2.2 Time Trends in WCM, LEV and PROF: Non Financial Service Industry

Time trends in WCM, LEV and PROF ratios of Indian Non Financial Service Industry have been examined by fitting the Linear Trend Model and Quadratic Trend Model. The results of linear trend on time variable are presented in Table 5.8 whereas the results of quadratic trend are presented in Table 5.9 for all the ratios. The results of both the models are interpreted jointly and the interpretations are presented as per the group to which each ratio belongs.

A. Leverage and Working Capital Policy Ratios

- On examining the outcome of regression analysis from Tables 5.8 and 5.9, it is observed that for both the leverage ratios *viz*, LTDTAR and TDTAR, there is a quadratic trend. The values of β_1 and β_2 indicate that the ratios are falling at an increasing rate over a period of time and the trend is likely to reverse after 14^{th} year and 6^{th} year respectively. From this it can be concluded that there is decline in utilization of long term as well as total debt for asset financing in the Non Financial Service Industry and is in line with the analysis made based on Table 5.2.
- For the ratio CLTAR, a significant positive linear trend is observed which indicates that the ratio increases over the period of study and it is concluded that Service Industry utilizes higher short term funds to finance its total assets and are moving towards aggressive approach to assets financing which confirms the results observed for CLTAR from Table 5.2.
- The remaining three working capital policy ratios are found to have quadratic trend for the period under study. CATAR is declining at an increasing rate over a period of time and the trend is likely to reverse in 4^{th} year. These results signify that the Non Financial Service Industry is doing away with the excess liquidity by reducing investments in current assets leading to decline in CATAR and gradually adopting an aggressive working capital investment policy.
- The ratios CLCAR and NWCCAR are just two parts of current assets and therefore necessarily the behaviour of the same is bound to be opposite to each other. CLCAR is rising at decreasing rate over the period under study and reverse is the case for NWCCAR. Further, the trend is likely to reverse in 9^{th} year for the period under study for both the ratios. These results indicate that over the period under study the Non Financial Service Industry is reducing its NWC for financing the current assets and relying more on CL. It is obvious also as "Long term interest rates normally exceeds short-term rates because of reduced flexibility of long term

borrowing relative to short-term borrowing. In fact, the effective cost of long term debt may be higher than the cost of short-term debt, even when short-term interest rates are equal to or greater than long term rates"[15]. Further, "the justification of higher cost of long-term financing can be found in the **liquidity preference theory** which says that since lenders are risk averse and risk generally increases with the length of lending time (because it is more difficult to forecast the more distant future), most lenders would prefer to make short-term loans. The only way to induce these lenders to lend for longer periods is to offer them higher rates of interest[16]". Hence, it is concluded that the industry is pursuing aggressive current asset financing policy.

- The 'D Statistic' for CLTAR lies in inconclusive region for the linear trend model. However, quadratic trend for this ratio was not found to be significant. Similarly, the 'D Statistic' for TDTAR and CATAR lies in inconclusive region for the quadratic trend model. Further analysis was not carried out as it results to loss in degrees of freedom. But since, the 't statistic' is significant for all the ratios, the linear and quadratic trend observed in these ratios are considered to be significant and same is considered uniformly for all the ratios used in further analysis across the industries where autocorrelation has persisted in case of linear trend or quadratic trend.

B. Analysis of Current Asset Structure

- On examining the outcome of regression analysis from Tables 5.8 and 5.9, a significant linear trend is observed for ITCAR, RTCAR as well as PETCAR. The trend in ITCAR as also RTCAR is declining which is thus, the major cause for decline in CATAR observed in *Para A*. 87% decline in ITCAR and 91.4% decline in RTCAR is explained by time factor indicating that there is decline in blockage of funds in inventory and receivables over the study period which means that inventory and receivables management of the Industry has improved and further signals increased efficiency in WCM. However, an increasing linear trend is observed for PETCAR with 89.5% increase explained by time factor thereby indicating that over the study period there is increased blocking of funds in the form of Prepaid Expenses in the Industry.
- However LATCAR and MSTCAR exhibited a significant quadratic trend. LATCAR is rising at decreasing rate and the trend is likely to reverse in the 9th year for the period under study. MSTCAR is observed to be rising at an increasing rate with 97% increase in ratio explained by time indicating that over the study period

there is rising trend of investing idle excess cash in the Service Industry and implies systematic and efficient cash management in the industry. Further, no significant trend is observed for CBBTCAR.

TABLE – 5.8

Linear Trend on Time Variable for WCM, LEV & Profitability Ratios: Non Financial Service Industry (79 Companies)

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Leverage and Working Capital Policy Ratios							
LTDTAR	**0.756**	0.737	0.202	-0.003	-6.349*	0.000	1.230
TDTAR	0.051	-0.022	0.447	-0.0008	-0.837	0.418	**0.483**
CLTAR	**0.401**	0.355	0.245	0.002	2.951**	0.011	**0.464**
CATAR	0.020	-0.055	0.438	0.0004	0.517	0.614	**0.408**
CLCAR	0.012	-0.064	0.771	-0.0008	-0.403	0.694	**0.871**
NWCCAR	0.012	-0.064	0.229	0.001	0.403	0.694	**0.871**
Current Asset Structure Ratios							
ITCAR	**0.872**	0.863	0.108	-0.004	-9.432*	0.000	1.711
RTCAR	**0.914**	0.907	0.586	-0.011	-11.741*	0.000	**0.864**
CBBTCAR	0.162	0.097	0.192	0.001	1.584	0.137	**0.907**
PETCAR	**0.895**	0.887	0.043	0.005	10.527*	0.000	**0.871**
LATCAR	0.029	-0.045	0.072	0.001	0.628	0.541	**0.473**
MSTCAR	0.964	0.962	0.000	0.008	18.787*	0.000	**0.906**
Current Liabilities Structure Ratio							
TCCLR	**0.662**	0.636	0.354	-0.004	-5.045*	0.000	1.102
DACECLR	0.544	0.509	0.045	0.004	3.940*	0.002	**0.502**
PCLR	0.662	0.636	0.188	0.004	5.046*	0.000	**0.514**
STBBCLR	0.046	-0.027	0.120	0.0003	0.795	0.441	1.053
CFCCLR	0.499	0.461	0.116	-0.002	-3.599*	0.003	**0.690**
OCLCLR	0.297	0.242	0.177	-0.003	-2.341**	0.036	**0.344**
Liquidity Ratios							
CR	**0.638**	0.610	2.446	-0.027	-4.786*	0.000	1.597
QR	**0.512**	0.474	2.276	-0.022	-3.693*	0.003	1.566
ALR	**0.661**	0.635	0.523	0.022	5.032*	0.000	1.548
Current Asset Management Efficiency Ratios & Operating Cycle Measures							
TATR	0.116	0.048	0.846	-0.004	-1.306	0.214	**0.845**
CATR	0.011	-0.065	2.221	0.003	0.389	0.704	**0.825**
WCTR	0.084	0.013	1.301	0.391	1.089	0.296	2.997
ITR	**0.891**	0.882	10.706	4.545	10.298*	0.000	**0.614**
IHP	0.863	0.853	19.533	-1.175	-9.065*	0.000	**0.312**
RTR	**0.666**	0.640	4.180	0.198	5.088*	0.000	1.066
ACP	0.223	0.163	171.467	-4.875	-1.930	0.076	2.206
CBTR	0.099	0.029	22.126	-0.158	-1.193	0.254	1.571
CTR	0.002	-0.075	64.001	-1.235	-0.152	0.881	2.133
APP	0.096	0.026	71.905	-2.246	-1.174	0.261	2.370
OC	**0.304**	0.251	191.00	-6.050	-2.385**	0.033	2.166
NTC	**0.646**	0.619	119.095	-3.804	-4.872*	0.000	1.169

TABLE – 5.8 (Continued...)

Linear Trend on Time Variable for WCM, LEV & Profitability Ratios: Non Financial Service Industry (79 Companies)

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Profitability Ratios							
OPM	0.027	-0.048	17.418	0.155	0.603	0.557	0.549
NPM	0.063	-0.009	8.204	0.229	0.936	0.366	0.671
ROTA	0.003	-0.073	12.247	-0.037	-0.213	0.835	0.528
EAT/TA	0.008	-0.068	8.123	-0.049	-0.323	0.752	0.647
RONW	0.004	-0.072	14.335	0.101	0.237	0.816	1.597

* Indicating significant results at 1% level of significance.
** Indicating significant results at 5% level of significance.

Critical Values of "t"

Degrees of Freedom	Probability (Alpha)	Table Value – t
13	0.01	3.010
13	0.05	2.160

Durbin – Watson Statistic (D-W Statistic), K = 1

N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
13	0.01	0.738	1.038
13	0.05	1.010	1.340

Where, N = Sample size and K represents number of independent variables

C. Analysis of Current Liabilities Structure Ratios

- On examining the outcome of regression analysis from Tables 5.8 and 5.9, a significant negative linear trend is observed for TCCLR indicating that over the study period there is a decline of 66.2% in the share of trade credit to CL. However no significant trend is observed for STBBCLR thereby indicating that share of STBB in total CL has not undergone significant changes over the study period as also observed in findings of Table 5.4. For remaining CL Structure ratios a significant quadratic trend is found.
- From the results of quadratic trend, it is observed that DACECLR and CFCCLR are increasing at decreasing rate and the trend is likely to reverse in 11^{th} and 5^{th} year respectively whereas the ratios, OCLCLR and PCLR are falling at increasing rate and the trend is likely to reverse in 9^{th} and 5^{th} year respectively. Hence, it is concluded that over the study period there is preference for DACE and CFC as a source of financing current assets over Trade Credit, OCL and Provisions.

D. Liquidity Analysis

A significant rising trend observed for ALR indicates that over the period under study liquidity measured in term of cash assets to CL has increased. Alternatively, it also signifies increase in cash assets over the study period which is in line with the significant quadratic trend observed for MSTCAR.

TABLE – 5.9

Quadratic Trend on Time Variable for WCM, LEV and Profitability Ratios: Non Financial Service Industry (79 Companies)

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope β1	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic
Leverage and Working Capital Policy Ratios									
LTDTAR	**0.857**	**0.833**	0.215	-0.008	0.00 0293	-4.692* (0.001)	2.914* (0.013)	36.008* (0.000)	1.986
TDTAR	**0.589**	**0.521**	0.479	-0.012	0.001	-4.141* (0.001)	3.965* (0.002)	8.608* (0.005)	**1.012**
CLTAR	0.589	0.521	0.264	-0.004	0.0004	-1.482 (0.164)	2.346** (0.037)	8.615* (0.005)	**0.667**
CATAR	**0.662**	**0.605**	0.462	-0.008	0.001	-4.443* (0.001)	4.772* (0.000)	11.743* (0.001)	**0.883**
CLCAR	**0.442**	**0.349**	0.718	0.018	-0.001	2.834** (0.015)	-3.038* (0.010)	4.747** (0.030)	1.325
NWCCAR	**0.442**	**0.349**	0.282	-0.018	0.001	-2.834** (0.015)	3.038* (0.010)	4.747** (0.030)	1.325
Current Asset Structure Ratios									
ITCAR	0.880	0.861	0.112	-0.005	8.88 8E-5	-3.053* (0.000)	0.894 (0.389)	44.193* (0.000)	1.832
RTCAR	0.935	0.925	0.607	-0.018	0.0005	-4.989* (0.000)	2.004 (0.068)	86.932* (0.000)	1.191
CBBTCAR	0.162	0.022	0.191	0.002	-1.293 E-5	0.406 (0.692)	-0.053 (0.959)	1.159 (0.347)	**0.909**
PETCAR	0.900	0.883	0.047	0.004	9.454 E-5	1.697 (0.115)	0.735 (0.477)	53.713* (0.000)	**0.913**
LATCAR	**0.728**	**0.683**	0.035	0.014	-0.000 8	5.663* (0.000)	-5.551* (0.000)	16.054* (0.000)	1.491
MSTCAR	**0.974**	**0.970**	0.008	0.004	0.0001 96	2.886** (0.014)	2.088** (0.059)	224.272* (0.000)	1.181
Current Liabilities Structure Ratio									
TCCLR	0.718	0.671	0.340	0.001	-0.000 3	0.264 (0.796)	-1.545 (0.148)	15.277* (0.001)	1.339
DACECLR	**0.890**	**0.872**	0.005	0.018	-0.00 088	7.789* (0.000)	-6.158* (0.000)	48.764* (0.000)	1.521
PCLR	**0.881**	**0.862**	0.217	-0.006	0.0006 38	-2.673** (0.020)	4.713* (0.001)	44.607* (0.000)	1.325
STBBCLR	0.176	0.038	0.126	-0.002	0.0001 24	-1.144 (0.275)	1.373 (0.195)	1.280 (0.313)	1.210
CFCCLR	**0.817**	**0.787**	0.095	0.005	-0.000 47	3.106* (0.009)	-4.567* (0.001)	26.797* (0.000)	1.839
OCLCLR	**0.770**	**0.732**	0.217	-0.017	0.001	-5.749* (0.000)	4.968* (0.000)	20.076* (0.000)	**0.838**
Liquidity Ratios									
CR	0.691	0.639	2.354	0.005	-0.002	0.232 (0.820)	-1.432 (0.178)	13.405* (0.001)	1.938
QR	0.582	0.513	2.181	0.012	-0.002	0.486 (0.636)	-1.420 (0.181)	8.361* (0.005)	1.892
ALR	0.670	0.615	0.554	0.012	0.001	0.594 (0.564)	0.565 (0.583)	12.159* (0.001)	1.530

TABLE – 5.9 (Continued)

Quadratic Trend on Time Variable for WCM, LEV and Profitability Ratios: Non Financial Service Industry (79 Companies)

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope β1	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic
Current Asset Management Efficiency Ratios & Operating Cycle Measures									
TATR	0.173	0.035	0.877	-0.015	0.001	-1.188 (0.258)	0.911 (0.380)	1.256 (0.320)	0.935
CATR	0.614	0.550	1.937	0.104	-0.006	4.348* (0.001)	-4.328* (0.001)	9.545* (0.003)	1.653
WCTR	0.109	-0.039	-1.261	1.296	-0.057	0.820 (0.428)	-0.589 (0.567)	0.737 (0.499)	3.071
ITR	0.909	0.894	3.062	7.243	-0.169	4.026* (0.002)	-1.542 (0.149)	59.837* (0.000)	0.657
IHP	0.991	0.990	24.870	-3.059	0.118	-20.727* (0.000)	13.127* (0.000)	668.664* (0.000)	1.987
RTR	0.743	0.700	3.384	0.479	-0.018	3.150* (0.008)	-1.901 (0.082)	17.354* (0.000)	1.269
ACP	0.233	0.105	183.800	-9.228	0.272	-0.824 (0.426)	0.400 (0.696)	1.822 (0.204)	2.234
CBTR	0.102	-0.048	21.778	-0.035	-0.008	-0.060 (0.953)	-0.214 (0.834)	0.682 (0.524)	1.579
CTR	0.084	-0.068	-35.368	33.836	-2.192	0.976 (0.348)	-1.040 (0.319)	0.553 (0.589)	2.325
APP	0.096	-0.055	72.429	-2.431	0.012	-0.285 (0.781)	0.022 (0.983)	0.637 (0.546)	2.370
OC	0.323	0.2110	208.670	-12.287	0.390	-1.100 (0.293)	0.574 (0.576)	2.862 (0.096)	2.222
NTC	0.740	0.697	136.242	-9.855	0.378	-3.303* (0.006)	2.085 (0.059)	17.101* (0.000)	1.529
Profitability Ratios									
OPM	0.450	0.358	24.627	-2.390	0.159	-2.771** (0.017)	3.035* (0.010)	4.901** (0.028)	0.844
NPM	0.306	0.190	13.507	-1.643	0.117	-1.747 (0.106)	2.047 (0.063)	2.642 (0.112)	0.841
ROTA	0.257	0.133	15.960	-1.347	0.082	-2.023 (0.066)	2.024 (0.066)	2.075 (0.168)	0.700
EAT/TA	0.222	0.092	11.094	-1.097	0.066	-1.849 (0.089)	1.817 (0.094)	1.713 (0.222)	0.813
RONW	0.044	-0.115	17.950	-1.175	0.080	-0.631 (0.540)	0.705 (0.494)	0.276 (0.764)	1.654

* Indicating significant results at 1% level of significance.
** Indicating significant results at 5% level of significance.

Critical Values of "t" and "F"

t-test			F-test: Degrees of Freedom = 2		
DF	Probability (Alpha)	Table Value – t	N	Probability (Alpha)	Table Value – F
12	0.01	3.055	12	0.01	6.93
12	0.05	2.179	12	0.05	3.88

Durbin – Watson Statistic (D-W Statistic), K = 2

N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
12	0.01	0.569	1.274
12	0.05	0.812	1.579

Where, N = Sample size and K represents number of independent variables

- However, CR and QR exhibit significant declining trend with 63.8% decline in CR and 51.2% decline in QR explained by time which indicates an improvement in liquidity management of the industry over the period under study. It also indicates that the industry is making efforts to do away with the excess liquidity as also evident by the yearly mean ratios as presented in Table 5.5. These results are also in line with the decline observed in CATAR in *Para A*. Further, the decline in CR and QR is attributable to decline in ITCAR and RTCAR in *Para B*.

E. Current Asset Management Efficiency Analysis

- On examining the outcome of regression analysis from Tables 5.8 and 5.9, it is observed that TATR, WCTR, CBTR, CTR, ACP and APP has not shown significant trend with time and it is concluded that there is no significant change in any of the above CAME ratios of the Service Industry.
- However a significant quadratic trend is observed for CATR which is observed to be increasing at decreasing rate and the trend is likely to reverse in the 9^{th} year for the study period. Hence, it is concluded that the current asset management efficiency has improved over the study period which is attributable to improvement in receivables well as inventory management over the study period as observed from the results of trend analysis for ITCAR, RTCAR and CBBTCAR.
- On observing the results of regression analysis, a significant linear positive trend is observed in ITR whereas a significant quadratic trend is observed for IHP. It is also observed that IHP is falling at increasing rate and the trend is likely to reverse in 13^{th} year for the period under study. The results indicate that inventory management has improved over the study period.
- It is also observed that RTR exhibits a significant positive linear trend indicating that over the study period the RTR has increased leading to greater liquidity of receivables. An increase in RTR is a positive sign and it is concluded that receivables management of Service Industry has improved and industry is moving towards a controlled credit policy.
- On examining the outcome of regression analysis, a significant downtrend is observed for both OC and NTC. The declining trend in OC signifies reduced working capital investments whereas that in NTC signifies the quick realization of working capital investments in cash. Both these further signify improvement in WCM of the Service Industry over the study period which is in line with the significant trend observed for CATAR, ITCAR, RTCAR, CATR, QR, ALR, RTR,

ACP, ITR and IHP. Thus, it is concluded that over the study period the WCM of the Service Industry has improved and become efficient.

F. Profitability Analysis

On examining the outcome of regression analysis from Tables 5.8 and 5.9 it is observed that there is no significant trend in NPM, ROTA, EAT/TA and RONW. *However, a significant quadratic trend is observed for* OPM. The results indicate that the profitability measured in terms of OPM has declined at an increasing rate over a period of time and the trend is likely to reverse in 8th year for the period under study. From the results it is concluded that there is deterioration in the operational efficiency of the Service Industry.

SECTION III

5.3 Industry wise Trends in WCM, LEV and PROF (6 Industries)

In this section, the trends in WCM, LEV and PROF ratios is observed and interpreted individually for the 6 constituent industries of the Non Financial Service Industry to gain an understanding about the industry practices with reference to LEV, WCM and the profitability of various industry groups. **Five** important aspects of WCM are studied through various WCM ratios and so the analysis of the ratios is presented for each individual aspect of WCM for all the industries. As mentioned in Chapter 4, the descriptive statistical techniques, (*i.e.,* Arithmetic Mean, SD and CV) and inferential statistics, (*i.e.,* time trend analysis) are applied for the purpose of analyzing 5 categories of WCM ratios, *i.e.,* Working Capital Policy, Current Asset Structure, Current Liabilities Structure, Liquidity, Current Asset Management Efficiency ratios as well as the profitability and leverage ratios. And so, the analysis of each industry is further segmented in two parts. The first part deals with the findings based on descriptive statistics whereas the second part deals with the time trends in the ratios, *i.e.,* inferential statistics. The data analysis and interpretation is presented for Hotels and Restaurant Industry first followed by IT-ITeS Industry, Transport Services Industry, Health Services Industry, Communication Services Industry and Miscellaneous Services Industry.

5.3.1 Trend Analysis: WCM, LEV and PROF of Hotels and Restaurant Industry (25 Companies)

This para examines the overall trends as well as the time trends (Linear and Quadratic Trend) in WCM, LEV and PROF Ratios of the Hotels and Restaurant Industry for 25 sample companies. The overall trends is presented and interpreted first which is followed by the presentation and elucidation of the time trends analysis.

5.3.1.1 Trends in WCM, LEV and PROF: Hotels and Restaurant Industry

The overall trends in WCM, LEV and Profitability ratios is observed by taking industry average on yearly basis to understand the yearly movements in ratios as well as the nature of WCM, LEV and Profitability position in the Hotels and Restaurant Industry. As already discussed, to analyze different aspects of WCM, various ratios related to WCM have been categorized into 6 groups apart from the LEV and Profitability ratios and so the results of the analysis are presented and interpreted as per the group to which each ratio belongs.

A. Leverage and Working Capital Policy Ratios

The computation for each ratio of LEV and Working Capital Policy over the study period is presented in Table 5.10. Chart 5.4 presents the current asset financing mix, *i.e.,* share of CL and NWC in financing total current assets.

TABLE – 5.10

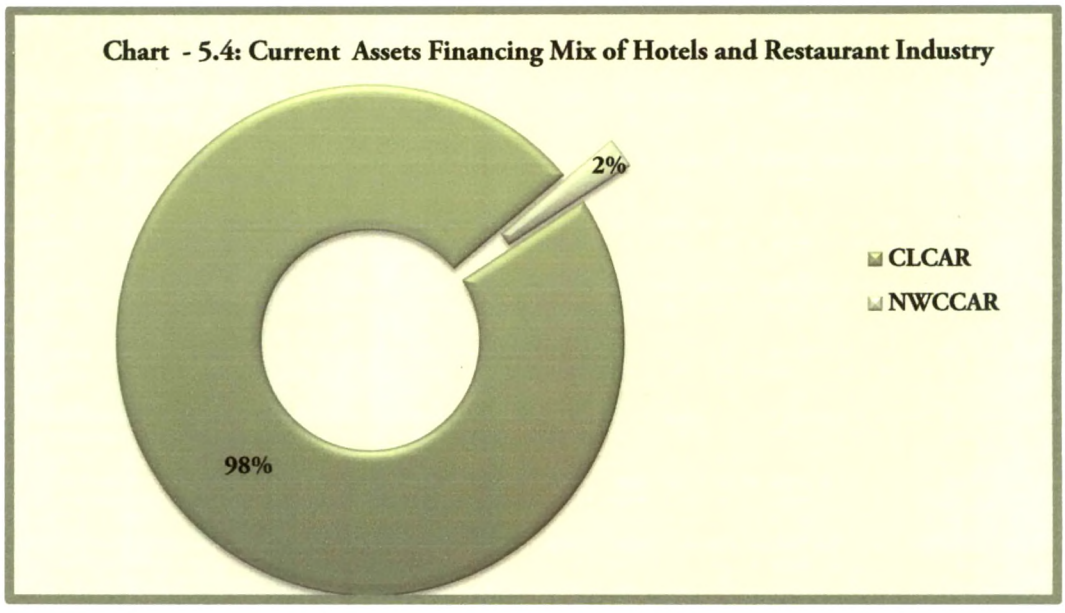
Working Capital Policy and Leverage Ratios: Hotels and Restaurant Industry

	Leverage Ratios		Working Capital Policy Ratios			
Year	LTDTAR	TDTAR	CLTAR	CATAR	CLCAR	NWCCAR
Mar-96	0.25	0.44	0.19	0.31	0.89	0.11
Mar-97	0.23	0.43	0.20	0.31	0.96	0.04
Mar-98	0.24	0.44	0.20	0.31	0.98	0.02
Mar-99	0.24	0.44	0.20	0.31	1.03	-0.03
Mar-00	0.24	0.44	0.20	0.30	1.10	-0.10
Mar-01	0.24	0.44	0.20	0.29	1.17	-0.17
Mar-02	0.25	0.44	0.19	0.28	1.08	-0.08
Mar-03	0.26	0.45	0.19	0.27	1.09	-0.09
Mar-04	0.26	0.45	0.19	0.29	0.96	0.04
Mar-05	0.26	0.45	0.19	0.31	0.85	0.15
Mar-06	0.24	0.43	0.19	0.33	0.82	0.18
Mar-07	0.22	0.44	0.22	0.33	0.94	0.06
Mar-08	0.21	0.45	0.24	0.33	0.98	0.02
Mar-09	0.21	0.43	0.22	0.34	0.89	0.11
Mar-10	0.20	0.42	0.22	0.34	0.95	0.05
Mean	**0.24**	**0.44**	**0.20**	**0.31**	**0.98**	**0.02**
SD	**0.02**	**0.01**	**0.02**	**0.02**	**0.10**	**0.10**
CV(%)	**8.09**	**2.01**	**7.57**	**6.89**	**10.10**	**478.82**

- From the perusal of Table 5.10, it is observed that LTDTAR of the Hotels and Restaurant Industry ranged between 20% and 26%; CLTAR ranged between 19% and 24% whereas TDTAR ranged between 42% and 45% which is not a very wide range. It can be observed that on an average, long term debts were utilized to finance 24% whereas current liabilities were utilized to finance 20% of the total assets in the industry. Thus total debt of 44% on an average is utilized in the industry to finance total assets which seems to be a reasonable policy of debt

financing being pursued in the Hotels and Restaurant Industry. Also it can be observed that long term debt forms the major portion of total debt. Further, increasing CLTAR indicates that the Hotels and Restaurant Industry is gradually pursuing an aggressive working capital financing policy.

- The ratio of current assets to total assets ranged between 27% and 34% and it can be observed that on an average 31% of the Hotels and Restaurant Industry's funds are invested in current assets indicating that the industry is following a moderate current asset investment policy. Also, it can be observed that the industry is steadily moving towards a conservative approach towards current asset investment which is characterized with high proportion of current assets to total assets.

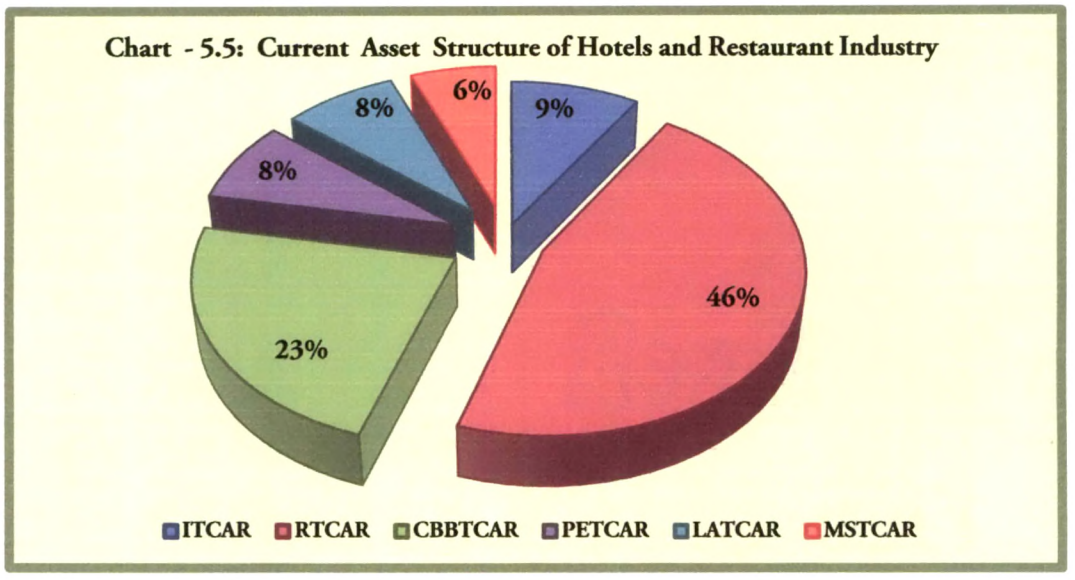


- From the perusal of Chart 5.4, it is observed that CL finances 98% of current assets whereas NWC contributes only 2%. CLCAR ranged between 0.82 and 1.17 whereas NWCCAR ranged between -0.17 and 0.18 which had the highest fluctuations as also evidenced by the CV of 478.82% as observed from Table 5.10. A fluctuating trend is noted in both the ratios. Further, it is observed that the industry is operating with negative working capital in 5 years and lower level of NWC in the remaining years which indicates that the industry is utilizing more of short term funds to finance the CA which is an aggressive working capital financing policy. This also conveys that the industry is having an easy access to current funds for financing its current assets which can only be due to the good reputation, established business and creditworthiness. Similar phenomenon was observed in the study of Ansari[1]. From this, it can be concluded that the Hotels and Restaurant Industry is following an aggressive working capital financing policy which was also

observed in the study of Pradhan[4] for 6 manufacturing industries. Lower values of SD and CV indicate that over a period of time the leverage position of the Hotels and Restaurant Industry as well as the working capital investment policy has changed progressively and with lower volatility excepting NWCCAR. However, working capital financing policy has been very vacillating.

B. Analysis of Current Asset Structure

In order to examine the structure of current assets (CA), the composition of CA with reference to various components of CA is studied. The computation for each ratio over the study period is presented in Table 5.11. Chart 5.5 presents the share of each CA in pie of total current asset.



- As observed from Chart 5.5, Receivables formed the highest share in the current assets of Hotels and Restaurant Industry with 46% on an average followed by Cash and Bank Balance at 23%, Inventories at 9%, Loans and Advances and Prepaid Expenses at 8% each and Marketable Securities at 6%.
- The lower ITCAR necessarily distinguishes this service industry, i.e., Hotels and Restaurant Industry from the manufacturing sector, where inventory is found to be very high proportion of current assets as observed in the studies of Kantawala and Joshi[2], Alam and Hossain[4], Janakiramudu[5], Kannadhasan[6], Khatik and Singh[7], Mallick and Sur[8], Padachi *et al*[9], Reddy and Rao[10] as well as Sarma and Chary[11].
- It is also observed that receivables ranged between 41% and 51% whereas Loans and advances ranged between 4% and 11% of current assets which is a wide range. Further, a declining trend is observed in receivables as well as loans and advances over the study period which indicates that the firms in Hotels and Restaurant

Industry have reduced and realized their blocked investments in receivables leading to improved receivables management over the study period.

TABLE – 5.11						
Current Asset Structure Ratios: Hotels and Restaurant Industry						
Year	ITCAR	RTCAR	CBBTCAR	PETCAR	LATCAR	MSTCAR
Mar-96	0.09	0.51	0.26	0.02	0.09	0.03
Mar-97	0.09	0.51	0.26	0.03	0.08	0.03
Mar-98	0.09	0.50	0.23	0.06	0.09	0.03
Mar-99	0.09	0.51	0.20	0.07	0.10	0.03
Mar-00	0.09	0.50	0.19	0.07	0.11	0.04
Mar-01	0.09	0.48	0.19	0.08	0.11	0.05
Mar-02	0.11	0.48	0.19	0.09	0.09	0.04
Mar-03	0.11	0.48	0.20	0.10	0.07	0.04
Mar-04	0.11	0.46	0.24	0.08	0.06	0.05
Mar-05	0.11	0.42	0.28	0.07	0.06	0.06
Mar-06	0.09	0.41	0.27	0.07	0.09	0.07
Mar-07	0.08	0.43	0.26	0.08	0.07	0.08
Mar-08	0.08	0.41	0.26	0.10	0.06	0.09
Mar-09	0.07	0.41	0.22	0.14	0.06	0.10
Mar-10	0.07	0.42	0.22	0.16	0.04	0.09
Mean	**0.09**	**0.46**	**0.23**	**0.08**	**0.08**	**0.06**
SD	**0.01**	**0.04**	**0.03**	**0.04**	**0.02**	**0.02**
CV(%)	**14.84**	**8.86**	**13.95**	**43.81**	**26.26**	**44.72**

- The share of cash and bank balance has ranged between 19% and 28% wherein a fluctuating trend can be observed from the perusal of Table 5.11. The share of marketable securities has ranged between 3% and 10% which has increased throughout the study period due to which CV is also observed to be highest for MSTCAR. The increasing share of MSTCAR indicates that firms in Hotels and Restaurant Industry are gradually adopting the practice of investing their idle lying excess cash and implies systematic approach towards cash management. The mean share of cash assets (CBB+MS) at 29% indicates a good liquidity position of the Hotels and Restaurant Industry which can further be substantiated by the analysis of liquidity ratios.
- On average prepaid expenses forms 8% share of CA. Further rising trend observed in PETCAR indicates that over the study period there has been increased blocking of funds in the form of Prepaid Expenses in the Hotels and Restaurant Industry.

C. Analysis of Current Liabilities Structure Ratios

In order to examine the structure of current liabilities of Hotels and Restaurant Industry, the composition of CL with reference to various components of CL is studied. The

computation for each ratio over the study period is presented in Table 5.12 and Chart 5.6 presents the share of each component of CL in pie of total current liability.

Chart - 5.6: Current Liabilities Structure of Hotels and Restaurant Industry

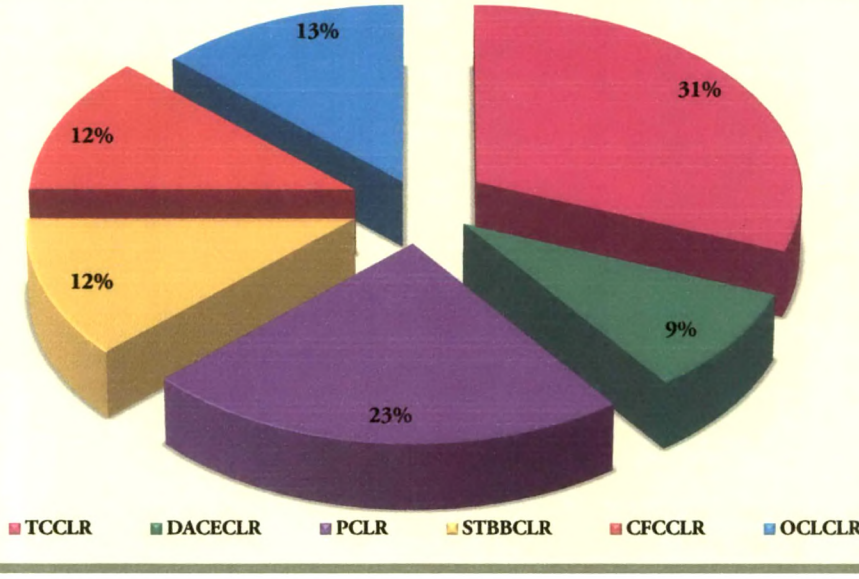


TABLE – 5.12

Current Liabilities Structure Ratios: Hotels and Restaurant Industry

Year	TCCLR	DACECLR	PCLR	STBBCLR	CFCCLR	OCLCLR
Mar-96	0.37	0.04	0.20	0.09	0.13	0.17
Mar-97	0.33	0.07	0.24	0.09	0.11	0.16
Mar-98	0.32	0.10	0.24	0.10	0.09	0.15
Mar-99	0.32	0.10	0.22	0.11	0.10	0.15
Mar-00	0.30	0.08	0.21	0.12	0.16	0.13
Mar-01	0.32	0.09	0.19	0.13	0.16	0.11
Mar-02	0.35	0.09	0.17	0.14	0.14	0.11
Mar-03	0.35	0.09	0.17	0.14	0.13	0.12
Mar-04	0.35	0.09	0.19	0.11	0.12	0.14
Mar-05	0.34	0.09	0.22	0.09	0.13	0.13
Mar-06	0.31	0.10	0.24	0.09	0.14	0.12
Mar-07	0.28	0.10	0.24	0.12	0.13	0.13
Mar-08	0.25	0.10	0.28	0.14	0.10	0.13
Mar-09	0.25	0.09	0.30	0.13	0.10	0.13
Mar-10	0.27	0.08	0.32	0.12	0.10	0.11
Mean	**0.31**	**0.09**	**0.23**	**0.12**	**0.12**	**0.13**
SD	**0.04**	**0.02**	**0.04**	**0.02**	**0.02**	**0.02**
CV(%)	**11.90**	**18.09**	**19.48**	**16.76**	**18.09**	**13.80**

- From the perusal of Chart 5.6 it is observed that Trade Credit with 31% of the total current liabilities is the major source of financing the current assets of the Hotels and Restaurant Industry, followed by Provisions at 23%, Other Current Liabilities at 13%, Current Financing Charge as well as Short Term Bank Borrowings at 12%, which is followed by Deposits and Advances from Customers and Employees at

9%. Spontaneous source of short term finance (Trade Credit, CFC, Provisions and OCL) is dominating the current liabilities structure at 79% and balance 21% comprises of the negotiated sources of short term finance (STBB and DACE).

- From the perusal of Table 5.12 it is observed that DACECLR has increased whereas, TCCLR and OCLCLR have reduced over the study period. Also, it can be observed that the changes in current liabilities structure ratios have been progressive and with lower volatility throughout the study period as evidenced by the values of SD.

D. Liquidity Analysis

The outcome of computations for the liquidity ratios over the study period is presented in Table 5.13.

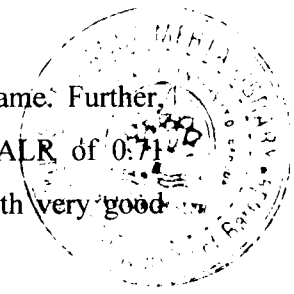
TABLE – 5.13

Liquidity Ratios: Hotels and Restaurant Industry

Year	CR	QR	ALR
Mar-96	2.03	1.89	0.69
Mar-97	1.77	1.65	0.67
Mar-98	1.70	1.59	0.62
Mar-99	1.74	1.62	0.48
Mar-00	1.75	1.64	0.54
Mar-01	1.86	1.74	0.59
Mar-02	1.86	1.74	0.66
Mar-03	1.76	1.63	0.71
Mar-04	1.80	1.66	0.75
Mar-05	1.97	1.83	0.84
Mar-06	2.05	1.93	0.78
Mar-07	1.75	1.65	0.66
Mar-08	1.68	1.59	0.68
Mar-09	1.97	1.87	0.95
Mar-10	2.02	1.92	1.09
Mean	1.85	1.73	0.71
SD	0.13	0.13	0.16
CV(%)	6.95	7.22	21.74

- From the perusal of Table 5.13 it is observed that the industry CR ranged between 1.68 and 2.05 whereas the QR ranged between 1.59 and 1.93. The yearly mean CR is above the thumb rule in only 3 of 15 years whereas the mean QR is above the thumb rule in all the years. Since the investment in inventories is only 9% of the current assets, it can be observed that the difference in the mean CR and QR is also only 0.09. The industry ALR ranges between 0.48 and 1.09 and is above the thumb rule in all years except 1999. As QR is considered to be a more rigorous test of liquidity when compared with CR, it is concluded that the Hotels and Restaurant

Industry enjoyed sound liquidity position over the selected time frame. Further, ALR indicates liquidity position in absolute sense and the mean ALR of 0.71 indicates that the hotel industry is technically solvent, cash rich with very good short term liquidity and solvency.



E. Current Asset Management Efficiency Analysis

The computation for each CAME ratio and Operating Cycle Variables over the study period is presented in Table 5.14.

- From the perusal of Table 5.14 it is observed that, total assets of Hotels and Restaurant Industry have been turned over 0.54 times on an average which indicates idle capacity and a scope to utilize total assets more productively. It is also observed that current assets have been turned over 2.71 times on an average which indicates effective utilization of current assets. WCTR for Hotels and Restaurant Industry is observed to be errant and has ranged between -1.35 and 10.60. The results indicate that firms in Hotels and Restaurant Industry utilize lower net level of NWC and at times resort to negative NWC for operating sales which is also observed from analysis of NWCCAR (Table 5.10).
- ITR ranged between 14.79 and 36.83 which is a very wide range and on an average the inventories of the Hotels and Restaurant Industry are turned over 21.10 times which is a very high ratio. Such high ITR is indicative of overtrading situation which arises when a higher level of sales is supported with lower level of inventory which is true of the Hotels and Restaurant Industry as it is operating at 9% inventory. The reason for such a low level of inventory is again assigned to the nature of the industry and hence, carrying lower level of inventory is justified in case of Hotels and Restaurant Industry and so this overtrading situation is actually not a risky preposition. IHP has ranged between 10 and 25 days. On an average the inventory of the industry gets converted into cash in 14 days. The lower length of IHP and reduction in the length over the study period coupled with increase in ITR is indicative of efficiency in inventory management. It also indicates that fast moving inventories are being maintained by the Hotels and Restaurant Industry. Further, it appears that the industry has made conscious efforts to do away with excess inventory by reducing investment in inventory.
- From the perusal of Table 5.14, it is observed that the RTR has increased over the study period leading to decline in ACP indicating an improvement in receivables management of the Hotels and Restaurant Industry over the study period. However, ACP of 121 days is very high for the Hotels and Restaurant Industry, being in

service sector and is a sign of profound concern with an ample scope for further improvement in managing its receivables.

- CTR ranged from 10.46 to 22.56 and APP ranged between 41 and 70 days. Overall it can be observed that creditors are turned over 16 times on an average with 54 days as the time taken by the firms in industry to repay its creditors. The high CTR indicates that the firms in Hotels and Restaurant Industry are prompt in paying its dues which has resulted to good reputation of the Industry which can be the possible cause for easy access to short term funds resulting to heavy reliance on current liabilities to finance the current assets as also observed from results of Table 5.10 in *para* A. Moreover, throughout the study period the CTR has been greater than RTR indicating that the firms are repaying liabilities regularly and more frequently than their debtors. Ideally, it is believed that there should be a positive difference between RTR and CTR. However, for the Hotels and Restaurant Industry the difference is negative indicating that the firms in the industry are extending credit greater than what they are receiving from its trade creditors which needs attention and improvement on the part of management for efficient credit management.
- CBTR has ranged between 15.07 and 34.69 with mean CBTR as 22.66 times which indicates high turnover of cash in the industry. This is indicative of better utilization of cash resources in the industry further leading to a good liquidity position as well as efficient cash management as also observed from the results of Table 5.11.
- Operating cycle of Hotels and Restaurant Industry has ranged between 109 days and 183 days whereas NTC has ranged between 63 days to 118 days thereby indicating large fluctuations in their respective lengths. On an average the working capital investments of Hotels and Restaurant Industry in the form of total current assets remains blocked for 140 days whereas it gets realized in cash in 86 days. However, OC and NTC it is still very high considering the fact that Hotels and Restaurant Industry is a service industry which operates with lower level of inventories. Hence, the cause for the same can be assigned to the liberal credit policy of the industry which further needs to be controlled and with this improvement the length of OC and NTC can be further reduced leading to increase in overall WCM efficiency.

TABLE 5.14													
Year	Efficiency Ratios and Operating Cycle Variables: Hotels and Restaurant Industry												
	TATR	CATR	WCTR	WCTR**	ITR	IHP (In Days)	RTR	ACP (In Days)	CBTR	CTR	APP (In Days)	OC (In Days)	NTC (In Days)
Mar-96	0.55	2.23	3.41	3.91	18.36	20	5.11	145	16.83	10.46	70	164	94
Mar-97	0.52	2.30	1.49	4.16	16.86	22	4.92	128	15.07	10.87	60	150	90
Mar-98	0.49	2.27	0.90	3.17	15.30	24	4.84	117	15.26	11.01	61	140	79
Mar-99	0.45	2.29	0.70	2.81	14.97	24	4.65	133	22.22	11.49	56	157	100
Mar-00	0.42	2.34	-3.26	-1.38	14.79	25	5.05	148	22.22	13.11	55	172	117
Mar-01	0.53	3.10	2.12	-127.48	17.14	21	8.02	147	25.78	15.05	50	168	118
Mar-02	0.43	2.60	1.74	16.57	13.97	26	6.16	157	23.35	18.48	70	183	113
Mar-03	0.48	2.97	-1.35	0.96	15.64	23	6.88	108	27.18	14.72	61	131	70
Mar-04	0.52	3.25	10.60	12.02	17.81	21	8.00	98	25.47	22.56	55	119	64
Mar-05	0.58	3.13	0.41	2.97	20.74	18	9.79	95	17.25	19.27	49	112	63
Mar-06	0.62	3.00	0.44	4.41	22.71	16	9.42	107	24.19	19.54	46	123	76
Mar-07	0.66	3.09	0.62	4.22	30.49	12	8.65	102	19.18	20.32	43	114	71
Mar-08	0.63	2.93	9.11	13.17	36.83	10	8.80	99	21.59	18.65	42	109	67
Mar-09	0.60	2.63	8.41	11.72	32.10	11	8.05	108	34.69	18.71	41	119	78
Mar-10	0.54	2.50	4.08	5.75	28.72	13	7.12	124	29.58	16.06	52	137	85
Mean	**0.54**	**2.71**	**2.63**	**-2.87**	**21.10**	**14**	**7.03**	**121**	**22.66**	**16.02**	**54**	**140**	**86**
SD	**0.07**	**0.37**	**3.92**	**34.84**	**7.37**	**5.41**	**1.80**	**20.84**	**5.50**	**3.95**	**9.24**	**24.35**	**19.01**
CV(%)	**13.72**	**13.72**	**149.12**	**-1214.70**	**34.95**	**28.35**	**25.60**	**17.21**	**24.25**	**24.67**	**17.09**	**17.41**	**22.19**

NOTE 1: The WCTR of Jindal Hotels Limited was -3238 for the year 2001 due to which the industry average for that year was as low as -127.48. So this company was eliminated while analyzing the WCTR and the effect of elimination is very clear in the ratio. WCTR** is the yearly industry mean when Jindal Hotels Limited is included.

F. Profitability Analysis

The computations for each of the profitability ratio of the Hotels and Restaurant Industry over the study period are presented in Table 5.15.

- From the perusal of Table 5.15 it is observed that OPM is 24.26% on an average which reflects good operational efficiency in terms of sales. The analysis also reveals that the years 2001 to 2004 have not been good for the financial health of the industry. The returns on total assets have also substantially gone down in these years. Moreover, post tax return on total assets is lesser than the risk free rate of return – 8.10%[14] in 11 out of 15 years which is a dismal situation.
- RONW ranged between -7.53% and 63.39% which is a very wide and high range, Also the fluctuations in RONW is observed to be highest at 105.39% amongst all the measures of profitability. Thus, the trend in RONW is errant and is evidence that the Hotels and Restaurant Industry has not earned stable returns for its shareholders over the study period.

TABLE – 5.15

Profitability Ratios: Hotels and Restaurant Industry (In %)

Year	OPM	NPM	ROTA	EAT/TA	RONW
Mar-96	31.74	17.48	16.71	12.01	24.41
Mar-97	25.69	10.50	15.00	10.00	15.47
Mar-98	24.27	12.31	11.75	7.84	11.01
Mar-99	22.36	11.56	9.11	5.60	10.77
Mar-00	20.11	9.18	7.45	4.14	16.22
Mar-01	19.45	7.87	6.87	3.10	8.05
Mar-02	9.01	-2.83	1.60	-1.63	-7.53
Mar-03	18.62	5.50	6.41	2.26	0.23
Mar-04	18.99	7.78	7.59	3.36	2.97
Mar-05	23.84	12.30	11.66	6.57	11.18
Mar-06	28.87	17.47	14.24	8.53	63.39
Mar-07	33.07	20.32	16.79	10.26	23.16
Mar-08	33.30	19.76	16.75	9.94	22.49
Mar-09	27.62	15.37	11.52	6.40	13.04
Mar-10	26.92	14.21	9.79	5.43	11.37
Mean	24.26	11.92	10.88	6.25	15.09
SD	6.51	6.05	4.49	3.65	15.90
CV(%)	26.84	50.80	41.28	58.38	105.39

5.3.1.2 Time Trends in WCM, LEV and Profitability of Hotels and Restaurant Industry

Time trends in WCM, LEV and profitability ratios of Hotels and Restaurant Industry have been examined by fitting the Linear Trend Model and Quadratic Trend Model. The results of linear trend on time variable are presented in Table 5.16 whereas the

results of quadratic trend are presented in Table 5.17 for all the ratios. The results of both the models are interpreted jointly and the interpretations are presented as per the group to which each ratio belongs.

TABLE – 5.16

Linear Trend on Time Variable for WCM, LEV & Profitability Ratios: Hotels and Restaurant Industry

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Leverage and Working Capital Policy Ratios							
LTDTAR	0.294	0.240	0.225	-0.002	-2.326**	0.037	0.426
TDTAR	0.026	-0.048	0.442	-0.0003	-0.594	0.562	1.305
CLTAR	0.340	0.289	0.187	0.002	2.588**	0.022	0.845
CATAR	0.281	0.226	0.290	0.003	2.256**	0.042	0.356
CLCAR	0.100	0.031	1.035	-0.007	-1.202	0.251	0.688
NWCCAR	0.100	0.031	-0.035	0.007	1.202	0.251	0.688
Current Asset Structure Ratios							
ITCAR	0.133	0.067	0.100	-0.001	-1.414	0.181	0.436
RTCAR	0.885	0.876	0.531	-0.009	-10.000*	0.000	1.182
CBBTCAR	0.028	-0.046	0.222	0.001	0.616	0.549	0.503
PETCAR	0.688	0.664	0.028	0.007	5.351*	0.000	0.570
LATCAR	0.517	0.480	0.105	-0.003	-3.731*	0.003	1.013
MSTCAR	0.888	0.879	0.014	0.005	10.151*	0.000	0.786
Current Liabilities Structure Ratio							
TCCLR	0.479	0.439	0.360	-0.006	-3.458*	0.004	0.580
DACECLR	0.216	0.156	0.074	0.002	1.894	0.081	0.916
PCLR	0.350	0.300	0.182	0.006	2.646**	0.020	0.336
STBBCLR	0.166	0.102	0.101	0.002	1.607	0.132	0.750
CFCCLR	0.030	-0.045	0.140	-0.001	-0.632	0.538	0.936
OCLCLR	0.417	0.372	0.154	-0.003	-3.047*	0.009	0.723
Liquidity Ratios							
CR	0.070	-0.001	1.786	0.008	0.991	0.340	1.472
QR	0.112	0.044	1.655	0.009	1.281	0.222	1.484
ALR	0.491	0.452	0.519	0.024	3.541*	0.004	0.847
Current Asset Management Efficiency Ratios & Operating Cycle Variables							
TATR	0.356	0.306	0.456	0.010	2.679**	0.019	0.911
CATR	0.315	0.263	2.336	0.047	2.446**	0.029	0.928
WCTR	0.178	0.115	-0.329	0.370	1.665	0.117	2.251
ITR	0.637	0.609	10.567	1.316	4.778*	0.000	0.622
IHP	0.641	0.614	26.810	-0.968	-4.822*	0.000	0.686
RTR	0.598	0.567	4.541	0.311	4.397*	0.001	1.085
ACP	0.346	0.295	142.981	-2.739	-2.620**	0.021	1.007
CBTR	0.399	0.353	16.445	0.777	2.940**	0.011	1.657
CTR	0.600	0.569	10.547	0.684	4.414*	0.001	1.307
APP	0.555	0.521	66.381	-1.539	-4.028*	0.001	1.550
OC	0.452	0.410	169.152	-3.661	-3.274*	0.006	1.008
NTC	0.248	0.191	102.610	-2.118	-2.072	0.059	0.837

TABLE – 5.16 (Continued...)							
Linear Trend on Time Variable for WCM, LEV & Profitability Ratios: Hotels and Restaurant Industry							
Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Profitability Ratios							
OPM	0.074	0.003	21.090	0.396	1.019	0.327	0.645
NPM	0.105	0.036	8.406	0.439	1.236	0.238	0.720
ROTA	0.006	-0.070	10.244	0.080	0.287	0.778	0.488
EAT/TA	0.003	-0.073	6.637	-0.048	-0.212	0.835	0.461
RONW	0.026	-0.049	10.537	0.568	0.584	0.569	1.459
* Indicating significant results at 1% level of significance. ** Indicating significant results at 5% level of significance.							

Critical Values of "t"		
Degrees of Freedom	Probability (Alpha)	Table Value – t
13	0.01	3.010
13	0.05	2.160

Durbin – Watson Statistic (D-W Statistic), K = 1			
N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
13	0.01	0.738	1.038
13	0.05	1.010	1.340
Where, N = Sample size and K represents number of independent variables			

A. Leverage and Working Capital Policy Ratios

- On examining the outcome of regression analysis from Tables 5.16 and 5.17, it is observed that for both the leverage ratios *viz*, LTDTAR and TDTAR, there is a quadratic trend. The values of β_1 and β_2 indicate that the ratios have increased at decreasing rate over a period of time and the trend is likely to reverse after 6^{th} year and 8^{th} year respectively. From this it is concluded that there is increased utilization of long term debts as well as total debts by firms of Hotels and Restaurant Industry for asset financing and is in line with the findings of Table 5.10.
- For the ratio CLTAR significant positive linear trend indicates that there is increased use of short term funds by firms in Hotels and Restaurant Industry to finance total assets over the study period and are moving towards aggressive asset financing approach.
- On examining the results of significant quadratic trend in CATAR, it is observed that the ratio has decreased at an increasing rate over the study period and the trend is likely to reverse in 65 years. This indicates that the Hotels and Restaurant Industry is doing away with the excess liquidity by reducing investments in current assets leading to decline in CATAR.

TABLE – 5.17

Quadratic Trend on Time Variable for WCM, LEV and Profitability Ratios: Hotels and Restaurant Industry

Category & Name of Ratio	R^2	Adj.R^2	Intercept	Slope β1	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic
Leverage and Working Capital Policy Ratios									
LTDTAR	0.701	0.651	0.223	0.009	-0.0007	3.131* (0.009)	-4.044* (0.002)	14.079* (0.001)	0.982
TDTAR	0.403	0.304	0.428	0.005	-0.0003	2.506** (0.028)	-2.752** (0.018)	4.052** (0.045)	1.996
CLTAR	0.536	0.459	0.205	-0.004	0.0003 96	-1.500 (0.159)	2.255** (0.044)	6.943* (0.010)	1.260
CATAR	0.701	0.652	0.326	-0.0104	0.0008	-3.210* (0.007)	4.108* (0.001)	14.087* (0.001)	0.787
CLCAR	0.261	0.138	0.931	0.030	-0.002	1.273 (0.227)	-1.615 (0.132)	2.117 (0.163)	0.805
NWCCAR	0.261	0.138	0.069	-0.030	0.002	-1.273 (0.227)	1.615 (0.132)	2.117 (0.163)	0.805
Current Asset Structure Ratios									
ITCAR	0.660	0.603	0.074	0.008	-0.0005	3.682* (0.003)	-4.306* (0.001)	11.621* (0.002)	1.007
RTCAR	0.885	0.866	0.529	-0.008	-3.6E-05	-2.092 (0.058)	-0.156 (0.879)	46.257* (0.000)	1.187
CBBTCAR	0.101	-0.049	0.245	-0.007	0.001	-0.813 (0.432)	0.983 (0.345)	0.672 (0.529)	0.541
PETCAR	0.693	0.641	0.035	0.004	0.0001 45	0.785 (0.447)	0.435 (0.671)	13.517* (0.001)	0.568
LATCAR	0.610	0.546	0.089	0.003	-0.0004	0.718 (0.487)	-1.696 (0.116)	9.403* (0.003)	1.179
MSTCAR	0.939	0.929	0.028	-8.727 E-6	0.00033	-0.005 (0.996)	3.182* (0.008)	92.757* (0.000)	1.460
Current Liabilities Structure Ratio									
TCCLR	0.591	0.523	0.327	0.006	-0.0007	0.884 (0.394)	-1.808 (0.096)	8.660* (0.005)	0.831
DACECLR	0.520	0.440	0.051	0.010	-0.0005	3.225* (0.007)	-2.758** (0.017)	6.511* (0.012)	1.139
PCLR	0.816	0.785	0.262	-0.022	0.002	-4.239* (0.001)	5.505* (0.000)	26.543* (0.000)	1.093
STBBCLR	0.233	0.105	0.088	0.006	-0.000 29	1.372 (0.195)	-1.024 (0.326)	1.821 (0.204)	0.793
CFCCLR	0.339	0.229	0.097	0.011	-0.000 72	2.134 (0.054)	-2.371** (0.035)	3.082 (0.083)	1.405
OCLCLR	0.614	0.549	0.175	-0.0102	0.0004 7	-3.246* (0.007)	2.474** (0.029)	9.535* (0.003)	1.090
Liquidity Ratios									
CR	0.162	0.023	1.889	-0.029	0.002	-0.882 (0.395)	1.148 (0.273)	1.162 (0.346)	1.532
QR	0.238	0.111	1.772	-0.032	0.003	-1.057 (0.311)	1.406 (0.185)	1.871 (0.196)	1.602
ALR	0.661	0.604	0.688	-0.035	0.004	-1.410 (0.184)	2.450** (0.031)	11.683* (0.002)	1.037

TABLE – 5.17 (Continued)

Quadratic Trend on Time Variable for WCM, LEV and Profitability Ratios: Hotels and Restaurant Industry

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope β1	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic
Current Asset Management Efficiency Ratios & Operating Cycle Measures									
TATR	0.422	0.325	0.506	-0.008	0.001	-0.505 (0.623)	1.171 (0.264)	4.378** (0.037)	1.025
CATR	0.685	0.632	1.739	0.257	-0.014	4.453* (0.001)	-3.749* (0.003)	13.002* (0.001)	1.829
WCTR	0.252	0.127	2.485	-0.623	0.062	-0.665 (0.519)	1.089 (0.298)	2.019 (0.175)	2.469
ITR	0.800	0.766	18.415	-1.454	0.173	-1.592 (0.137)	3.119* (0.009)	23.949* (0.000)	1.139
IHP	0.811	0.780	20.923	1.110	-0.130	1.709 (0.113)	-3.290* (0.006)	25.828* (0.000)	1.244
RTR	0.692	0.641	3.080	0.827	-0.032	2.994** (0.011)	-1.920 (0.079)	13.507* (0.001)	1.359
ACP	0.354	0.246	147.996	-4.509	0.111	-0.973 (0.350)	0.393 (0.701)	3.287 (0.073)	1.000
CBTR	0.401	0.301	15.826	0.995	-0.014	0.846 (0.414)	-0.191 (0.852)	4.020** (0.046)	1.665
CTR	0.776	0.738	6.166	2.230	-0.097	4.308* (0.001)	-3.071* (0.010)	20.768* (0.000)	2.182
APP	0.556	0.482	67.088	-1.789	0.016	-1.050 (0.314)	0.151 (0.883)	7.515* (0.008)	1.541
OC	0.452	0.361	168.145	-3.305	-0.022	-0.663 (0.520)	-0.073 (0.943)	4.951** (0.027)	1.012
NTC	0.249	0.124	101.031	-1.561	-0.035	-0.343 (0.738)	-0.126 (0.902)	1.993 (0.179)	0.841
Profitability Ratios									
OPM	0.458	0.368	31.74	-3.364	0.235	-2.537** (0.026)	2.917** (0.013)	5.072** (0.025)	1.037
NPM	0.396	0.295	17.023	-2.602	0.190	-1.998 (0.069)	2.402** (0.033)	3.929** (0.049)	1.028
ROTA	0.327	0.215	16.964	-2.292	0.148	-2.248** (0.044)	2.392** (0.034)	2.917 (0.093)	0.716
EAT/TA	0.391	0.290	12.643	-2.168	0.132	-2.750** (0.018)	2.766** (0.017)	3.859 (0.051)	0.723
RONW	0.062	-0.095	18.516	-2.248	0.176	-0.527 (0.607)	0.680 (0.510)	0.394 (0.682)	1.515

* Indicating significant results at 1% level of significance.
** Indicating significant results at 5% level of significance.

Critical Values of "t" and "F"

t-test			F-test: Degrees of Freedom = 2		
DF	Probability (Alpha)	Table Value – t	N	Probability (Alpha)	Table Value – F
12	0.01	3.055	12	0.01	6.93
12	0.05	2.179	12	0.05	3.88

Durbin – Watson Statistic (D-W Statistic), K = 2

N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
12	0.01	0.569	1.274
12	0.05	0.812	1.579

Where, N = Sample size and K represents number of independent variables

- *However, no significant trend is observed in CLCAR and NWCCAR* and hence it can be concluded that the working capital financing policy of the industry has remained stable over the study period with higher utilization of short term funds and lower NWC for financing its current assets.

B. Analysis of Current Asset Structure

- On examining the outcome of regression analysis from Tables 5.16 and 5.17, a significant quadratic trend is observed for ITCAR which indicates that ITCAR has increased at declining rate and the trend is likely to reverse in 8th year for the period under study. From this it is concluded that firms in Hotels and Restaurant Industry are investing cautiously and judiciously in inventories.
- A significant declining trend is observed in RTCAR and LATCAR. This downward trend reflects a possibility of cautious measures taken by the industry to reduce the investment in receivables and loans & advances which can be further substantiated by analyzing the turnover ratios. However, it is concluded that over the study period efforts were made by managers of firms in Hotels and Restaurant Industry for reducing the investments in receivables as well as reducing advances thereby increasing the liquidity of current asset structure.
- A significant rising trend is observed for PETCAR indicating that over the study period there is increased blocking of funds in the form of Prepaid Expenses in the Hotels and Restaurant Industry. A significant rising trend is also observed for MSTCAR with 88.8% increase in MSTCAR explained by time factor thereby indicating that over the study period there is rising trend of investing idle cash in Hotels and Restaurant Industry indicating efforts toward efficient and systematic cash management.
- However, *no significant trend* is observed for CBBTCAR as also observed from the findings of Table 5.11 and hence it is concluded that the cash balances have remained more or less stable over the study period.

C. Analysis of Current Liabilities Structure Ratios

- On examining the outcome of regression analysis from Tables 5.16 and 5.17, a significant negative linear trend is observed for TCCLR indicating that over the study period there is a decline of 47.9% in the share of trade credit to CL. Moreover, DACECLR, PCLR and OCLCLR exhibit significant quadratic trend from which it is observed that DACECLR has increased at decreasing rate and the trend is likely to reverse in the 10th year for the period under study whereas OCLCLR and PCLR had decreased at increasing rate and the trend in these ratios is

likely to reverse in 11th and 6th year respectively. From this it is concluded that over the study period the firms in Hotels and Restaurant Industry have preferred DACE and CFC as a source of financing current assets over Trade Credit, OCL and Provisions.

- However, *no significant trend* is observed for STBBCLR and CFCCLR indicating that share of STBB as well as CFC in total CL has not undergone significant changes over the study period.

D. Liquidity Analysis

- On examining the outcome of regression analysis from Tables 5.16 and 5.17, a significant increasing trend is observed for ALR indicating that liquidity measured in term of cash assets to CL of Hotels and Restaurant Industry has increased over a period of time. Alternatively, it also signifies increase in cash assets over the study period which is in line with the significant linear trend observed for MSTCAR. However, *no significant trend* is observed in CR and QR indicating that these two ratios have remained stable throughout the study period.

E. Current Asset Management Efficiency Analysis

- On examining the outcome of regression analysis from Tables 5.16 and 5.17, a significant rising trend is observed for TATR indicating that there is an improvement in asset utilization over the study period.
- On examining the outcome of regression analysis for CATR, a significant quadratic trend is observed which is increasing at decreasing rate and the trend is likely to reverse in 9th year for the period under study. From this it is concluded that the current asset management efficiency has improved over the study period which is due to improvement in receivables well as inventory management as observed from significant trend in ITCAR and RTCAR in *Para B.*
- A significant linear trend is observed in ITR as well as IHP which is positive for ITR whereas negative for IHP. Increase in ITR is associated with improved and efficient inventory management and decline in IHP is associated with reduced cycle of converting inventories into cash and is an indicator of liquidity of inventories. From these results it is concluded that inventory management of Hotels and Restaurant Industry has improved and become more efficient over the study period which is in line with the results of time trend observed for ITCAR in *para B.*
- A significant linear trend is observed in RTR as well as ACP which is positive for RTR whereas negative for ACP. These results indicate an improvement in receivables management of Hotels and Restaurant Industry and the firms are

pursuing a comparatively controlled credit and collection policy as also observed from the results of linear trend in RTCAR in *para B.*

- A significant uptrend in CBTR indicates that over the study period the turnover of cash in the Hotels and Restaurant Industry has increased leading to better utilization of cash resources which may be assigned to improved inventory and receivables management that has lead to more liquid asset structure. The results are in line with the linear trend observed for ALR and MSTCAR as well as the findings observed from the analysis of Table 5.14. Hence, it is concluded that cash management of Hotels and Restaurant Industry is efficient.
- A significant quadratic trend is observed in CTR which is rising at falling rate and the trend is likely to reverse in the 12^{th} year over the period under study whereas a significant linear negative trend is observed for APP. From these results it is concluded that the firms in Hotels and Restaurant Industry have increased the frequency of repaying the creditors over the study period which may be due to increased liquidity that the industry is repaying its short term debt more frequently. Thus, through prompt payments the firms in Hotels and Restaurant Industry have build good reputation and creditworthiness which has resulted to the easy access of short term funds due to which the firms are utilizing more of short term funds to finance their current assets as observed from the results of time trend in CLTAR in *Para A.*
- *A significant linear downtrend is observed in OC* indicating that there is significant decline in the length of OC which means reduced working capital investments and further signifies improvement in WCM of the Hotels and Restaurant Industry over the study period. Thus, it is concluded that over the study period the WCM of the firms in Hotels and Restaurant Industry has improved and become efficient.
- However, WCTR and NTC has not shown significant trend with time whereby it is concluded that there is no significant change in utilization of NWC for operating sales in the Hotels and Restaurant Industry. Also the length of NTC has not changed significantly over the study period which may be on account of simultaneous reduction in length IHP, ACP and APP.

F. Profitability Analysis

- On examining the outcome of regression analysis from Tables 5.16 and 5.17 it is observed that there is no significant trend in NPM, ROTA, EAT/TA and RONW. However quadratic trend is observed for OPM which indicates that OPM has decreased at an increasing rate over the study period and the trend is likely to

reverse in 7th year for the period under study. From the results it is concluded that there is deterioration in the operational efficiency of the Hotels and Restaurant Industry

5.3.2 Trend Analysis: WCM, LEV and Profitability of IT&A Industry (20 companies)

This para examines the overall trends as well as the time trends (Linear and Quadratic Trend) in WCM, LEV and Profitability Ratios of the IT&A Industry for 20 sample companies. The overall trends is presented and interpreted first which is followed by the presentation and elucidation of the time trends analysis.

5.3.2.1 Trends in WCM, LEV and PROF: IT&A Industry

The overall trends in WCM, LEV and Profitability ratios is observed by taking industry average on yearly basis to understand the yearly movements in ratios as well as the nature of WCM, LEV and Profitability position in the IT&A Industry. The results of the analysis are presented and interpreted as per the group to which each ratio belongs.

A. Leverage and Working Capital Policy Ratios

The computation for each ratio of LEV and Working Capital Policy over the study period is presented in Table 5.18. Chart 5.7 presents the current asset financing mix, *i.e.,* share of current liabilities (CL) and net working capital (NWC) for financing total current assets.

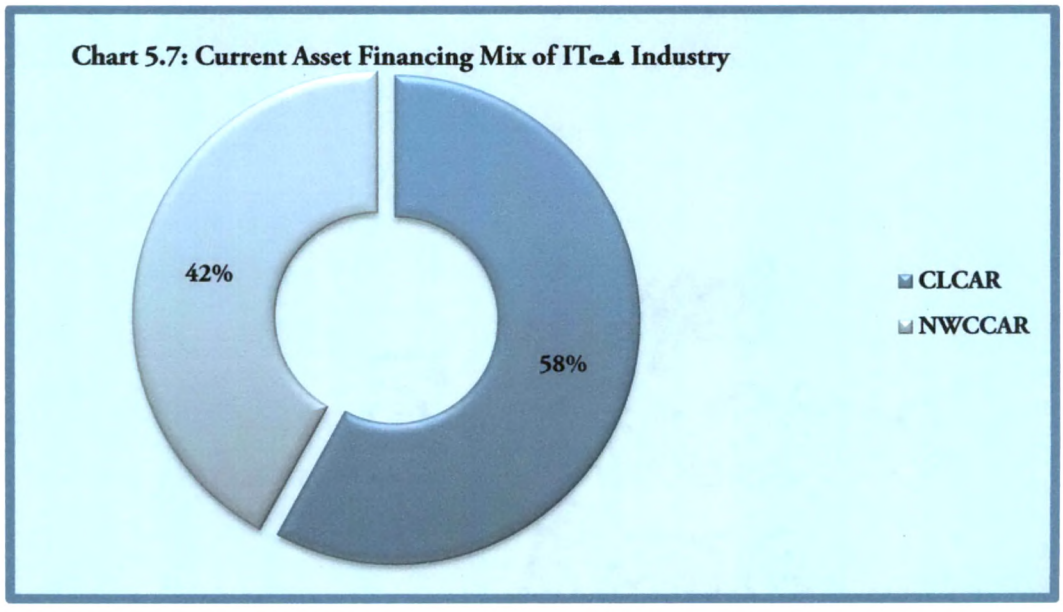
- From the perusal of Table 5.18, it is observed that LTDTAR of IT&A Industry ranged between 3% and 14%; CLTAR ranged between 25% and 38% whereas TDTAR ranged between 32% and 47% which is a wide range. It can be observed that on an average, long term debts (LTD) were utilized to finance 7.3% whereas current liabilities were utilized to finance 32.3% of the total assets in the industry. The lower ratio of LTD to total assets indicates a very conservative approach of industry towards utilization of long term debts for asset financing. Also, it can be observed that LTDTAR is consistently declining over the study period and so the CV is observed to be highest at 48.53% and indicates that over the study period there has been reduction in the utilization of long term debt to finance total assets which is less preferred for asset financing in IT&A Industry. On an average 39.6% of the total assets are financed by total debt which implies that the IT&A Industry is pursuing a conservative approach of asset financing by employing less long term as well as total debt to finance its total assets. It is interesting to note that in all the years CLTAR is greater than LTDTAR which means that the IT&A Industry

depends more on current liabilities as compared to long term debt to finance its total assets. Thus, firms in IT&A Industry had utilized more of short term debt as compared to long term debt to finance its total assets. Higher utilization of CL as compared to LTD is indicative of aggressive approach and thus it is concluded that working capital financing policy in the IT&A Industry is aggressive.

TABLE – 5.18

Working Capital Policy and Leverage Ratios: IT&A Industry

Leverage Ratios			Working Capital Policy Ratios			
Year	LTDTAR	TDTAR	CLTAR	CATAR	CLCAR	NWCCAR
Mar-96	0.14	0.47	0.33	0.65	0.56	0.44
Mar-97	0.13	0.46	0.33	0.63	0.60	0.40
Mar-98	0.12	0.44	0.32	0.63	0.58	0.42
Mar-99	0.10	0.42	0.32	0.63	0.58	0.42
Mar-00	0.08	0.35	0.27	0.63	0.49	0.51
Mar-01	0.07	0.33	0.26	0.63	0.47	0.53
Mar-02	0.07	0.32	0.25	0.61	0.46	0.54
Mar-03	0.09	0.34	0.25	0.60	0.50	0.50
Mar-04	0.05	0.36	0.31	0.61	0.58	0.42
Mar-05	0.03	0.39	0.36	0.61	0.64	0.36
Mar-06	0.04	0.42	0.38	0.60	0.67	0.33
Mar-07	0.05	0.41	0.36	0.59	0.65	0.35
Mar-08	0.05	0.41	0.36	0.57	0.65	0.35
Mar-09	0.04	0.42	0.38	0.58	0.65	0.35
Mar-10	0.04	0.40	0.36	0.58	0.64	0.36
Mean	0.073	0.396	0.323	0.61	0.58	0.42
SD	0.04	0.05	0.05	0.02	0.07	0.07
CV(%)	48.53	11.76	14.27	3.82	12.32	17.10



- From the perusal of Table 5.18, it is also observed that the ratio of current assets to total assets ranged between 57% and 65%. The IT Industry on an average invests 61% of its funds in current assets which is a very high proportion. The high CATAR suggests that the IT Industry is following a conservative current asset investment policy which is characterized with high proportion of current assets to total assets which results to liquid asset structure. Such dominance of current assets in total assets structure is generally found in manufacturing concerns and this comes out as a striking characteristic of the IT Industry. However, this ratio is much higher when compared with the studies of Ansari[1] as well as Kantawala and Joshi[2]. Possibly the industry has awaken to this fact and hence, overall a declining trend can be observed in CATAR indicating that over the study period, the industry has reduced its investment in current assets.
- From the perusal of Chart 5.7, it is observed that Current liabilities finance 58% of current assets whereas NWC contributes 42%. CLCAR ranged between 0.46 and 0.67 whereas NWCCAR ranged between 0.33 and 0.54 as observed from Table 5.18. Overall an increasing trend can be observed in CLCAR whereas a falling trend in NWCCAR and indicates that over the study period there has been increased use of current liabilities to finance the current assets as compared to NWC. Thus, it is concluded that the IT Industry is moving towards an aggressive approach for financing current assets over the study period. This also conveys that the IT Industry has easy access to short term funds for financing its current assets which can be assigned to the good reputation, established business and creditworthiness of the industry. Similar phenomenon was observed in the study of Ansari[1]. Lower values of SD indicate that over a period of time the changes in the leverage position as well as the working capital policy of IT Industry has been progressive with lower fluctuations.

B. Analysis of Current Asset Structure

In order to examine the structure of current assets (CA), the composition of CA with reference to various components of CA is studied. The computation for each ratio over the study period is presented in Table 5.19. Chart 5.8 presents the share of each CA in pie of total current asset.

- As observed from Chart 5.8, Receivables formed the highest share in the current assets of IT Industry with 55% on an average followed by Cash and Bank Balance at 19%, Prepaid Expenses as well as Marketable Securities at 8% each, Loans and Advances at 6% and Inventories at 4%.

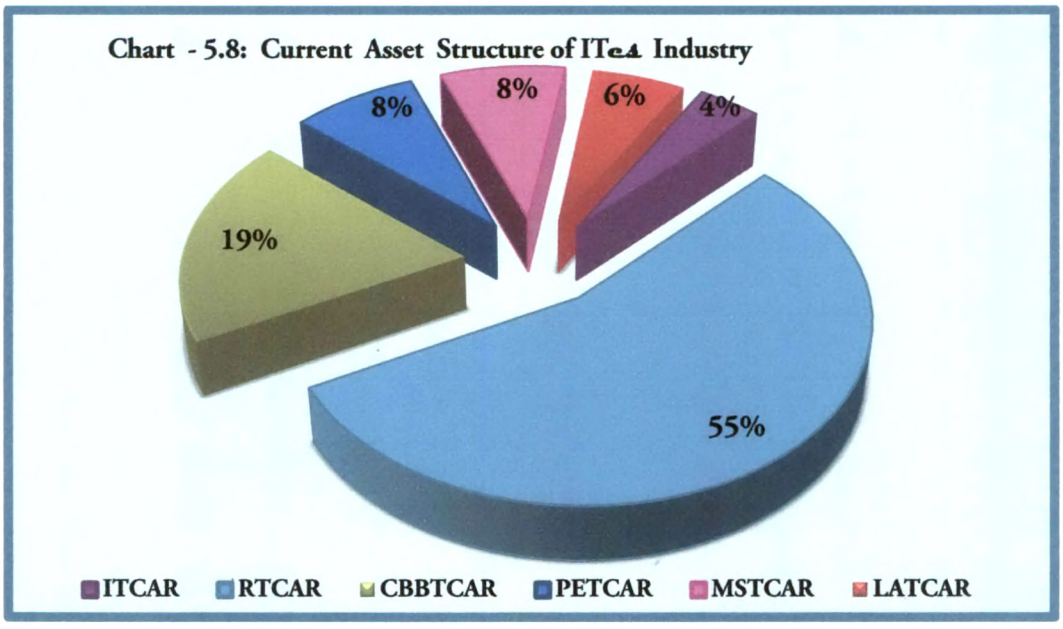


TABLE – 5.19						
Current Asset Structure Ratios: IT&ITeS Industry						
Year	ITCAR	RTCAR	CBBTCAR	PETCAR	LATCAR	MSTCAR
Mar-96	0.11	0.64	0.20	0.02	0.02	0.01
Mar-97	0.11	0.66	0.17	0.03	0.03	0.00
Mar-98	0.11	0.64	0.17	0.04	0.04	0.00
Mar-99	0.09	0.60	0.21	0.05	0.05	0.00
Mar-00	0.04	0.52	0.26	0.07	0.08	0.03
Mar-01	0.03	0.49	0.26	0.09	0.08	0.05
Mar-02	0.02	0.49	0.23	0.09	0.09	0.08
Mar-03	0.02	0.49	0.21	0.08	0.10	0.10
Mar-04	0.02	0.51	0.15	0.08	0.12	0.12
Mar-05	0.02	0.51	0.14	0.09	0.11	0.13
Mar-06	0.02	0.54	0.15	0.09	0.08	0.12
Mar-07	0.02	0.55	0.17	0.11	0.04	0.11
Mar-08	0.02	0.54	0.16	0.12	0.04	0.12
Mar-09	0.02	0.53	0.16	0.13	0.04	0.12
Mar-10	0.03	0.50	0.17	0.14	0.03	0.13
Mean	**0.04**	**0.55**	**0.19**	**0.08**	**0.06**	**0.08**
SD	**0.04**	**0.06**	**0.04**	**0.04**	**0.03**	**0.05**
CV(%)	**83.74**	**10.78**	**20.82**	**43.29**	**51.22**	**71.39**

◈ From the perusal of Table 5.19 it is observed that the share of inventories ranged between 2% and 11% and on an average the IT&ITeS Industry invests only 4% of its funds in inventories. ITCAR has declined substantially and essentially indicates the measures taken by the industry to do away with unnecessary inventory. This ratio also reflects the characteristic feature of IT&ITeS Industry as a service industry operating with very low level of inventories and distinguishes it from the manufacturing sector, where inventory forms a very high proportion of current

assets. Inventory was also observed to be zero for 13 of the selected 20 companies in the industry.

- Further, it is observed that Receivables ranged between 49% and 66% of current assets and on an average 55% of working capital is blocked in receivables whereas Loans and advances ranged between 2% and 12% of current assets with 6% on an average blocked in loans and advances. Total receivables including loans and advances are on an average 61% forming major share in the current asset structure and a sign of concern for the industry which can be further dealt with by analyzing the turnover ratios. The share of receivables has declined over the study period which indicates that the IT$_{eA}$ Industry has improved its receivables management over the study period by restricting its credit policy and signifies efforts made by industry in restricting investment in receivables.
- The share of cash and bank balance has ranged between 14% and 26% with mean of 19% wherein a fluctuating trend can be observed from the perusal of Table 5.19. The share of Marketable securities has ranged between 0 to 13% wherein an increasing trend can be observed due to which CV is also observed to be very high, *i.e.*,71.39%. The increasing share of MSTCAR indicates that firms in IT$_{eA}$ Industry invest their idle lying excess cash implying efforts for efficient cash management. A simultaneous glance at MSTCAR and CBBTCAR also indicates that over the study period, the industry has commenced the practice of investing excess cash in marketable securities, *i.e.*, a decline in cash balance is accompanied by increase in marketable securities. The mean share of cash assets (CBB+MS) at 27% indicates a good liquidity position in the industry which can further be substantiated by the analysis of liquidity ratios.
- The share of prepaid expenses ranged between 2% and 14% which has progressively increased throughout the study period resulting to high CV at 43.29%. This rising trend in PETCAR indicates that over the study period there has been increased blocking of funds in the form of Prepaid Expenses in the IT$_{eA}$ Industry. The changes in CA structure ratios have been progressive and with lower volatility throughout the study period as evidenced by the values of SD

C. Analysis of Current Liabilities Structure Ratios:

In order to examine the structure of current liabilities of IT$_{eA}$ Industry, the composition of CL with reference to various components of CL is studied. The computation for each ratio over the study period is presented in Table 5.20. Chart 5.9 presents the share of each component of CL in pie of total current liability.

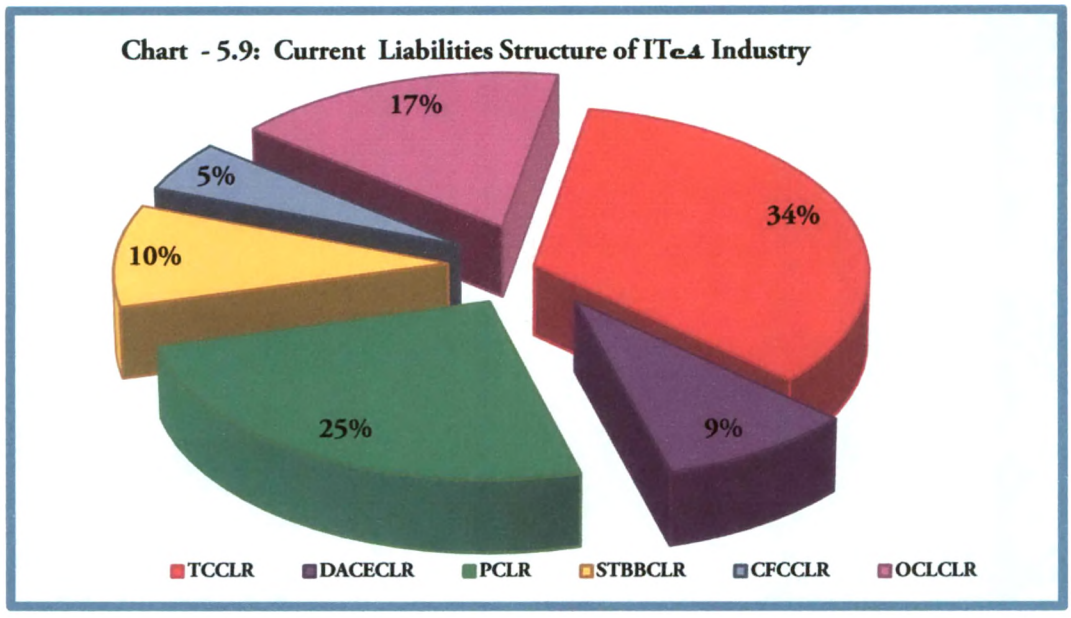


TABLE – 5.20						
Current Liabilities Structure Ratios: IT&A Industry						
Year	TCCLR	DACECLR	PCLR	STBBCLR	CFCCLR	OCLCLR
Mar-96	0.36	0.00	0.20	0.16	0.06	0.22
Mar-97	0.38	0.01	0.19	0.15	0.07	0.20
Mar-98	0.40	0.00	0.17	0.16	0.07	0.20
Mar-99	0.36	0.00	0.19	0.14	0.09	0.22
Mar-00	0.34	0.03	0.26	0.09	0.06	0.22
Mar-01	0.31	0.14	0.26	0.07	0.01	0.21
Mar-02	0.34	0.16	0.26	0.07	0.01	0.16
Mar-03	0.39	0.14	0.28	0.05	0.02	0.12
Mar-04	0.34	0.13	0.30	0.07	0.04	0.12
Mar-05	0.32	0.15	0.29	0.08	0.04	0.12
Mar-06	0.33	0.14	0.29	0.08	0.04	0.12
Mar-07	0.33	0.14	0.26	0.08	0.04	0.15
Mar-08	0.30	0.11	0.25	0.11	0.05	0.18
Mar-09	0.29	0.09	0.27	0.12	0.05	0.18
Mar-10	0.26	0.11	0.29	0.12	0.06	0.16
Mean	**0.34**	**0.09**	**0.25**	**0.10**	**0.05**	**0.17**
SD	**0.04**	**0.06**	**0.04**	**0.04**	**0.02**	**0.04**
CV(%)	**11.32**	**69.77**	**16.89**	**35.21**	**47.55**	**22.86**

◈ From the perusal of Chart 5.9, it is observed that Trade Credit with 34% of the total CL is the major source of financing the current assets of the IT&A Industry, followed by Provisions at 25%, Other Current Liabilities at 17%, Short Term Bank Borrowings at 10%, Deposits and Advances from Customers and Suppliers at 9%, which is followed by Current Financing Charge at 5%. Also, among the current liabilities, the Spontaneous source of short term finance (Trade Credit, CFC, Provisions and OCL) is dominating the current liabilities structure at 81% and

balance 19% comprises of the negotiated sources of short term finance (STBB and DACE).

- From the perusal of Table 5.20 it is observed that TCCLR has ranged between 0.26 and 0.40 which has reduced over the selected time frame. DACECLR has ranged between 0 and 0.16 and it can be observed that there has been marked increase in DACECLR over the study period which has resulted to high CV of 69.77%. PCLR has ranged between 0.17 and 0.30 and it can be observed that it has also increased over the study period. OCLCLR has ranged between 0.12 and 0.22. STBBCLR has ranged between 0.05 and 0.16, which has declined until 2003 where after it has steadily increased whereas CFCCLR has ranged between 0.01 and 0.09. The changes in CL structure ratios have been progressive and with lower volatility throughout the study period as evidenced by the lower values of SD.

D. Liquidity Analysis

The outcome of computations for the liquidity ratios over the study period is presented in Table 5.21.

TABLE – 5.21

Liquidity Ratios: IT-ITeS Industry

Year	CR	QR	ALR
Mar-96	3.33	3.16	0.78
Mar-97	3.18	3.01	0.57
Mar-98	3.75	3.58	0.66
Mar-99	3.84	3.69	0.84
Mar-00	4.23	4.14	1.31
Mar-01	3.59	3.53	1.28
Mar-02	3.46	3.40	1.20
Mar-03	3.47	3.43	1.20
Mar-04	3.06	3.03	0.90
Mar-05	2.45	2.41	0.69
Mar-06	2.15	2.11	0.62
Mar-07	2.32	2.27	0.73
Mar-08	2.03	1.99	0.64
Mar-09	1.90	1.87	0.63
Mar-10	1.99	1.95	0.77
Mean	2.98	2.90	0.85
SD	0.77	0.74	0.26
CV(%)	25.90	25.53	30.56

- From the perusal of Table 5.21, it is observed that the industry CR ranged between 1.90 and 4.23 whereas the QR ranged between 1.87 and 4.14 which is a very wide range. The yearly mean CR has always been above the thumb rule except in 2009 and 2010 whereas the yearly mean QR is above the thumb rule in all the years. On an average the industry maintains ₹ 2.98 of current assets and ₹ 2.90 of quick assets

against ₹ 1 of current liabilities which can be considered to be a very high proportion. The industry ALR ranges between 0.57 and 1.31 with yearly ALR being above the thumb rule in all years with industry mean of 0.85.

- CR indicates that the industry is having a very good liquidity position which is also substantiated by the fact that that the industry is maintaining high level of current assets in proportion to total assets as observed from the analysis of Table 5.18. However, as QR is considered to be a more rigorous test of liquidity when compared with CR, it is concluded that the IT$_{eA}$ Industry had excess liquidity over the selected time frame. The ALR, as a test of absolute liquidity indicates that the IT$_{eA}$ industry is technically solvent and cash rich indicating very good short term liquidity and solvency, rather a situation of excess liquidity in the industry.

E. Current Asset Management Efficiency Analysis

The computation for each CAME ratio and Operating Cycle Variables over the study period is presented in Table 5.22.

- From the perusal of Table 5.22 it is found that, TATR has ranged between 0.99 and 1.34 and average sales of ₹ 1.18 is generated from per rupee investment in total assets which indicates efficient utilization of total assets. However, 2007 onwards TATR is declining which indicates decline in efficiency of total assets utilization. A fluctuating trend can be observed for CATR from the perusal of Table 5.22 which ranged between 1.66 and 2.11 and on average current assets of the IT$_{eA}$ Industry have been turned into sales 1.93 times which can be further improved through better utilization of current assets. WCTR of IT$_{eA}$ industry has ranged between -36.89 and 58.19 which is observed to be errant as evident by CV of 353.76. Also, it can be observed that over the period the industry has utilized different levels of NWC for supporting sales which have been negative also in some years.
- From the perusal of Table 5.22 it is observed that ITR ranged between 7.91 and 138.72 which is a very large and wide range as also observed from CV of 65.08% and on an average inventory is turned over 74.71 times which is a very very high ratio. Such high ITR is indicative of overtrading situation which arises when a higher level of sales is supported with very low level of inventory and which is a fact in the IT$_{eA}$ Industry, as it is operating at an average of 4% inventory of total current assets. The reason for such a low level of inventory is again attributable to the nature of the industry and hence, carrying lower level of inventory is justified in case of IT$_{eA}$ Industry and so this overtrading situation is actually not a risky preposition for the industry. IHP has ranged between 3 and 46 days which is

consistently declining over the period under study and on an average the inventory in IT&A Industry gets converted into cash in 12 days. The lower length of IHP and reduction in the length over the study period coupled with simultaneous increase in ITR throughout the selected time frame is indicative of efficiency in inventory management which means that the industry has made conscious efforts to do away with excess inventory by reducing investment in inventory.

- RTR ranged between 3.08 and 4.57 whereas ACP ranged between 110 and 150 days except 760 days in 1999 on account of Informed Technologies Ltd. When this company is eliminated from analysis for 1999, the mean ACP comes down to 140 days instead of 760 days. Overall it can be observed that the RTR has increased over the study period leading to reduction in level of blockage of funds in receivables by the firms in IT&A Industry thereby indicating an improvement in receivables management of the industry. However, ACP of 124 days is still very high for the IT&A Industry thereby indicating slack collection policy and is a sign of real concern with an ample scope for further improvement in managing receivables.
- CTR ranged from 21.01 to 42.07 except in 2002 when it was observed to be 2025.27 on account of Infosys Technologies Ltd. When this company is eliminated from analysis for 2002, the CTR obtained is 24.23 and the industry average turns out to be 28.54 instead of 161.97. Also, the APP ranged from 31 days to 54 days except in 1999 when it was observed to be 530 days on account of Informed Technologies Ltd., and when this company is eliminated from analysis for 1999, the APP obtained is 38 days and the industry average also turns out to be 36 days instead of 69 days. Overall, it can be observed that on an yearly basis barring 1999, industry takes 34 to 54 days time to repay its creditors. Also, APP has reduced to considerable extent which indicates that the industry is paying its creditors more frequently and is prompt in repaying its dues. Ideally, it is believed that there should be a positive difference between APP and ACP, however for the IT&A Industry the difference is negative indicating that the company in the industry are extending credit greater than what they are receiving from their trade creditors which needs attention and improvement on the part of management of IT&A Industry for efficient credit management.
- CBTR ranged between 9.14 and 23.91 wherein a fluctuating trend can be observed. Mean CBTR is 15.47 times which indicates high turnover of cash – indicative of better utilization of cash funds in the industry as well as efficient cash management as also observed from the results of MSTCAR from Table 5.19.

TABLE 5.22

Year	Efficiency Ratios and Operating Cycle Variables: IT-A Industry											
	TATR	CATR	WCTR	ITR	IHP (In Days)	RTR	ACP (In Days)	CBTR	CTR	APP (In Days)	OC (In Days)	NTC (In Days)
Mar-96	1.29	1.94	2.43	7.91	46	3.08	139	20.35	31.02	54	185	131
Mar-97	1.34	2.11	1.55	9.12	40	3.41	142	23.91	27.45	41	182	141
Mar-98	1.32	2.07	-0.35	12.71	29	3.40	150	19.94	21.63	41	179	138
Mar-99	1.27	2.06	0.82	19.61	19	3.45	760 (140)	15.58	24.94	530 (38)	779 (159)	249 (121)
Mar-00	1.26	1.98	-3.11	30.35	12	3.90	115	13.66	36.79	32	127	95
Mar-01	1.29	2.03	58.19	48.41	8	4.52	109	11.31	42.17	30	117	87
Mar-02	1.07	1.69	-36.89	69.67	5	3.92	130	9.14	2025.77 (24.23)	33	135	102
Mar-03	0.99	1.66	4.99	103.89	4	3.73	127	10.01	28.23	37	131	94
Mar-04	1.05	1.71	4.52	114.77	3	3.76	121	14.94	21.43	35	124	89
Mar-05	1.12	1.80	19.49	123.73	3	4.03	119	17.83	21.01	34	122	88
Mar-06	1.25	2.08	5.91	129.21	3	4.57	110	17.83	28.12	33	113	80
Mar-07	1.19	2.10	5.08	138.72	3	4.12	112	12.23	27.68	31	114	83
Mar-08	1.13	1.98	5.12	111.62	3	4.14	113	12.24	31.94	31	116	85
Mar-09	1.12	1.95	5.28	109.12	4	4.27	118	15.48	29.18	34	122	88
Mar-10	1.01	1.81	6.51	91.85	4	4.04	120	17.57	32.25	35	123	88
Mean	**1.18**	**1.93**	**5.30**	**74.71**	**12**	**3.89**	**166 (124)**	**15.47**	**161.97 (28.54)**	**69 (36)**	**178 (137)**	**109 (100.67)**
SD	**0.12**	**0.16**	**18.76**	**48.62**	**14.49**	**0.42**	**164.88 (13.06)**	**4.16**	**515.64 (5.82)**	**127.75 (6.03)**	**168.19 (26.02)**	**43.69 (21.08)**
CV(%)	**9.94**	**8.14**	**353.76**	**65.08**	**116.82**	**10.92**	**99.52 (10.51)**	**26.89**	**318.34 (20.40)**	**185.86 (16.78)**	**94.52 (19.05)**	**40.01 (20.94)**

Figures in bracket represent values after eliminating companies with abnormal observation. For ACP and APP, Informed Technologies Ltd is eliminated whereas for CTR Infosys Technologies Ltd is eliminated.

- OC of IT&ITeS Industry has ranged between 113 days to 185 days except in 1999 when it was observed to be 779 days which was due to abnormally high ACP of Informed Technologies Limited. NTC has ranged between 80 days to 141 days except in 1999 when it was 249 days which was due to abnormally high ACP and APP of Informed Technologies Limited. The effect of its elimination is very much evident from the values given in bracket which becomes normal. On an average the working capital investments of IT&ITeS Industry in the form of total current assets remains blocked for 178 days whereas it gets realized in cash in 109 days. However, OC and NTC it is very high considering the fact that IT&ITeS Industry is a service Industry operating with lower level of inventories as already observed from Table 5.19. Hence, the cause can be assigned to the liberal credit policy of the industry as already discussed in the preceding paras which needs critical attention and with improvement in receivables management, the length of OC and NTC can be shortened and liquidity of asset structure be improved along with overall efficiency.

F. Profitability Analysis

The computations for each of the profitability ratio of the IT&ITeS Industry over the study period are presented in Table 5.23

TABLE – 5.23

Profitability Ratios: IT&ITeS Industry (In %)

Year	OPM	NPM	ROTA	EAT/TA	RONW	RONW#
Mar-96	27.87	16.63	24.20	19.36	24.90	24.23
Mar-97	16.00	10.32	20.08	14.14	24.60	23.99
Mar-98	16.32	11.27	18.54	14.00	24.94	24.82
Mar-99	18.36	12.07	19.03	14.52	23.85	24.41
Mar-00	19.94	16.19	23.92	19.11	31.57	32.30
Mar-01	12.39	7.21	25.01	20.75	32.79	32.86
Mar-02	9.66	4.23	14.18	9.80	20.00	14.69
Mar-03	12.52	7.20	11.69	7.13	25.00	-8.49
Mar-04	14.22	10.17	12.28	8.44	12.25	46.60
Mar-05	12.31	8.25	12.79	9.03	8.25	15.21
Mar-06	15.42	11.46	17.48	13.48	14.81	12.58
Mar-07	20.02	15.62	20.05	15.74	20.15	29.98
Mar-08	18.97	13.41	18.17	13.04	28.58	24.29
Mar-09	19.51	13.67	17.67	12.75	26.07	17.24
Mar-10	21.76	15.84	16.41	12.42	16.52	24.82
Mean	**17.02**	**11.57**	**18.10**	**13.58**	**22.29**	**22.64**
SD	**4.63**	**3.74**	**4.22**	**4.02**	**6.95**	**12.14**
CV	**27.18**	**32.36**	**23.33**	**29.64**	**31.18**	**53.63**

The RONW of R S Software (India) Ltd was found to be abnormal in 2003 and 2004 which was on account of negative net worth in those years and it affected the entire industry mean RONW which is presented as RONW#. Also the effect of eliminating the company is very much evident from mean, SD and CV values in RONW column. Considering the same, it was considered appropriate to eliminate this company for the analysis of RONW which is based on 19 companies.

- From the perusal of Table 5.23 it is observed that OPM has ranged between 9.66% and 27.87% with industry mean of 17.02%. NPM has ranged between 4.23% and 16.63% with mean of 11.57%. The range of both the ratios is very high. The trend in profitability measured in terms of ROTA and EAT/TA is also observed to be fluctuating. From these results it can be concluded that the profitability position of the industry is not stable. *RONW ranged between* 8.25% and 32.79% which is a very wide and high range which is on account of highly vacillating trend observed in RONW and is evidence that the IT$_{eA}$ Industry has not been able to provide stable returns to its shareholders over the study period.
- Moreover, the analysis also reveals that the years 2001 to 2004 have not been good for the financial health of the industry. The returns on total assets have also substantially gone down in these years.

5.3.2.2 Time Trends in WCM, LEV and PROF: IT$_{eA}$ Industry

Time trends in WCM, LEV and profitability ratios of IT$_{eA}$ Industry have been examined by fitting the Linear Trend Model and Quadratic Trend Model. The results of linear trend on time variable are presented in Table 5.24 whereas the results of quadratic trend are presented in Table 5.25 for all the ratios. The results of both the models are interpreted jointly and the interpretations are presented as per the group to which each ratio belongs.

A. Leverage and Working Capital Policy Ratios

- On examining the outcome of regression analysis from Tables 5.24 and 5.25, it is observed that for both the leverage ratios, *viz,* LTDTAR and TDTAR there is a significant quadratic trend. The values of β_1 and β_2 indicate that the ratios are falling at an increasing rate over a period of time and the trend is likely to reverse in 9th year for both the ratios. From this it is concluded that there is decline in utilization of long term as well as total debt for asset financing in the IT$_{eA}$ Industry. On account of simultaneous decline in both the leverage ratios, it was considered important to examine the trend in Net Worth to Total Asset Ratio (NWTAR) and hence linear and quadratic trend was examined for this ratio. The results of the regression analysis indicated a significant quadratic trend in NWTAR which is observed to be increasing at decreasing rate with 57.3% increase being explained by time and the trend for this ratio is also likely to reverse in the 9th year for the period under study. From these results it is concluded that over the study period there is increased use of owned funds to finance total assets in IT$_{eA}$ Industry which has resulted to reduction in utilization of debts. *However, CLTAR* has not shown

significant linear trend with time indicating that over the study period, there is no significant change in the utilization of current liabilities to fund the total assets.

TABLE – 5.24

Linear Trend on Time Variable for WCM, LEV & Profitability Ratios: IT&A Industry

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Leverage and Working Capital Policy Ratios							
LTDTAR	0.814	0.799	0.131	-0.007	-7.534*	0.000	0.934
TDTAR	0.036	-0.039	0.412	-0.002	-0.693	0.501	0.317
NWTAR	0.076	0.005	0.560	0.003	1.037	0.319	0.303
CLTAR	0.256	0.199	0.281	0.005	2.117	0.054	0.479
CATAR	0.895	0.887	0.649	-0.005	-10.522*	0.000	1.691
CLCAR	0.309	0.255	0.510	0.009	2.408**	0.032	0.469
NWCCAR	0.309	0.255	0.490	-0.009	-2.408**	0.032	0.469
Current Asset Structure Ratios							
ITCAR	0.646	0.619	0.100	-0.007	-4.869*	0.000	0.386
RTCAR	0.402	0.356	0.614	-0.008	-2.954**	0.011	0.372
CBBTCAR	0.214	0.154	0.220	-0.004	-1.882	0.082	0.639
PETCAR	0.919	0.912	0.021	0.008	12.108*	0.000	0.685
LATCAR	0.008	-0.068	0.058	0.001	0.321	0.753	0.307
MSTCAR	0.846	0.834	-0.013	0.011	8.461*	0.000	0.434
Current Liabilities Structure Ratio							
TCCLR	0.614	0.585	0.390	-0.007	-4.549*	0.001	1.439
DACECLR	0.465	0.424	0.013	0.010	3.359*	0.005	0.524
PCLR	0.558	0.524	0.194	0.007	4.051*	0.001	0.715
STBBCLR	0.178	0.114	0.131	-0.003	-1.675	0.118	0.347
CFCCLR	0.077	0.006	0.058	-0.001	-1.038	0.318	0.706
OCLCLR	0.342	0.292	0.213	-0.005	-2.601**	0.022	0.488
Liquidity Ratios							
CR	0.706	0.684	4.145	-0.145	-5.590*	0.000	0.655
QR	0.657	0.631	3.980	-0.134	-4.991*	0.000	0.621
ALR	0.054	-0.019	0.963	-0.014	-0.861	0.405	0.547
Current Asset Management Efficiency Ratios & Operating Cycle Variables							
TATR	0.453	0.410	1.321	-0.018	-3.278*	0.006	0.953
CATR	0.055	-0.018	1.997	-0.008	-0.867	0.402	0.853
WCTR	0.005	-0.071	2.834	0.309	0.266	0.794	3.058
ITR	0.758	0.740	-1.027	9.467	6.387*	0.000	0.394
IHP	0.671	0.646	33.629	-2.654	-5.151*	0.000	0.217
RTR	0.518	0.481	3.343	0.068	3.735*	0.002	1.369
ACP	0.088	0.018	253.171	-10.946	-1.121	0.283	2.276
CBTR	0.121	0.053	18.056	-0.324	-1.338	0.204	0.661
CTR	0.004	-0.073	218.86	-7.111	-0.223	0.827	2.137
APP	0.076	0.005	131.819	-7.886	-1.036	0.319	2.312
OC	0.131	0.064	286.848	-13.614	-1.400	0.185	2.286
NTC	0.344	0.293	155.029	-5.729	-2.610**	0.022	2.087

TABLE – 5.24 (Continued...)							
Linear Trend on Time Variable for WCM, LEV & Profitability Ratios: IT&A Industry							
Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Profitability Ratios							
OPM	0.001	-0.075	17.332	-0.039	-0.137	0.893	0.882
NPM	0.020	-0.055	10.618	0.119	0.517	0.614	1.076
ROTA	0.181	0.118	21.312	-0.401	-1.694	0.114	0.972
EAT/TA	0.153	0.088	16.396	-0.352	-1.532	0.150	1.091
RONW	0.125	0.057	26.672	-0.548	-1.360	0.197	1.123
* Indicating significant results at 1% level of significance. ** Indicating significant results at 5% level of significance.							
Critical Values of "t"							
Degrees of Freedom		Probability (Alpha)			Table Value – t		
13		0.01			3.010		
13		0.05			2.160		
Durbin – Watson Statistic (D-W Statistic), K = 1							
N	Probability (Alpha)	D_L (Lower Critical Value)			D_U (Upper Critical Value)		
13	0.01	0.738			1.038		
13	0.05	1.010			1.340		
Where, N = Sample size and K represents number of independent variables							

- A significant negative linear trend is observed for CATAR indicating that the proportion of current assets to total assets have fallen and it is concluded that over the study period there is change in the current asset investment policy of IT&A Industry and the firms are gradually adopting aggressive approach with respect to current asset investment.
- A significant uptrend in CLCAR whereas significant downtrend in NWCCAR is observed indicating that over the study period, the firms in IT&A Industry are making greater use of current liabilities to finance the current assets thereby pursuing an aggressive working capital financing policy.

B. Analysis of Current Asset Structure

- On examining the outcome of regression analysis from Tables 5.24 and 5.25, a significant quadratic trend is observed for 4 CA Structure ratios *viz,* ITCAR, RTCAR, LATCAR and MSTCAR. The results of quadratic trend indicate that both ITCAR and RTCAR are declining at increasing rate and the trend is likely to reverse in 13^{th} and 10^{th} year respectively for the period under study. From this it is concluded that firms in IT&A Industry are making efforts to reduce investment in receivables and inventories. The decline also indicates the efficient management of inventory by the industry to bring it to as low as zero level as also improvement in receivables management over the study period.

TABLE – 5.25									
Quadratic Trend on Time Variable for WCM, LEV and Profitability Ratios: IT&A Industry									
Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope β1	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic
Leverage and Working Capital Policy Ratios									
LTDTAR	0.910	0.895	0.160	-0.017	0.001	-5.922* (0.000)	3.589* (0.004)	60.769* (0.000)	1.769
TDTAR	0.606	0.540	0.505	-0.035	0.002	-4.293* (0.001)	4.165* (0.001)	9.216* (0.004)	0.694
NWTAR	0.634	0.573	0.463	0.037	-0.002	4.524* (0.001)	-4.273* (0.001)	10.382* (0.002)	0.643
CLTAR	0.530	0.452	0.345	-0.017	0.001	-1.976 (0.072)	2.646** (0.021)	6.776** (0.011)	0.752
CATAR	0.896	0.879	0.647	-0.004	-4.848 E-5	-1.999 (0.069)	-0.384 (0.708)	51.084* (0.000)	1.733
CLCAR	0.492	0.408	0.591	-0.020	0.002	-1.397 (0.188)	2.084 (0.059)	5.818** (0.017)	0.664
NWCCAR	0.492	0.408	0.409	0.020	-0.002	1.397 (0.188)	-2.084 (0.059)	5.818** (0.017)	0.664
Current Asset Structure Ratios									
ITCAR	0.904	0.888	0.151	-0.025	0.001	-7.629* (0.000)	5.688* (0.000)	56.617* (0.000)	1.162
RTCAR	0.711	0.663	0.701	-0.039	0.002	-4.441* (0.001)	3.587* (0.004)	14.779* (0.001)	0.822
CBBTCAR	0.282	0.162	0.193	0.005	-0.00 059	0.595 (0.563)	-1.066 (0.307)	2.358 (0.137)	0.715
PETCAR	0.922	0.909	0.016	0.009	-0.00 011	3.429* (0.005)	-0.682 (0.508)	70.516* (0.000)	0.710
LATCAR	0.794	0.760	-0.018	0.027	-0.002	6.742* (0.000)	-6.771* (0.000)	23.155* (0.000)	1.053
MSTCAR	0.891	0.872	-0.043	0.021	-0.00 065	4.392* (0.001)	-2.205** (0.048)	48.857* (0.000)	0.657
Current Liabilities Structure Ratio									
TCCLR	0.662	0.605	0.368	0.001	0.000	0.174 (0.865)	-1.298 (0.219)	11.738* (0.00)	1.560
DACECLR	0.763	0.723	-0.077	0.042	-0.002	4.908* (0.000)	-3.884* (0.002)	19.302* (0.000)	1.139
PCLR	0.729	0.684	0.148	0.023	-0.001	3.834* (0.002)	-2.751** (0.018)	16.134* (0.000)	1.254
STBBCLR	0.827	0.798	0.208	-0.031	0.002	-7.347* (0.000)	6.713* (0.000)	28.694* (0.000)	1.306
CFCCLR	0.421	0.325	0.093	-0.014	0.001	-2.895* (0.013)	2.674** (0.020)	4.370** (0.038)	1.116
OCLCLR	0.542	0.465	0.260	-0.022	0.001	-2.921* (0.013)	2.285** (0.041)	7.092* (0.009)	0.686
Liquidity Ratios									
CR	0.813	0.782	3.479	0.090	-0.015	0.971 (0.351)	-2.613** (0.023)	26.039* (0.000)	0.971
QR	0.795	0.761	3.253	0.122	-0.016	1.316 (0.213)	-2.841** (0.015)	23.262* (0.000)	0.973
ALR	0.368	0.263	0.577	0.123	-0.009	2.140 (0.054)	-2.443** (0.031)	3.498 (0.064)	0.861

TABLE – 5.25 (Continued)

Quadratic Trend on Time Variable for WCM, LEV and Profitability Ratios: IT&A Industry

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope β1	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic
Current Asset Management Efficiency Ratios & Operating Cycle Measures									
TATR	0.495	0.411	1.385	-0.040	0.001	-1.744 (0.107)	1.007 (0.334)	5.885** (0.017)	1.078
CATR	0.159	0.019	2.131	-0.056	0.003	-1.393 (0.189)	1.221 (0.246)	1.134 (0.354)	1.021
WCTR	0.009	-0.156	-0.282	1.409	-0.069	0.273 (0.790)	-0.219 (0.830)	0.057 (0.945)	3.070
ITR	0.865	0.843	-43.050	24.299	-0.927	4.923* (0.000)	-3.090* (0.009)	38.583* (0.000)	0.573
IHP	0.969	0.964	54.519	-10.027	0.461	-14.292* (0.000)	10.808* (0.000)	189.853* (0.000)	0.606
RTR	0.642	0.582	2.948	0.208	-0.009	2.951* (0.012)	-2.037 (0.064)	10.738* (0.002)	1.728
ACP	0.088	-0.064	246.018	-8.422	-0.158	-0.193 (0.850)	-0.060 (0.953)	0.582 (0.574)	2.276
CBTR	0.504	0.421	24.854	-2.723	0.150	-3.358* (0.006)	3.043* (0.010)	6.093** (0.015)	1.079
CTR	0.084	-0.068	-167.38	129.211	-8.520	0.946 (0.363)	-1.027 (0.325)	0.552 (0.590)	2.325
APP	0.076	-0.077	126.332	-5.949	-0.121	-0.175 (0.864)	-0.059 (0.954)	0.497 (0.620)	2.312
OC	0.132	-0.013	300.613	-18.473	0.304	-0.426 (0.678)	0.115 (0.910)	0.912 (0.428)	2.290
NTC	0.372	0.267	174.281	-12.524	0.425	-1.307 (0.216)	0.729 (0.480)	3.550 (0.061)	2.183
Profitability Ratios									
OPM	0.632	0.570	27.029	-3.462	0.214	-4.457* (0.001)	4.532* (0.001)	10.292* (0.002)	1.861
NPM	0.465	0.376	17.216	-2.210	0.146	-2.917* (0.008)	3.161* (0.013)	5.223** (0.023)	1.767
ROTA	0.317	0.203	25.424	-1.853	0.091	-1.919 (0.079)	1.546 (0.148)	2.783 (0.102)	1.139
EAT/TA	0.258	0.134	19.84	-1.568	0.076	-1.634 (0.128)	1.303 (0.217)	2.086 (0.167)	1.214
RONW	0.151	0.009	29.636	-1.594	0.065	-0.900 (0.386)	0.607 (0.555)	1.064 (0.376)	1.175

* Indicating significant results at 1% level of significance.

** Indicating significant results at 5% level of significance.

Critical Values of "t" and "F"

t-test			F-test: Degrees of Freedom = 2		
DF	Probability (Alpha)	Table Value – t	N	Probability (Alpha)	Table Value – F
12	0.01	3.055	12	0.01	6.93
12	0.05	2.179	12	0.05	3.88

Durbin – Watson Statistic (D-W Statistic), K = 2

N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
12	0.01	0.569	1.274
12	0.05	0.812	1.579

Where, N = Sample size and K represents number of independent variables

- The results of quadratic trend for LATCAR and MSTCAR indicate that both these ratios are increasing at decreasing rate and the trend is likely to reverse in 7th and 16th year respectively for the period under study. From this it is concluded that there is increased blockage of funds in Loans and Advances by the firms in the IT Industry over the study period. It is also concluded that there is rising trend of investing idle cash in the IT Industry over the study period which further is an indication of efficient cash management of the firms in the industry.
- An increasing trend is observed for PETCAR from which it is concluded that there is increased blocking of funds in the form of Prepaid Expenses in the IT Industry. However, CBBTCAR have remained more or less stable over the study period.

C. Analysis of Current Liabilities Structure Ratios

- On examining the outcome of regression analysis from Tables 5.24 and 5.25, a significant negative linear trend is observed for TCCLR indicating that over the study period there is a decline in share of trade credit to CL.
- Moreover, the remaining five CL Structure ratios are found to have significant quadratic trend for the period under study. DACECLR and PCLR are increasing at decreasing rate with and the trend is likely to reverse in 11th and 12th year respectively. However, STBBCLR, CFCCLR and OCLCLR are observed to be falling at increasing rate over a period of time and the trend is likely to reverse in 8th, 7th and 11th years respectively. From these results it is concluded that DACE as well as Provisions had been preferred in the IT Industry to create liquidity for financing the current assets over STBB, CFC and OCL over the period of study. Further, the rising trend observed in CLCAR in *Para* A can be assigned to increase in DACECLR and PCLR.

D. Liquidity Analysis

- On examining the outcome of regression analysis from Tables 5.24 and 5.25 a significant negative linear trend is observed for CR and QR indicating that these ratios have declined over the period under study. From these results it is concluded that there is an improvement in liquidity management of the firms in IT Industry over the study period as also that the industry is making efforts to do away with the excess liquidity.
- However, no significant trend is observed for ALR thereby indicating that it has remained stable throughout the study period which is in line with no significant trend observed in CBBTCAR. Thus, it is concluded that firms in IT Industry are following a consistent policy for maintaining its cash assets.

E. Current Asset Management Efficiency Analysis

- On examining the outcome of regression analysis from Tables 5.24 and 5.25, a significant rising trend is observed for TATR and it is concluded that there is an improvement in asset utilization over the study period with an ample scope for more effective utilization of idle capacity. However, CATR, WCTR, ACP, CTR, APP and OC have not shown significant trend indicating that there is no significant change in WCM efficiency measured in terms of these ratios.
- A significant quadratic trend is observed in ITR as well as IHP wherein, ITR is observed to be increasing at decreasing rate and IHP is observed to be decreasing at an increasing rate and trend in these ratios is likely to reverse in 13^{th} and 11^{th} year respectively. Increase in ITR is associated with improved and efficient inventory management and decline in IHP is associated with reduced cycle of converting inventories into cash and is an indicator of liquidity of inventories. From these results it is concluded that inventory management of the firms in IT Industry has improved and become more efficient over the study period which is in line with the results of time trend observed for ITCAR in *para B.*
- From the significant uptrend observed for RTR it is concluded that there is improvement in receivables management of firms in IT Industry over the period under study and is in line with the results of time trend observed for RTCAR in *para B.*
- A significant quadratic observed in CBTR indicates that it is decreasing at increasing rate over the period under study and the trend is likely to reverse in 9^{th} year for the study period. From these results it is concluded that the turnover of cash in the IT Industry has declined over a period of time.
- A significant linear downtrend in NTC indicates that there is significant decline in the length of NTC which means quicker conversion of working capital investments in cash. Thus, it is concluded that WCM efficiency of firms in IT Industry has improved over the study period.

F. Profitability Analysis

On examining the outcome of regression analysis from Tables 5.24 and 5.25, no significant trend is observed in ROTA, EAT/TA and RONW. However, for remaining two ratios a significant quadratic trend is observed. Both OPM as well as NPM are falling at an increasing rate over a period of time and the trend is likely to reverse in the 8^{th} year for both the ratios for the period under study. From this it is concluded that

there is deterioration in the operational efficiency of the firms in IT&A Industry and that attempts are being made to control the same.

5.3.3 Trend Analysis: WCM, LEV and Profitability of Transport Services Industry (16 companies)

This para examines the overall trends as well as the time trends (Linear and Quadratic Trend) in WCM, LEV and Profitability Ratios of the Transport Services Industry for 16 sample companies. The overall trends is presented and interpreted first which is followed by the presentation and elucidation of the time trends analysis.

5.3.3.1 Trends in WCM, LEV and PROF: Transport Services Industry

The overall trends in WCM, LEV and Profitability ratios is observed by taking industry average on yearly basis to understand the yearly movements in ratios as well as the nature of WCM, LEV and Profitability position in the Transport Services Industry. The results of the analysis are presented and interpreted as per the group to which each ratio belongs.

A. Leverage and Working Capital Policy Ratios

The computation for each ratio of LEV and Working Capital Policy over the study period is presented in Table 5.26. Chart 5.10 presents the current asset financing mix, *i.e.*, share of CL and NWC in financing total current assets.

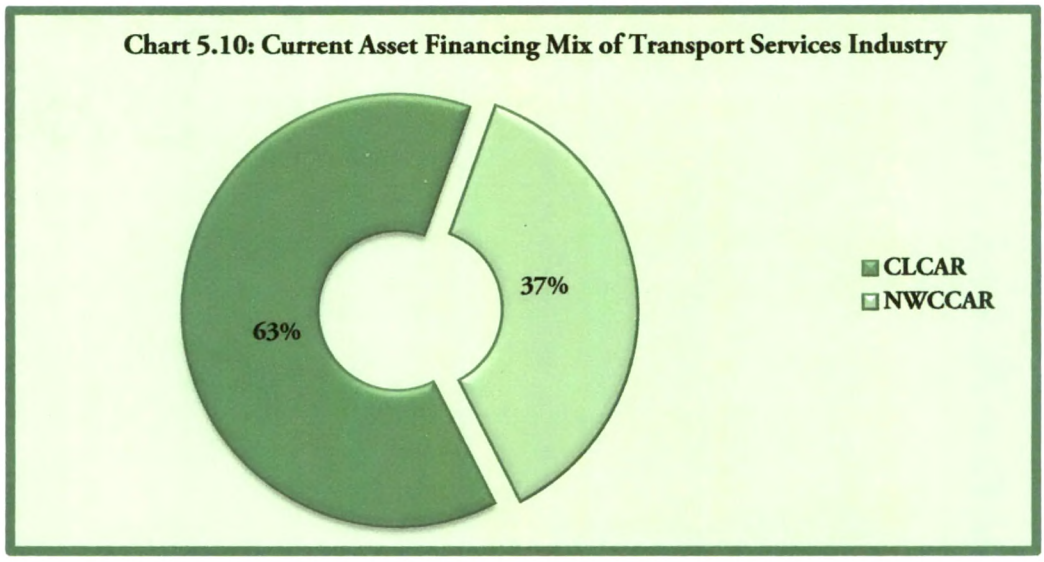
TABLE – 5.26

Working Capital Policy and Leverage Ratios: Transport Services Industry

	Leverage Ratios		Working Capital Policy Ratios			
Year	LTDTAR	TDTAR	CLTAR	CATAR	CLCAR	NWCCAR
Mar-96	0.22	0.48	0.26	0.50	0.56	0.44
Mar-97	0.21	0.50	0.29	0.49	0.66	0.34
Mar-98	0.21	0.50	0.29	0.50	0.65	0.35
Mar-99	0.22	0.50	0.28	0.49	0.64	0.36
Mar-00	0.22	0.48	0.26	0.47	0.66	0.34
Mar-01	0.22	0.48	0.26	0.46	0.67	0.33
Mar-02	0.22	0.46	0.24	0.46	0.65	0.35
Mar-03	0.20	0.44	0.24	0.46	0.66	0.34
Mar-04	0.19	0.43	0.24	0.47	0.61	0.39
Mar-05	0.20	0.43	0.23	0.48	0.51	0.49
Mar-06	0.20	0.44	0.24	0.50	0.49	0.51
Mar-07	0.20	0.47	0.27	0.48	0.65	0.35
Mar-08	0.20	0.46	0.26	0.45	0.75	0.25
Mar-09	0.19	0.44	0.25	0.44	0.70	0.30
Mar-10	0.20	0.44	0.24	0.47	0.54	0.46
Mean	0.21	0.47	0.26	0.48	0.63	0.37
SD	0.01	0.03	0.02	0.02	0.07	0.07
CV(%)	5.38	5.57	7.46	3.97	11.45	19.23

- From the perusal of Table 5.26 it is observed that LTDTAR ranged between 19% and 22% with very low fluctuations as observed from CV of 5.38% which is observed to be lowest amongst all 6 ratios. On an average, long term funds have financed 21% of the total assets of the Transport Services Industry which seems to be a reasonable policy of debt financing being pursued in the industry. CLTAR ranged from 23% to 29% on an average 26% of the total assets of the Transport Services Industry were financed by the current liabilities. It is interesting to note that in all the years CLTAR is greater than LTDTAR indicating that firms in Transport Services Industry had utilized more of CL as compared to long term debt to finance its total assets. It can also be observed that on an average, 47% of the total assets of Transport Services Industry are financed by total debt, of which current liabilities formed the major portion. The firms in the Transport Services Industry seem to be pursuing a conservative approach of debt financing. Overall a decline in all the three ratios can be observed.
- From Table 5.26, it can be observed that the ratio of current assets to total assets ranged between 44% and 50% and on an average Transport Services Industry invests 48% of its funds in current assets. The higher CATAR suggests that the transport industry is following a distinctive current asset investment policy and its asset structure is liquid. Such a proportion is generally observed in manufacturing concerns and theoretically considered to be a conservative current asset investment policy which is very near to 50% as observed by Ansari[1] in his study on 11 manufacturing industries. However, the ratio is much high when compared with the results observed in the study of Kantawala and Joshi[2] in Steel Industry. Overall a decline can be observed in the ratio over the study period indicating possible measures taken by the industry to do away with excess liquidity.
- From the perusal of Chart 5.10, it is observed that CL finance 63% of current assets whereas NWC contributes 37%. From the perusal of Table 5.26 it is observed that CLCAR ranged between 51% and 75% whereas NWCCAR ranged between 25% and 49% and a fluctuating trend is noted in both the ratios. However, overall it can be observed that the industry is operating with lower NWC and utilizing more of short term funds to finance the current assets. Thus, it can be concluded that the Transport Services Industry is following an aggressive approach of financing its current assets which is in line with findings observed for CLTAR and LTDTAR. The reason for such a high reliance on CL can be assigned to the good reputation, established business and creditworthiness due to which the industry has access to

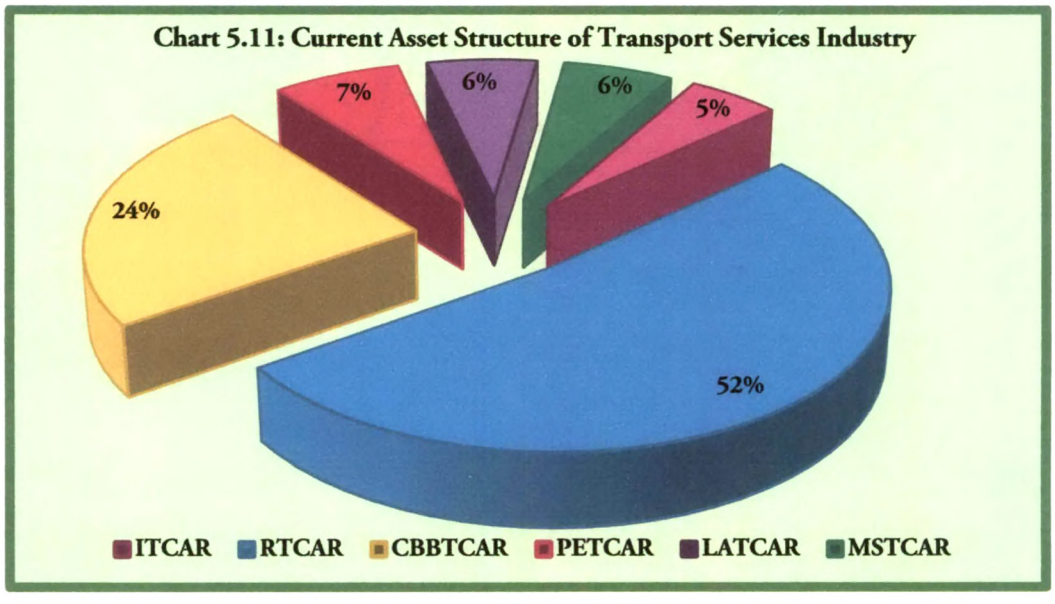
and is able to utilize more short term funds to finance its current assets. Lower values of SD and CV indicate that over a period of time the leverage position of the Transport Services Industry as well as the working capital policy has not undergone major fluctuations.



B. Analysis of Current Asset Structure

In order to examine the structure of current assets (CA), the composition of CA with reference to various components of CA is studied. The computation for each ratio over the study period is presented in Table 5.27. Chart 5.11 presents the share of each CA in pie of total current asset.

- As observed from Chart 5.11, Receivables had the highest share in the current assets of Transport Services Industry with 52% on an average followed by Cash and Bank Balance at 24%, Prepaid Expenses at 7%, Loans and Advances as well as Marketable Securities at 6% each and Inventories at 5%.



- From the perusal of Table 5.27 it is observed that the share of inventories ranged between 3% and 7% with an overall declining trend indicating reduction of investment in inventories by the Transport Services Industry leading to improvement in inventory management which can be further substantiated by the analysis of turnover ratios. The industry operates with very low level of inventories (5% on an average) which necessarily distinguishes this service industry, *i.e.*, Transport Services Industry from the manufacturing sector, where inventory is a very high proportion of current assets.

TABLE – 5.27

Current Asset Structure Ratios: Transport Services Industry

Year	ITCAR	RTCAR	CBBTCAR	PETCAR	LATCAR	MSTCAR
Mar-96	0.06	0.60	0.18	0.08	0.04	0.04
Mar-97	0.07	0.59	0.15	0.09	0.06	0.04
Mar-98	0.06	0.58	0.16	0.10	0.06	0.04
Mar-99	0.07	0.61	0.17	0.08	0.04	0.03
Mar-00	0.07	0.60	0.18	0.06	0.06	0.03
Mar-01	0.07	0.57	0.19	0.06	0.09	0.02
Mar-02	0.06	0.55	0.22	0.07	0.07	0.03
Mar-03	0.06	0.54	0.22	0.08	0.05	0.05
Mar-04	0.06	0.51	0.24	0.08	0.04	0.07
Mar-05	0.05	0.46	0.32	0.06	0.04	0.07
Mar-06	0.03	0.42	0.36	0.06	0.06	0.07
Mar-07	0.03	0.43	0.34	0.07	0.06	0.07
Mar-08	0.04	0.45	0.29	0.07	0.06	0.09
Mar-09	0.04	0.44	0.29	0.07	0.06	0.10
Mar-10	0.03	0.43	0.30	0.08	0.05	0.11
Mean	**0.05**	**0.52**	**0.24**	**0.07**	**0.06**	**0.06**
SD	**0.02**	**0.07**	**0.07**	**0.01**	**0.01**	**0.03**
CV(%)	**28.93**	**14.05**	**29.23**	**15.99**	**24.15**	**48.65**

- Further, it is observed that Receivables ranged between 42% and 61% of current assets and a declining trend can be observed in receivables over the study period which indicates reduction of investment in receivables and improvement in receivables management. Loans and Advances ranged between 4% and 9% and a fluctuating trend can be observed in LATCAR. Prepaid Expenses is observed to be in range bound of 6% to 10% throughout the study period.
- The share of cash and bank balance ranged between 15% and 36% wherein an overall rising trend can be observed. The rising share in CBBTCAR can be on account of declining ITCAR and RTCAR thereby increasing the cash balances. The share of marketable securities ranged between 2% and 11% which has shown an increasing trend after 2001. CV is also observed to be highest for MSTCAR at

48.65% due to the rising trend in MSTCAR. The increasing share of MSTCAR indicates that firms in Transport Services Industry invest their idle lying excess cash signalling efforts toward efficient cash management which can further be substantiated from the analysis of efficiency ratios. The mean share of cash assets (CBB+MS) of 30% indicates a very good liquidity position in the industry which can further be substantiated by the analysis of liquidity ratios. The changes in CA structure ratios have been progressive and with lower volatility throughout the study period as evidenced by the values of SD.

C. Analysis of Current Liabilities Structure Ratios:

In order to examine the structure of current liabilities of Transport Services Industry, the composition of CL with reference to various components of CL is studied. The computation for each ratio over the study period is presented in Table 5.28. Chart 5.12 presents the share of each component of CL in pie of total current liability.

- From the perusal of Chart 5.12, it is observed that Trade Credit with 32% of the total current liabilities is the major source of financing the current assets of the Transport Industry, followed by Provisions at 24%, Other Current Liabilities at 15%, Short Term Bank Borrowings at 13%, Current Financing Charge at 12% which is followed by Deposits and Advances from Customers and Suppliers at 4%. Also, among the current liabilities, the spontaneous source of short term finance (Trade Credit, CFC, Provisions and OCL) is dominating the current liabilities structure at 83% and balance 17% comprises of the negotiated sources of short term finance (STBB and DACE).

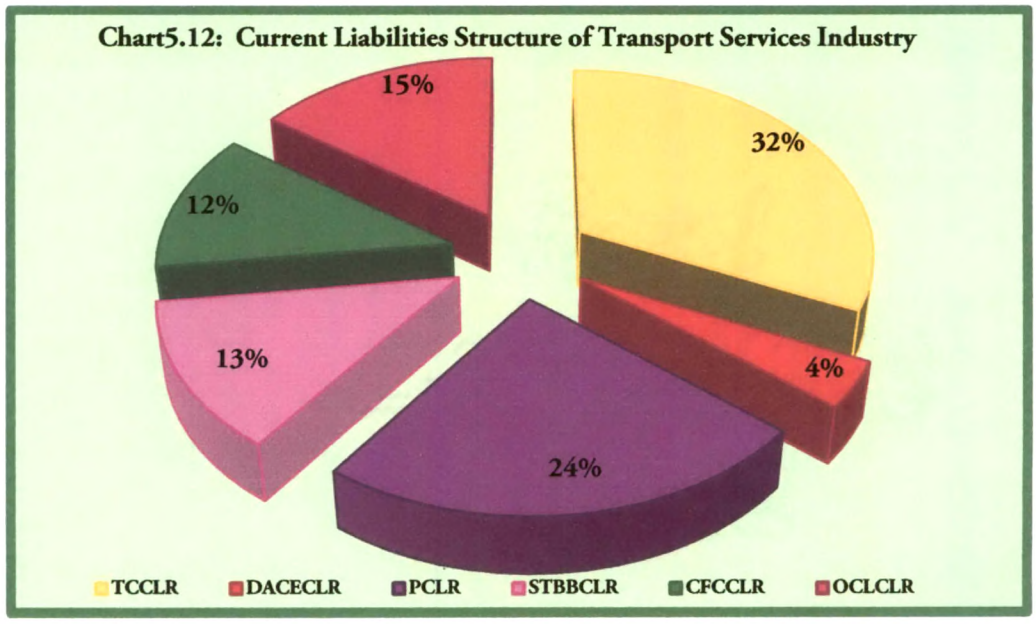


TABLE – 5.28						
Current Liabilities Structure Ratios: Transport Services Industry						
Year	TCCLR	DACECLR	PCLR	STBBCLR	CFCCLR	OCLCLR
Mar-96	0.31	0.04	0.28	0.09	0.12	0.16
Mar-97	0.31	0.04	0.27	0.09	0.12	0.17
Mar-98	0.30	0.05	0.26	0.10	0.12	0.17
Mar-99	0.30	0.06	0.22	0.13	0.14	0.15
Mar-00	0.30	0.05	0.22	0.14	0.14	0.15
Mar-01	0.29	0.05	0.22	0.15	0.14	0.15
Mar-02	0.31	0.04	0.24	0.15	0.13	0.13
Mar-03	0.30	0.03	0.25	0.16	0.15	0.11
Mar-04	0.31	0.05	0.23	0.16	0.14	0.11
Mar-05	0.33	0.06	0.23	0.14	0.13	0.11
Mar-06	0.36	0.04	0.22	0.11	0.11	0.16
Mar-07	0.35	0.05	0.22	0.13	0.10	0.15
Mar-08	0.33	0.07	0.23	0.13	0.08	0.16
Mar-09	0.33	0.09	0.23	0.09	0.06	0.20
Mar-10	0.32	0.06	0.24	0.11	0.08	0.19
Mean	0.32	0.05	0.24	0.12	0.12	0.15
SD	0.02	0.02	0.02	0.03	0.03	0.03
CV(%)	6.28	28.34	8.19	20.20	22.66	17.99

- From the perusal of Table 5.28 it is noted that TCCLR has ranged between 0.29 and 0.36 and it can be observed that it has increased over a period of time. PCLR has ranged between 0.22 and 0.28 and it can be noted that it has also reduced over the study period. OCLCLR has ranged between 0.11 and 0.20 wherein a declining trend can be observed until 2005 where after the trend has reversed. CFCCLR has ranged between 0.06 and 0.16 whereas DACECLR has ranged between 0.00 and 0.09. STBBCLR has ranged between 0.09 and 0.16 which has increased until 2004, where after it has continuously declined. The changes in CL structure ratios have been progressive and with lower volatility throughout the study period as evidenced by the values of SD.

D. Liquidity Analysis

The outcome of computations for the liquidity ratios over the study period is presented in Table 5.29.

- From the perusal of Table 5.29, it is observed that the industry CR ranged between 1.91 and 2.59 except in years 2006 and 2007 when it was observed to be 3.16. QR ranged between 1.72 and 2.39 except years 2006 and 2007 when it was observed to be above 3. The industry ALR ranged between 0.37 and 1.20 except in years 2006 and 2007 when it was above 1.50. QR was above the thumb rule in all the years whereas CR and ALR were observed to be below the thumb rule from 1997 to 2001. On an average the industry maintains ₹ 2.32 of current assets, ₹ 2.16 of quick

assets and ₹ 0.84 of cash assets against ₹ 1 of current liabilities which is considerably high proportion. Thus, overall good short term liquidity, rather a situation of excess liquidity can be observed for the industry.

TABLE – 5.29

Liquidity Ratios: Transport Services Industry

Year	CR	QR	ALR
Mar-96	2.30	2.01	0.53
Mar-97	1.93	1.72	0.37
Mar-98	1.91	1.74	0.40
Mar-99	1.94	1.78	0.43
Mar-00	1.95	1.77	0.44
Mar-01	1.97	1.78	0.43
Mar-02	2.23	2.03	0.60
Mar-03	2.39	2.15	0.75
Mar-04	2.28	2.06	0.83
Mar-05	2.59	2.39	1.18
Mar-06	3.16	3.03	1.68
Mar-07	3.16	3.07	1.63
Mar-08	2.40	2.33	1.12
Mar-09	2.17	2.12	1.03
Mar-10	2.45	2.39	1.20
Mean	2.32	2.16	0.84
SD	0.40	0.43	0.44
CV(%)	17.34	19.90	52.79

E. Current Asset Management Efficiency Analysis

The computation for each CAME ratio and Operating Cycle Variables over the study period is presented in Table 5.30.

- From the perusal of Table 5.30 it is found that, TATR has ranged between 0.74 and 1.34 and on an average every ₹ 1 of investment in total assets have been turned over into ₹ 1.01 of Sales which indicates efficient utilization of investments in total asset. A fluctuating trend can be observed until 2005, where after, it has declined continuously which indicates decline in total assets utilization as well as idle capacity with a scope to utilize total assets more effectively.
- It is also observed that on an average CA have been converted into sales 2.24 times which can be further improved through better utilization of current assets. WCTR has ranged between -3.65 and 11.78 and an erratic trend is observed as evident by CV of 71.26%.This indicates that over the study period the industry has utilized different levels of NWC and at times resort to negative NWC for supporting sales. However, looking at the mean of NWCCAR in Table 5.26, negative values are not found in any year and hence data was examined. On examination, a very low

negative NWC in decimal points was observed for 5 of the 16 companies. For a given level of sales as numerator and negative NWC in decimal points as denominator, the resultant values of WCTR is bound to be very high and negative. Also, the negative NWC was observed to be for 3 of the 5 companies in 1997 and 1998 and so for these 2 years the industry WCTR turns out to be negative.

- ITR ranged between 11.09 and 71.76 which is a very high and wide range as also observed from CV of 61.18%. On an average inventory is turned over 40.08 times which is a very high ratio. Such high ITR is indicative of overtrading situation which arises when a higher level of sales is supported with very low level of inventory which is observed to be true of the Transport Services Industry which is operating at an average of 5% inventory of total current assets. The reason for such a low level of inventory is again assigned to the nature of the industry and hence this situation is actually not a risky for the industry. IHP has ranged between 5 and 33 days wherein a consistently declining trend is observed throughout the study period as also evidenced by high values of CV at 70.12%. It can be observed that on an average the inventory in Transport Services Industry gets converted into cash in 14 days. The lower length of IHP and reduction in the length over the study period coupled with simultaneous increase in ITR throughout the selected time frame is indicative of efficiency in inventory management in the industry.
- Further it is observed that RTR ranged between 4.10 and 9.67 whereas ACP ranged between 87 and 180 days. On an average receivables are turned over 6.25 times with 113 days as the ACP. Overall, it can be observed that RTR has increased leading to decline in ACP thereby indicating improvement in receivables management and is in line with the findings of RTCAR (Table 5.27). Although ACP has reduced to 113 days, it is considerably very high for a service industry and therefore credit and collection policy of the Transport Services Industry needs due attention with need for controlling the credit policy and bringing promptness in the collection process. CTR ranged between 14.11 and 41.84 whereas APP ranged between 31 and 69 days. On an average the payables of the industry is turned over 26.20 times with APP of 39 days. It can also be observed that throughout the study period the CTR has been greater than RTR meaning thereby that the industry is repaying its liabilities regularly and more frequently than the company's debtors which indicates improper credit management in the Transport Services Industry and calls attention for further improvement of the same.

TABLE 5.30												
Year	Efficiency Ratios and Operating Cycle Variables: Transport Services Industry											
	TATR	CATR	WCTR	ITR	IHP (In Days)	RTR	ACP (In Days)	CBTR	CTR	APP (In Days)	OC (In Days)	NTC (In Days)
Mar-96	1.07	2.24	5.34	11.02	33	4.10	180	18.53	14.11	36	213	177
Mar-97	1.00	2.20	-3.65	11.75	31	4.31	134	25.65	23.40	37	165	128
Mar-98	1.02	2.12	-0.61	13.43	27	4.37	123	24.51	23.59	35	150	115
Mar-99	1.03	2.15	8.19	17.73	21	4.29	125	23.29	17.47	34	145	112
Mar-00	1.00	2.30	5.47	17.93	20	4.62	130	24.28	17.60	34	151	116
Mar-01	1.05	2.42	7.06	21.46	17	6.68	104	23.94	23.57	31	121	90
Mar-02	1.04	2.49	6.94	26.11	14	7.14	105	22.71	31.83	36	119	82
Mar-03	1.00	2.42	7.32	35.62	10	6.11	100	25.51	32.58	38	110	72
Mar-04	0.98	2.61	6.56	47.75	8	6.54	97	25.07	36.57	36	105	68
Mar-05	1.00	2.49	7.42	65.73	6	6.76	89	18.48	30.49	32	95	63
Mar-06	0.99	2.18	11.78	69.49	5	7.08	87	15.14	33.76	36	92	56
Mar-07	0.91	2.14	3.37	71.11	5	7.46	91	10.92	19.76	37	96	59
Mar-08	0.86	2.25	6.85	71.76	5	8.92	99	12.18	17.41	42	104	63
Mar-09	0.86	2.11	5.62	68.98	5	9.67	107	12.83	41.84	47	112	65
Mar-10	0.74	1.45	1.83	51.33	7	5.64	119	12.14	29.02	69	126	58
Mean	**0.97**	**2.24**	**5.30**	**40.08**	**14**	**6.25**	**113**	**19.68**	**26.20**	**39**	**127**	**88**
SD	**0.09**	**0.27**	**3.78**	**24.52**	**10.00**	**1.7**	**23.96**	**5.63**	**8.22**	**9.24**	**32.85**	**24.69**
CV(%)	**9.23**	**12.00**	**71.26**	**61.18**	**70.12**	**27.44**	**21.26**	**28.61**	**31.35**	**23.90**	**25.88**	**39.30**

- CBTR ranged between 10.92 and 25.65 as observed from Table 5.30 and on an average cash is turned over 19.68 times which is a high ratio, *i.e.,* sales are getting turned over 20 times on an average which is a positive sign again indicating better utilization of cash assets, liquidity of the current assets as well as efficiency in operating activities of the industry.
- From the perusal of Table 5.30 it is observed that OC ranged between 92 days to 213 days whereas NTC ranged between 56 days to 177 days. On an average the working capital investments of Transport Services Industry remains blocked for 127 days in the form of total current assets and are converted into cash in 88 days. Overall it can be observed that OC and NTC have continuously declined throughout the study period excepting 2009 which indicates an improvement in overall WCM which is on account of management of inventory as well as receivables in the Transport Services Industry al already observed from results for ITR, IHP, RTR and ACP in preceding paras as also ITCAR and RTCAR in *Para B.* However, OC and NTC of the industry can still be considered as very high in lieu of the fact that it is operating with very low level of inventories (4% on an average). Thus, the major cause for such a high OC and NTC can be assigned to the credit policy of the industry as already discussed above, which needs critical attention for further improvement in receivables management which will lead to shortening of the length of OC and NTC further leading to liquidity in asset structure along with overall improvement in WCM efficiency.

Profitability Analysis

The computations for each of the profitability ratio of the Transport Services Industry over the study period are presented in Table 5.31.

- From the perusal of Table 5.31 it is observed that OPM has ranged between 10.57% and 27.73% with industry mean of 17.33%. NPM has ranged between 3.72% and 18.75% with mean of 9.62%. The range of both the ratios is very high and overall, a fluctuating trend can be observed for both as also evidenced by CV of 28.84% and 50.46% respectively. The trend in profitability measured in terms of ROTA and EAT/TA is also observed to be fluctuating. From these results it can be concluded that the profitability position of the Transport Services Industry is unstable.
- The trend in RONW is errant and is evidence that the Transport Services Industry has not given stable returns to its shareholders over the study period. The overall operational efficiency is not very good in the industry. Moreover, post tax return on

total assets is lesser than the risk free rate of return – 8.10%[14] in 12 out of 15 years which is a dismal situation.

TABLE – 5.31

Profitability Ratios: Transport Services Industry (In %)

Year	OPM	NPM	ROTA	EAT/TA	RONW
Mar-96	22.46	15.08	13.88	8.03	17.30
Mar-97	17.85	9.25	12.68	6.35	13.95
Mar-98	14.55	5.93	10.65	4.82	9.96
Mar-99	13.36	4.29	9.9	4.33	8.33
Mar-00	13.50	5.22	10.34	4.80	8.77
Mar-01	14.68	7.68	11.41	5.81	11.23
Mar-02	10.60	3.72	10.03	4.66	7.46
Mar-03	10.57	4.59	8.59	3.85	7.58
Mar-04	16.57	11.01	13.10	8.42	19.08
Mar-05	27.73	18.75	16.15	10.89	22.97
Mar-06	21.89	16.77	13.80	9.60	20.00
Mar-07	18.55	12.09	12.08	7.83	10.97
Mar-08	19.52	11.79	12.51	7.83	12.08
Mar-09	14.34	5.41	10.53	6.17	11.64
Mar-10	23.83	12.76	9.23	5.66	4.48
Mean	17.33	9.62	11.66	6.60	12.39
SD	5.00	4.86	2.05	2.08	5.28
CV(%)	28.84	50.46	17.59	31.46	42.65

5.3.3.2 Time Trends in WCM, LEV and PROF: Transport Services Industry

Time trends in WCM, LEV and profitability ratios of Transport Services Industry have been examined by fitting the Linear Trend Model and Quadratic Trend Model. The results of linear trend on time variable are presented in Table 5.32 whereas the results of quadratic trend are presented in Table 5.33 for all the ratios. The results of both the models are interpreted jointly and the interpretations are presented as per the group to which each ratio belongs.

A. Leverage and Working Capital Policy Ratios

- On examining the outcome of regression analysis from Tables 5.32 and 5.33, it is observed that CLTAR, LTDTAR and TDTAR have shown significant downtrend indicating that there is reduction in utilization of LTD, CL as well as total debt for the financing of assets by firms in Transport Services Industry over the period under study. On account of simultaneous decline in both the leverage ratios, it was considered important to examine the trend in Net Worth to Total Asset Ratio (NWTAR). The results of the regression analysis however indicated no significant trend in NWTAR. Hence, it is concluded that, there is reduction in utilization of debt for financing the total assets of the business in the industry.

TABLE – 5.32							
Linear Trend on Time Variable for WCM, LEV & Profitability Ratios: Transport Services Industry							
Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Working Capital Policy and Debt Ratios							
LTDTAR	**0.557**	0.523	0.222	-0.002	-4.044*	0.001	1.269
TDTAR	**0.560**	0.526	0.498	-0.004	-4.070*	0.001	**0.759**
NWTAR	0.006	-0.071	0.493	0.000	0.272	0.790	**1.345**
CLTAR	**0.331**	0.280	0.276	-0.002	-2.538**	0.025	**0.928**
CATAR	**0.313**	0.260	0.494	-0.002	-2.433**	0.030	1.064
CLCAR	0.003	-0.074	0.633	-0.0008	-0.185	0.856	1.220
NWCCAR	0.003	-0.074	0.367	0.001	0.185	0.856	1.220
Current Asset Structure Ratios							
ITCAR	**0.703**	0.680	0.076	-0.003	-5.547*	0.000	1.054
RTCAR	**0.871**	0.862	0.640	-0.015	-9.388*	0.000	**0.666**
CBBTCAR	**0.756**	0.737	0.131	0.014	6.347*	0.000	**0.765**
PETCAR	0.164	0.100	0.083	-0.001	-1.597	0.134	1.108
LATCAR	0.001	-0.076	0.055	7.143E-5	0.085	0.933	1.367
MSTCAR	**0.757**	0.739	0.014	0.005	6.372*	0.000	**0.512**
Current Liabilities Structure Ratio							
TCCLR	**0.476**	0.435	0.292	0.003	3.434*	0.004	1.034
DACECLR	**0.620**	0.591	-0.009	0.006	4.607*	0.000	**0.947**
PCLR	**0.454**	0.412	0.268	-0.003	-3.287*	0.006	**0.988**
STBBCLR	0.010	-0.067	0.123	0.001	0.355	0.728	**0.496**
CFCCLR	**0.403**	0.357	0.150	-0.004	-2.961**	0.011	**0.602**
OCLCLR	0.003	-0.074	0.151	0.000	0.191	0.851	**0.445**
Liquidity Ratios							
CR	**0.342**	0.291	1.901	0.053	2.599**	0.022	**0.936**
QR	**0.458**	0.417	1.638	0.065	3.316*	0.006	**0.976**
ALR	**0.655**	0.628	0.198	0.080	4.964*	0.000	**0.776**
Current Asset Management Efficiency Ratios & Operating Cycle Variables							
TATR	**0.679**	0.655	1.102	-0.017	-5.249*	0.000	**0.768**
CATR	0.109	0.041	2.397	-0.020	-1.264	0.228	**0.718**
WCTR	0.084	0.013	3.347	0.244	1.089	0.296	1.635
ITR	**0.826**	0.813	0.206	4.984	7.861*	0.000	**0.615**
IHP	**0.872**	0.863	30.981	-2.089	-9.429*	0.000	**0.316**
RTR	**0.632**	0.604	3.809	0.305	4.728*	0.000	1.684
ACP	**0.455**	0.413	141.581	-3.614	-3.296*	0.006	**0.702**
CBTR	**0.581**	0.549	27.358	-0.960	-4.250*	0.001	**0.752**
CTR	0.256	0.199	18.762	0.930	2.116	0.054	1.763
APP	**0.358**	0.308	28.781	1.236	2.691**	0.019	**0.723**
OC	**0.602**	0.572	172.533	-5.700	-4.436*	0.001	**0.584**
NTC	**0.790**	0.774	143.438	-6.896	-7.001*	0.000	**0.744**

TABLE – 5.32 (Continued...)							
Linear Trend on Time Variable for WCM, LEV & Profitability Ratios: Transport Services Industry							
Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Profitability Ratios							
OPM	0.078	0.007	15.086	0.314	1.050	0.313	1.214
NPM	0.083	0.013	7.124	0.318	1.087	0.297	1.031
ROTA	0.001	-0.076	11.848	-0.014	-0.112	0.912	0.864
EAT/TA	0.118	0.050	5.381	0.161	1.318	0.210	0.832
RONW	0.002	-0.075	12.777	-0.049	-0.149	0.884	0.870
* Indicating significant results at 1% level of significance. ** Indicating significant results at 5% level of significance.							

Critical Values of "t"		
Degrees of Freedom	Probability (Alpha)	Table Value – t
13	0.01	3.010
13	0.05	2.160

Durbin – Watson Statistic (D-W Statistic), K = 1			
N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
13	0.01	0.738	1.038
13	0.05	1.010	1.340
Where, N = Sample size and K represents number of independent variables			

◈ A significant downtrend is also observed in CATAR indicating that the ratio has declined over the period under study. From this it is concluded that there is reduction in the investment in current assets in proportion to total assets and the current asset investment policy pursued by firms in Transport Services Industry is moving towards an aggressive approach over the study period. However, on examining the outcome of regression analysis for CLCAR and NWCCAR, no significant trend is observed in both these ratios indicating that the working capital financing policy of the firms in Transport Services Industry have not undergone significant changes.

B. Analysis of Current Asset Structure

◈ On examining the outcome of regression analysis from the perusal of Tables 5.32 and 5.33, a significant downtrend is observed for ITCAR and RTCAR whereas a significant uptrend is observed for CBBTCAR and MSTCAR. The increasing trend in MSTCAR indicates rising trend of investing idle excess cash in the industry thereby implying effort towards efficient cash management. Thus it is concluded that firms in Transport Services Industry have pursued a policy to reduce investments in inventories and receivables due to which there is increase in cash and bank balances as well as investments in marketable securities. The reduced

investment in inventories and receivables over the study period is the responsible factor for significant downtrend in CATAR. *However, no significant trend is observed for PETCAR and LATCAR.*

C. Analysis of Current Liabilities Structure Ratios

- On examining the outcome of regression analysis from the perusal of Tables 5.32 and 5.33, a significant positive linear trend is observed in TCCLR and it is concluded that over the study period there is rise in Trade credit as proportion of CL and as a source of financing current assets. *However, no significant trend is observed for DACECLR.*
- Moreover, a significant quadratic trend is observed for PCLR, STBBCLR, CFCCLR and OCLCLR. The trend in PCLR and OCLCLR is observed to be falling at increasing rate which is likely to reverse in 7^{th} and 10^{th} year respectively for the period under study. The trend in STBBCLR and CFCCLR is observed to be increasing at declining rate which is likely to reverse in 10^{th} and 6^{th} year respectively for the period under study. Thus it is noted that over the study period the structure of current liabilities has undergone change with the decline in share of Trade Credit, Provisions and OCL and rise in share of STBB and CFC. Thus it is concluded that STBB and CFC are preferred over Trade Credit, DACE, OCL and Provisions by firms in Transport Services Industry for creating liquidity to finance current assets.

D. Liquidity Analysis

- From the perusal of Tables 5.32 and 5.33, a significant positive linear trend is observed for all the liquidity ratios. Thus, it is concluded that there is an increase in liquidity position of the firms in Transport Services Industry over the period under study and is in line with the linear trend observed for CATAR, CBBTCAR and MSTCAR. However, increase in liquidity is also not always a very good situation as it may, at times, result to idle, unutilized and unproductive cash. But this is not a case for Transport Services Industry as it has already been noted that the industry is investing idle cash, if any in marketable securities.

E. Current Asset Management Efficiency Analysis

- On examining the outcome of regression analysis from Tables 5.32 and 5.33, a significant falling trend is observed for TATR and it is concluded that there is deterioration of asset utilization by firms in Transport Services Industry over the period under study with an ample scope for more effective utilization of idle capacity.

TABLE – 5.33

Quadratic Trend on Time Variable for WCM, LEV and Profitability Ratios: Transport Services Industry

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope β1	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic
Working Capital Policy & Leverage Ratios									
LTDTAR	0.560	0.486	0.220	-0.001	-3.185 E-5	-0.666 (0.518)	-0.265 (0.796)	7.628* (0.007)	1.283
TDTAR	0.620	0.557	0.515	-0.0102	0.0003 68	-2.057 (0.062)	1.116 (0.286)	9.060* (0.004)	0.874
NWTAR	0.124	-0.022	0.484	0.004	-0.00 021	1.304 (0.217)	-1.274 (0.227)	0.850 (0.452)	1.560
CLTAR	0.423	0.327	0.292	-0.008	0.0003 79	-1.968 (0.073)	1.385 (0.191)	4.407** (0.037)	1.144
CATAR	0.343	0.234	0.503	-0.005	0.0001 9	-1.292 (0.221)	0.747 (0.469)	3.137 (0.080)	1.094
CLCAR	0.006	-0.160	0.622	0.003	-0.00 015	0.155 (0.879)	-0.203 (0.842)	0.036 (0.964)	1.211
NWCCAR	0.006	-0.160	0.378	-0.003	0.00015	-0.155 (0.879)	0.203 (0.842)	0.036 (0.964)	1.211
Current Asset Structure Ratios									
ITCAR	0.778	0.741	0.065	0.001	-0.00 023	0.494 (0.630)	-2.011 (0.067)	21.008* (0.000)	1.324
RTCAR	0.878	0.857	0.625	-0.010	-0.00 022	-1.436 (0.177)	-0.776 (0.453)	43.017* (0.000)	0.679
CBBTCAR	0.759	0.719	0.121	0.017	-0.0003	1.819 (0.094)	-0.377 (0.713)	18.885* (0.000)	0.777
PETCAR	0.367	0.261	0.097	-0.006	0.0003	-2.320** (0.039)	1.959 (0.074)	3.472 (0.065)	1.414
LATCAR	0.031	-0.131	0.049	0.002	-0.00 016	0.612 (0.552)	-0.609 (0.554)	0.189 (0.830)	1.415
MSTCAR	0.905	0.889	0.043	-0.004	0.001	-1.871 (0.086)	4.309* (0.001)	57.014* (0.000)	1.129
Current Liabilities Structure Ratio									
TCCLR	0.478	0.391	0.294	0.002	5.471 E-5	0.548 (0.593)	0.242 (0.813)	5.497* (0.020)	1.049
DACECLR	0.678	0.624	0.012	-0.001	0.00 0419	-0.289 (0.777)	1.470 (0.167)	12.639* (0.001)	1.113
PCLR	0.699	0.649	0.296	-0.013	0.001	-4.049* (0.002)	3.130* (0.009)	13.954* (0.001)	1.540
STBBCLR	0.755	0.714	0.069	0.019	-0.001	6.034* (0.000)	-6.044* (0.000)	18.499* (0.000)	1.691
CFCCLR	0.726	0.681	0.104	0.011	-0.00 098	2.664** (0.021)	-3.766* (0.003)	15.920* (0.000)	1.358
OCLCLR	0.584	0.514	0.208	-0.019	0.001	-3.909* (0.002)	4.093* (0.001)	8.417* (0.005)	1.010
Liquidity Ratios									
CR	0.349	0.240	1.811	0.083	-0.002	0.935 (0.368)	–0.350 (0.732)	3.212 (0.076)	0.952
QR	0.460	0.370	1.591	0.081	-0.001 72	0.938 (0.367)	-0.187 (0.854)	5.107** (0.025)	0.982
ALR	0.655	0.597	0.195	0.081	-6.892 E-5	1.146 (0.274)	-0.016 (0.987)	11.372* (0.002)	0.776

TABLE – 5.33 (Continued)

Quadratic Trend on Time Variable for WCM, LEV and Profitability Ratios: Transport Services Industry

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope β1	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic
Current Asset Management Efficiency Ratios & Operating Cycle Measures									
TATR	0.861	0.838	0.997	0.018	-0.002	2.033 (0.065)	-3.960* (0.002)	37.178* (0.000)	1.679
CATR	0.585	0.516	1.889	0.150	-0.010	3.179* (0.008)	-3.706* (0.003)	8.449* (0.005)	1.289
WCTR	0.386	0.283	-2.347	2.148	-0.117	2.664** (0.021)	-2.430** (0.032)	3.770** (0.054)	2.421
ITR	0.833	0.806	-5.292	6.925	-0.121	2.500** (0.028)	-0.721 (0.485)	30.015* (0.000)	0.604
IHP	0.988	0.986	39.952	-5.255	0.198	-17.154* (0.000)	10.628* (0.000)	483.760* (0.000)	1.400
RTR	0.654	0.596	3.115	0.537	-0.014	1.954 (0.074)	-0.869 (0.402)	11.342* (0.002)	1.760
ACP	0.841	0.815	182.408	-17.265	0.840	-6.639* (0.000)	5.403* (0.000)	31.804* (0.000)	1.847
CBTR	0.765	0.726	20.735	1.225	-0.136	1.689 (0.117)	-3.068* (0.010)	19.581* (0.000)	1.200
CTR	0.300	0.183	14.062	2.501	-0.097	1.335 (0.207)	-0.864 (0.405)	2.568 (0.118)	1.870
APP	0.708	0.659	43.777	-3.779	0.309	-2.777** (0.017)	3.793* (0.003)	14.538* (0.001)	1.191
OC	0.930	0.919	222.233	-23.241	1.096	-9.692* (0.000)	7.522* (0.000)	80.205* (0.000)	1.717
NTC	0.942	0.932	179.090	-19.479	0.786	-8.412* (0.000)	5.588* (0.004)	97.109* (0.000)	1.847
Profitability Ratios									
OPM	0.232	0.104	20.485	-1.491	0.111	-1.242 (0.238)	1.548 (0.148)	-1.809 (0.206)	1.341
NPM	0.131	-0.014	10.073	-0.668	0.061	-0.534 (0.603)	0.812 (0.433)	0.905 (0.430)	1.030
ROTA	0.006	-0.160	12.241	-0.146	0.008	-0.262 (0.798)	0.243 (0.812)	0.035 (0.965)	0.866
EAT/TA	0.118	-0.029	5.511	0.117	0.003	0.219 (0.830)	0.083 (0.935)	0.806 (0.469)	0.830
RONW	0.026	-0.136	10.604	0.718	-0.048	0.498 (0.628)	-0.547 (0.595)	0.160 (0.854)	0.886

* Indicating significant results at 1% level of significance.
** Indicating significant results at 5% level of significance.

Critical Values of "t" and "F"

t-test			F-test: Degrees of Freedom = 2		
DF	Probability (Alpha)	Table Value – t	N	Probability (Alpha)	Table Value – F
12	0.01	3.055	12	0.01	6.93
12	0.05	2.179	12	0.05	3.88

Durbin – Watson Statistic (D-W Statistic), K = 2

N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
12	0.01	0.569	1.274
12	0.05	0.812	1.579

Where, N = Sample size and K represents number of independent variables

- However, a significant quadratic trend is observed for CATR as well as WCTR. The results indicate that both CATR and WCTR are increasing at decreasing rate and the trend is likely to reverse in 8th and 9th year respectively. From these results it is concluded that the current asset management efficiency has improved over the period under study which is on account of improvement in receivables well as inventory management and can be credited to the appropriate policies pursued by the managers' of firms in Transport Services Industry with respect to current asset management. It is also concluded that there is an improvement in efficiency of net working capital utilization of firms in Transport Services Industry over the study period.
- A significant positive linear trend is observed for ITR which indicates that over the study period there is substantial rise in the ITR and a significant quadratic trend is observed for IHP which is falling at increasing rate and the trend is likely to reverse in the 13th year for the period under study. Increase in ITR is associated with improved and efficient inventory management as well as reduced risk of illiquidity. The decline in IHP further substantiates the fact of improved inventory management.
- A significant positive linear trend is observed for RTR which indicates that over the study period there is a rise in the RTR and a significant quadratic trend is observed for ACP which is declining at increasing rate and the trend is likely to reverse in 10th year. Increase in RTR is associated with improved and efficient receivables management leading to decline in credit risk and decline in ACP further substantiates the fact that the receivables management of the Transport Services Industry has substantially improved. This is in line with the results of time trend observed for RTCAR in para B.
- A significant downtrend observed in CBTR indicates that there is a decline in efficiency of cash management of firms in Transport Services Industry over the study period. However, *no significant trend is observed for CTR.*
- A significant quadratic trend is observed for APP which is falling at increasing rate and the trend is likely to reverse in 6th year for the period under study and it is concluded that firms in the industry are paying its dues more frequently.
- A significant quadratic trend is observed for both OC and NTC which is found to be falling at increasing rate and the trend is likely to reverse in 11th and 12th year respectively. The results indicate that there is a significant decline in the length of OC and NTC over the study period which signifies reduced working capital

investments as well as quick realization of these investments in cash which is in line with downtrend observed for ITCAR, CATAR and RTCAR and uptrend observed in CBBTCAR, MSTCAR, CR, QR and ALR. Hence, it is concluded that WCM of Transport Services Industry is efficient.

F. Profitability Analysis

On examining the outcome of time trend from Tables 5.32 and 5.33, no significant trend is observed for all the five measures of profitability and it is concluded that the profitability of Transport Services Industry has remained stable over the period under study.

5.3.4 Trend Analysis: WCM, LEV and PROF of Health Services Industry (7 companies)

This para examines the overall trends as well as the time trends (Linear and Quadratic Trend) in WCM, LEV and Profitability Ratios of the Health Services Industry for 7 sample companies. The overall trends is presented and interpreted first which is followed by the presentation and elucidation of the time trends analysis.

5.3.4.1 Trends in WCM and PROF: Health Services Industry

The overall trends in WCM, LEV and Profitability ratios is observed by taking industry average on yearly basis to understand the yearly movements in ratios as well as the nature of WCM, LEV and Profitability position in the Health Services Industry. The results of the analysis are presented and interpreted as per the group to which each ratio belongs.

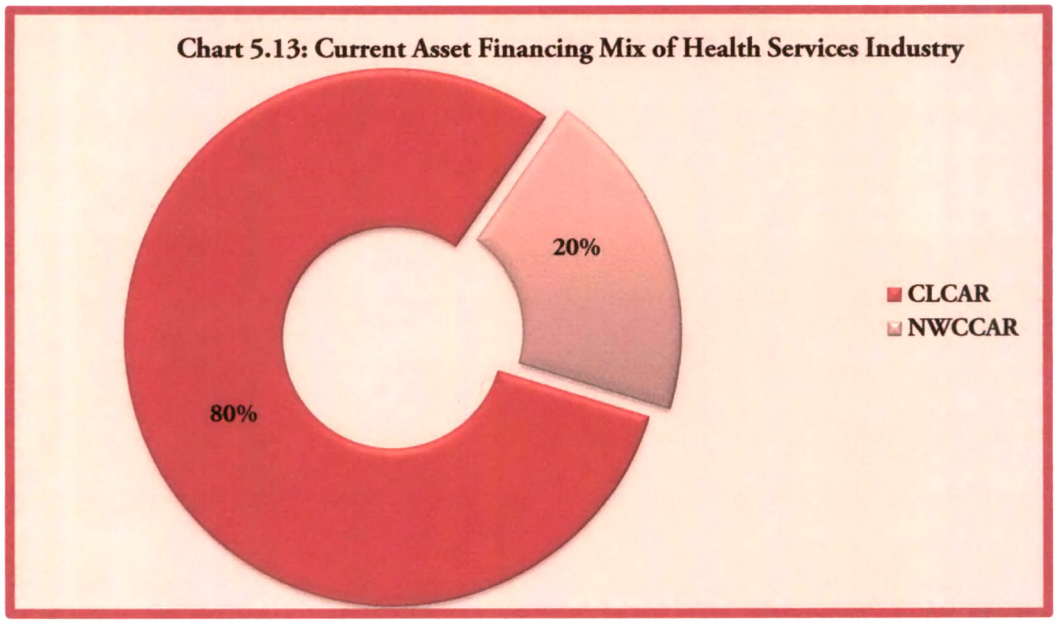
A. Leverage and Working Capital Policy Ratios

The computation for each ratio of LEV and Working Capital Policy over the study period is presented in Table 5.34. Chart 5.13 presents the current asset financing mix, *i.e.,* share of current liabilities and net working capital for financing total current assets.

- From the perusal of Table 5.34 it is observed that LTDTAR ranged between 17% (2002) and 36% (2010) which is a very high range as also observed from CV of 23.95%. On an average, long term funds have financed 23% of the total assets of the Health Services Industry which seems to be a reasonable policy of debt financing being pursued in the industry. CLTAR ranged between 12% (1996) and 31% (2010) which is also a wide range as observed from CV of 27.38%. It can also be observed that on an average, 45% of the total assets of Health Services Industry are financed by total debt and seems to be a conservative approach of debt financing in the Health Services Industry. Also from the analysis of CLTAR it is

noted that the Health Services Industry is pursuing a conservative working capital financing approach.

TABLE – 5.34						
Working Capital Policy and Leverage Ratios: Health Services Industry						
Leverage Ratios			Working Capital Policy Ratios			
Year	LTDTAR	TDTAR	CLTAR	CATAR	CLCAR	NWCCAR
Mar-96	0.23	0.35	0.12	0.28	0.64	0.36
Mar-97	0.25	0.39	0.14	0.25	0.67	0.33
Mar-98	0.26	0.41	0.15	0.24	0.70	0.30
Mar-99	0.24	0.41	0.17	0.25	0.75	0.25
Mar-00	0.20	0.39	0.19	0.29	0.77	0.23
Mar-01	0.18	0.39	0.21	0.31	0.78	0.22
Mar-02	0.17	0.39	0.22	0.32	0.85	0.15
Mar-03	0.19	0.43	0.24	0.32	0.94	0.06
Mar-04	0.21	0.47	0.26	0.34	0.92	0.08
Mar-05	0.20	0.50	0.30	0.35	0.99	0.01
Mar-06	0.17	0.47	0.30	0.38	0.95	0.05
Mar-07	0.18	0.42	0.24	0.43	0.64	0.36
Mar-08	0.26	0.52	0.26	0.40	0.68	0.32
Mar-09	0.31	0.60	0.29	0.39	0.75	0.25
Mar-10	0.36	0.67	0.31	0.38	0.95	0.05
Mean	0.23	0.45	0.22	0.33	0.80	0.20
SD	0.05	0.08	0.06	0.06	0.12	0.12
CV(%)	23.95	19.32	27.38	18.11	15.57	61.75



◈ From Table 5.34, it is observed that the ratio of current assets to total assets ranged between 24% (1998) and 43% (2007) and on an average Health Services Industry invests 33% of its funds in current assets. A rising trend is noted for CATAR indicating that there has been increased investment in current assets over the study

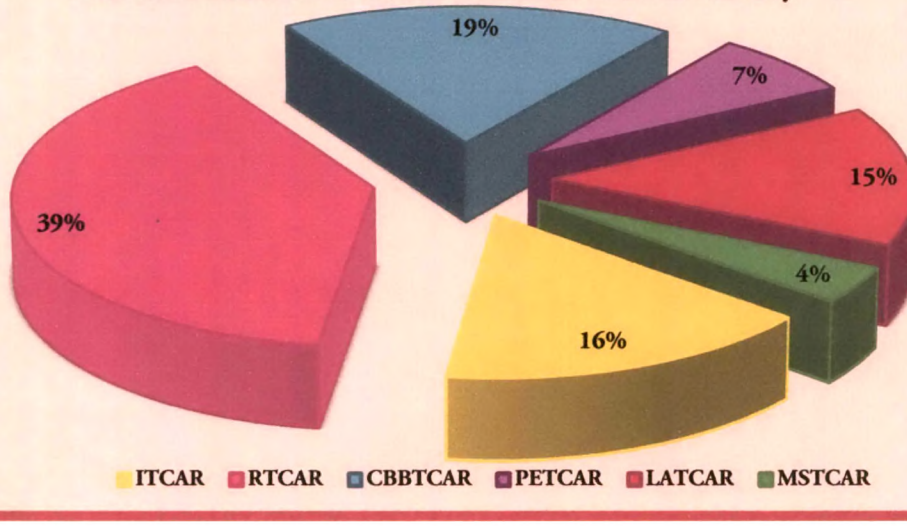
period. Also, CATAR of 33% suggests that the Health Services Industry is following a moderate current asset investment policy.

- From the perusal of Chart 5.13, it is observed that CL finance 80% of current assets whereas NWC contributes 20%. CLCAR ranges between 0.64 and 0.99 whereas NWCCAR ranges between 0.01 and 0.36. Overall it can be observed that firms in the industry put a higher reliance on short term funds to finance the current assets as compared to NWC which is an aggressive approach of financing current assets. This also conveys that the industry is having an easy access to current funds for financing its current assets which can only be due to the good reputation, established business and creditworthiness. Similar phenomenon was observed in the study of Ansari[1]. Thus, it is concluded that the Health Services Industry is following an aggressive working capital financing policy which was also observed in the study of Pradhan[2] for 6 manufacturing industries. Lower values of SD indicate that over a period of time the leverage position of the Health Services Industry as well as the working capital policy has not undergone major fluctuations and has changed progressively.

B. Analysis of Current Asset Structure

In order to examine the structure of current assets (CA), the composition of CA with reference to various components of CA is studied. The computation for each ratio over the study period is presented in Table 5.35. Chart 5.14 presents the share of each CA in pie of total current asset.

Chart 5.14: Current Asset Structure of Health Services Industry



- From the perusal of Chart 5.24, it is observed that Receivables had the highest share in the current assets of Health Services Industry with 39% on an average

followed by Cash and Bank Balance at 19%, Inventories at 16%, Loans and Advances at 15%, Prepaid Expenses at 7% and Marketable Securities at 4%.

- From the perusal of Table 5.35 it is noted that the share of inventories ranged between 14% and 19% wherein a fluctuating trend can be observed. However, it has more or less remained stable with lower fluctuations as also observed from CV of 9.63%. From these results it seems that the Health Services Industry needs 16% inventory on an average to conduct its operations smoothly as there have been no major fluctuations in the level of inventory in the industry.

TABLE – 5.35

Current Asset Structure Ratios: Health Services Industry

Year	ITCAR	RTCAR	CBBTCAR	PETCAR	LATCAR	MSTCAR
Mar-96	0.16	0.42	0.37	0.01	0.03	0.01
Mar-97	0.16	0.47	0.27	0.05	0.03	0.02
Mar-98	0.16	0.53	0.19	0.08	0.02	0.02
Mar-99	0.16	0.54	0.17	0.09	0.01	0.03
Mar-00	0.15	0.44	0.18	0.09	0.08	0.06
Mar-01	0.14	0.41	0.17	0.09	0.14	0.05
Mar-02	0.18	0.39	0.17	0.09	0.13	0.04
Mar-03	0.19	0.33	0.18	0.08	0.18	0.04
Mar-04	0.18	0.32	0.17	0.07	0.22	0.04
Mar-05	0.17	0.31	0.16	0.08	0.24	0.04
Mar-06	0.16	0.28	0.15	0.11	0.25	0.05
Mar-07	0.14	0.28	0.15	0.09	0.27	0.07
Mar-08	0.15	0.33	0.14	0.07	0.24	0.07
Mar-09	0.14	0.40	0.14	0.06	0.21	0.05
Mar-10	0.15	0.45	0.17	0.05	0.16	0.02
Mean	**0.16**	**0.39**	**0.19**	**0.07**	**0.15**	**0.04**
SD	**0.02**	**0.08**	**0.06**	**0.02**	**0.09**	**0.02**
CV(%)	**9.63**	**21.33**	**32.17**	**32.62**	**63.02**	**45.02**

- Further, it is noted that Receivables ranged between 28% and 54% which is a very wide range wherein a fluctuating trend is observed. It can also be observed that the Health Services Industry on an average invests 39% in receivables. On an average the firms in Health Services Industry maintain 15% of CA as Loans and Advances which is a very high proportion whereas 7% as prepaid expenses.
- The share of cash and bank balance has ranged between 14% and 37% which has continuously declined till 2009 except years 2000 and 2003. This decline indicates possibility of the cautious measure taken by the industry to do away with the excess liquidity which can be confirmed through time trend analysis. The share of marketable securities has ranged between 1% and 7%. The mean share of cash assets (CBB+MS) at 23% in the current asset structure indicates good liquidity

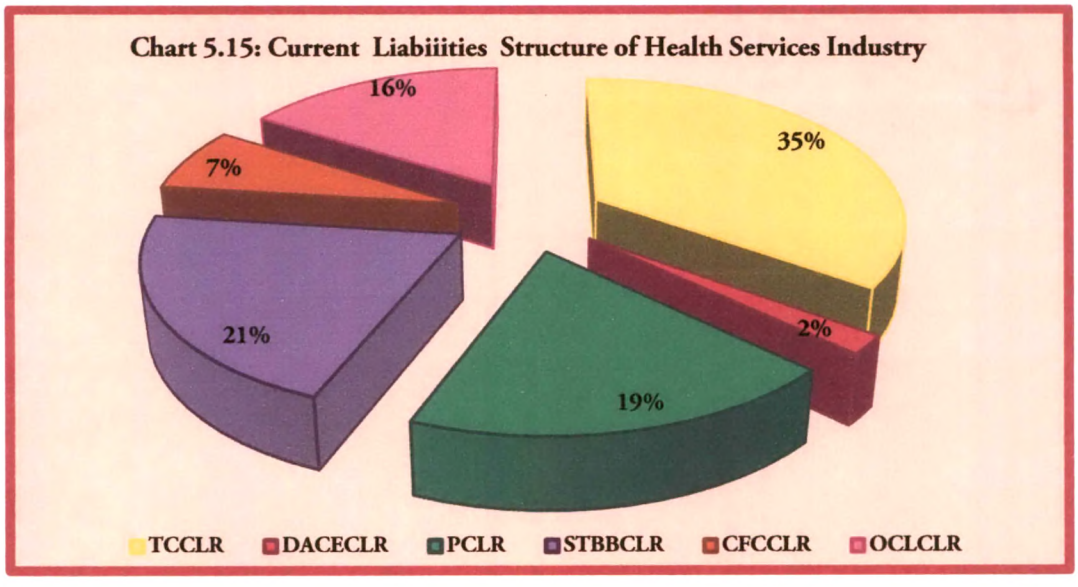
position in the industry which can further be substantiated by the analysis of liquidity ratios.

C. Analysis of Current Liabilities Structure Ratios

In order to examine the structure of current liabilities of Health Services Industry, the composition of CL with reference to various components of CL is studied. The computation for each ratio over the study period is presented in Table 5.36. Chart 5.15 presents the share of each component of CL in the pie of total current liability.

- From the perusal of Chart 5.15 it is observed that Trade Credit with 35% of the total current liabilities is the major source of financing the current assets of the Health Services Industry, followed by Short Term Bank Borrowings at 21%, Provisions at 19%, Other Current Liabilities at 16%, Current Financing Charge at 7%, which is followed by Deposits and Advances from Customers and Employees at 2%. Also, among the current liabilities, the Spontaneous source of short term finance (Trade Credit, CFC, Provisions and OCL) is dominating the current liabilities structure at 77% and balance 23% comprises of the negotiated sources of short term finance (STBB and DACE).

Chart 5.15: Current Liabiiities Structure of Health Services Industry



- From the perusal of Table 5.36 it is observed that TCCLR and DACECLR has increased over the study period indicating higher reliance on them for creating liquidity to finance the current assets; PCLR has reduced indicating reduced reliance on Provisions as a source to finance current assets. Also, it can be observed that the changes in current liabilities structure ratios have been progressive and with lower volatility throughout the study period as evidenced by the values of SD.

TABLE – 5.36						
Current Liabilities Structure Ratios: Health Services Industry						
Year	TCCLR	DACECLR	PCLR	STBBCLR	CFCCLR	OCLCLR
Mar-96	0.29	0.03	0.30	0.14	0.08	0.16
Mar-97	0.27	0.00	0.33	0.14	0.09	0.17
Mar-98	0.29	0.02	0.22	0.15	0.12	0.20
Mar-99	0.30	0.02	0.16	0.21	0.10	0.21
Mar-00	0.30	0.01	0.16	0.27	0.07	0.19
Mar-01	0.36	0.02	0.14	0.19	0.11	0.18
Mar-02	0.39	0.02	0.15	0.18	0.11	0.15
Mar-03	0.39	0.02	0.15	0.24	0.05	0.15
Mar-04	0.41	0.02	0.15	0.25	0.02	0.15
Mar-05	0.37	0.02	0.16	0.26	0.05	0.14
Mar-06	0.30	0.02	0.18	0.27	0.08	0.15
Mar-07	0.34	0.04	0.21	0.20	0.07	0.14
Mar-08	0.36	0.04	0.20	0.23	0.06	0.11
Mar-09	0.37	0.04	0.16	0.23	0.05	0.15
Mar-10	0.42	0.04	0.12	0.21	0.03	0.18
Mean	0.35	0.02	0.19	0.21	0.07	0.16
SD	0.05	0.01	0.06	0.04	0.03	0.03
CV(%)	14.19	49.30	31.73	21.08	41.11	16.20

D. Liquidity Analysis

The outcome of computations for the liquidity ratios over the study period is presented in Table 5.37.

TABLE – 5.37			
Liquidity Ratios: Health Services Industry			
Year	CR	QR	ALR
Mar-96	3.22	3.03	1.93
Mar-97	2.09	1.89	0.79
Mar-98	1.95	1.75	0.53
Mar-99	1.93	1.74	0.45
Mar-00	1.95	1.74	0.51
Mar-01	1.62	1.44	0.39
Mar-02	1.52	1.31	0.37
Mar-03	1.49	1.25	0.37
Mar-04	1.48	1.20	0.34
Mar-05	1.32	1.06	0.27
Mar-06	1.30	1.10	0.25
Mar-07	2.03	1.76	0.35
Mar-08	1.69	1.44	0.36
Mar-09	1.75	1.47	0.36
Mar-10	1.61	1.31	0.30
Mean	1.80	1.57	0.51
SD	0.47	0.48	0.42
CV(%)	26.00	30.81	82.40

- From the perusal of Table 5.37, it is observed that the industry CR ranged between 1.30 and 2.09 except 1996 when it was observed to be 3.22 whereas QR ranged between 1.10 and 1.89 except 1996 when it was observed to be 3.03. The industry ALR ranged between 0.25 and 0.79 except in 1996 when it was observed to be 1.20. CR was above 2 only in 3 of 15 years, QR was above the thumb rule in 6 years whereas ALR was above thumb rule in only 4 years. On an average the industry maintains ₹ 1.80 of current assets, ₹ 1.57 of quick assets and ₹ 0.51 of cash assets against ₹ 1 of current liabilities which is considerably a reasonable proportion. Overall, a declining trend can be observed in all the liquidity ratios except CR and QR where spike is observed in 2007. The reason for the same can be assigned to continuously declining cash balances as observed from perusal of Table 5.35.
- Considering the traditional norm for CR, it can be concluded that liquidity position is not very sound in the Health Services Industry. However, as QR is considered to be a more rigorous test of liquidity when compared with CR, it can be concluded that the Health Services Industry has sparing liquidity over the selected time frame which can be further improved for a sound and comfortable liquidity position. ALR indicates liquidity position in absolute sense and the mean ALR of 0.51 indicates that the Health Services Industry is having only sufficient short term liquidity.

E. Current Asset Management Efficiency Analysis

The computation for each CAME ratio and Operating Cycle Variables over the study period is presented in Table 5.38.

- From the perusal of Table 5.38 it is observed that TATR has ranged between 0.51 and 1.10 and on an average for ₹ 1 of investment in TA, sales of ₹ 0.78 is generated which indicates effective utilization of total assets. It is also be observed that current assets have been turned over 2.86 times on an average which indicates efficient utilization of current assets and that for per rupee investment in current assets sales of ₹ 2.86 is generated. WCTR of Health Services Industry is observed to be errant which has ranged between -2.67 and 16.41 except in 2007 when it was observed to be 106.10 on account of Kovai Medical Centre and Hospitals Limited. The effect of eliminating the company is evident from the values in bracket. Hence, the fluctuation in WCTR are grave as evidenced by the CV of 261.9% and indicates that over the study period the industry has utilized different levels of NWC and at times had resorted to negative NWC for supporting sales. However, looking at the mean of NWCCAR in Table 5.34, negative values are not found in any year and

hence data was examined. On examination, very low negative NWC in decimal points was observed for 3 of the 7 companies due to which the industry NWCCAR was not affected. However, for a given level of sales as numerator and negative NWC in decimal points as denominator, the resultant values of WCTR is bound to be very high and negative. Also, all the 3 companies were observed to have negative NWC in 2000, 2002 and 2006 and so for these 3 years the industry WCTR turns out to be negative.

- ITR ranged from 13.58 to 21.84 and on an average inventory has been turned over 16.23 times whereas IHP has ranged from 15 to 28 days and on an average the inventory of Health Services Industry gets converted into cash in 23 days. Shorter length of IHP coupled with high ITR indicates quick conversion of inventory to sales and implicates efficient inventory management. However, a fluctuating trend is observed in both ITR and IHP.
- RTR ranged between 7.30 and 12.09 whereas ACP ranged between 47 and 100 days. On an average the receivables of the Health Services Industry gets turned over 9.31 times with 69 days as ACP. Overall it can be inferred that the receivables management of the industry is effective. However, a fluctuating trend is observed for both RTR and ACP. **CTR** has ranged between 8.06 and 26.94, whereas APP ranged between 26 and 75 days. On an average the creditors of Health Services Industry are turned over 12.25 times with 41 days as the time taken by the industry to repay its creditors. The high CTR indicates that the Health Services Industry is prompt in paying its dues which has resulted to good reputation of the Industry and can be assigned as the cause for easy access to short term funds resulting to heavy reliance on current liabilities to finance the current assets. It is also observed that throughout the study period the CTR has been greater than RTR except 2002 to 2005, meaning thereby that the industry is repaying its liabilities regularly and more frequently than the company's debtors. Ideally, it is believed that there should be a positive difference between APP and ACP, however for the Health Services Industry the difference is negative indicating that the company is extending credit greater than what it is receiving from its trade creditors which needs attention and improvement on the part of management of Health Services Industry.
- CBTR ranged between 14.63 and 49.82 and on an average cash is turned over 28.23 times which is a high ratio and a positive sign indicating better utilization of cash assets, efficient cash management leading to liquidity of the current assets as well as efficiency in operating activities of the industry.

TABLE 5.38													
Year	Efficiency Ratios and Operating Cycle Variables: Health Services Industry												
	TATR	CATR	WCTR	ITR	IHP (In Days)	RTR	ACP (In Days)	CBTR	CBTR#	CTR	APP (In Days)	OC (In Days)	NTC (In Days)
Mar-96	0.51	2.67	2.84	14.05	26	9.11	85	21.82	52.84	10.71	27	111	84
Mar-97	0.60	2.89	2.31	13.18	28	9.11	86	26.85	95.87	11.83	27	114	87
Mar-98	0.66	3.20	3.39	14.05	26	8.05	80	34.24	114.5	10.51	26	106	80
Mar-99	0.72	3.39	16.41	14.78	23	7.60	72	39.27	66.32	10.44	27	95	68
Mar-00	0.76	3.18	-2.18	21.84	17	8.51	62	43.30	74.16	17.82	29	79	50
Mar-01	0.78	3.14	13.51	15.82	23	8.84	61	49.82	104.28	9.66	35	84	49
Mar-02	0.77	3.19	-0.41	15.17	24	9.07	58	32.18	87.15	9.98	40	82	42
Mar-03	0.73	3.11	0.83	15.93	23	12.09	57	29.39	76.76	8.06	44	80	36
Mar-04	0.71	2.56	1.65	16.16	23	10.96	59	22.40	34.82	8.46	56	82	26
Mar-05	0.74	2.54	2.93	17.01	21	9.83	65	27.87	30.08	8.57	63	86	23
Mar-06	0.72	2.53	-2.67	17.55	21	9.16	100	28.65	25.81	11.23	75	121	46
Mar-07	1.10	2.63	106.10 (5.11)	18.40	20	11.86	46	20.29	39.18	10.99	32	66	34
Mar-08	1.02	2.58	3.46	17.43	21	10.20	68	12.17	27.18	11.01	45	89	44
Mar-09	0.92	2.49	3.09	16.24	23	7.88	65	14.63	28.79	26.94	45	88	43
Mar-10	0.98	2.84	3.30	15.81	23	7.30	72	20.46	544.11	17.57	42	95	53
Mean	**0.78**	**2.86**	**10.30 (3.57)**	**16.23**	**23**	**9.31**	**69**	**28.23**	**93.46**	**12.25**	**41**	**92**	**51**
SD	**0.16**	**0.31**	**26.99 (5.13)**	**2.11**	**2.68**	**1.46**	**13.85**	**10.39**	**128.25**	**4.97**	**14.60**	**15.15**	**20.12**
CV(%)	**20.41**	**10.87**	**261.90 (143.55)**	**13.01**	**11.75**	**15.64**	**20.05**	**36.82**	**137.20**	**40.54**	**35.71**	**16.49**	**39.45**

The CBTR of Secunderabad Healthcare Ltd. was found to be very high and it affected the entire industry mean CBTR which is presented as CBTR**. Also the effect of eliminating the company is very much evident from mean, SD and CV values in CBTR column. Considering the same, it was considered appropriate to eliminate this company for the analysis of CBTR and its analysis is based on 6 companies. The values in bracket for WCTR are derived when WCTR of Kovai Medical Centre and Hospitals Limited is eliminated and is for 6 companies.

◈ From the perusal of Table 5.38 it is observed that OC ranged between 66 and 121 whereas NTC ranged between 23 days to 87 days. On an average the working capital investments of Health Services Industry remains blocked for 92 days in the form of total current assets and are realized in cash in 51 days. Overall a reduction in length of OC and NTC is observed indicating improvement in WCM.

Profitability Analysis

The computations for each of the profitability ratio of the Health Services Industry over the study period are presented in Table 5.39.

TABLE – 5.39

Profitability Ratios: Health Services Industry (In %)

Year	OPM	NPM	ROTA	EAT/TA	RONW	RONW#
Mar-96	20.87	10.92	10.63	5.43	12.54	9.31
Mar-97	18.93	7.44	11.58	5.08	12.43	9.45
Mar-98	14.00	4.90	10.30	4.28	11.26	9.69
Mar-99	13.35	5.42	10.26	4.40	8.14	9.00
Mar-00	11.05	4.80	9.26	4.26	7.81	8.38
Mar-01	6.56	1.64	5.10	1.39	0.12	3.20
Mar-02	9.19	3.22	7.47	2.78	5.21	5.72
Mar-03	6.22	-0.41	5.65	0.78	3.55	2.31
Mar-04	1.08	-5.04	2.54	-1.63	2.33	-5.54
Mar-05	-5.53	-7.08	0.58	-1.93	-3.52	-4.12
Mar-06	14.08	10.69	7.71	4.85	10.04	11.77
Mar-07	11.53	6.52	16.58	11.63	21.70	18.09
Mar-08	-2.05	-9.14	7.63	1.84	11.17	0.47
Mar-09	-5.03	-12.81	4.20	-1.14	6.46	-18.40
Mar-10	2.96	-4.29	3.06	-2.69	8.94	40.09
Mean	**7.81**	**1.12**	**7.50**	**2.62**	**7.88**	**6.63**
SD	**8.20**	**7.29**	**4.14**	**3.74**	**6.04**	**12.73**
CV	**105.00**	**651.60**	**55.16**	**142.50**	**76.64**	**192.10**

The RONW of Chennai Meenakshi Multispeciality Hospitals Limited was found to be very high in 2010 on account of negative net worth in that year and it affected the entire industry mean RONW which is presented as RONW#. Also the effect of eliminating the company is very much evident from mean, SD and CV values in RONW column. Considering the same, it was considered appropriate to eliminate this company for the analysis of RONW which is based on 6 companies.

◈ From the perusal of Table 5.39 it is observed that OPM has ranged between -5.53% and 20.87% with industry mean of 7.81%. NPM has ranged between -12.81% and 10.92% with industry mean of 1.12%. A fluctuating trend in both the OPM and NPM of Health Services Industry can be observed. The range of both the ratios is very high as evidenced by CV of 105% and 651.6% respectively. The trend in profitability measured in terms of ROTA and EAT/TA is also observed to be fluctuating and declining except few years. From these results it can be concluded that the profitability of the industry is very poor and unstable. RONW has ranged between -3.52% and 21.70% with mean of 7.88%. A fluctuating trend observed in

RONW indicates that companies in Health Services Industry are unable to provide stable returns to its investors.

- The operational efficiency of the Health Services Industry has deteriorated over the study period. The post tax return on total asset is lesser than the risk free rate of return 8.10%[14] in 14 out of 15 years which is a dismal situation. Also, the return on net worth has been very erratic.

5.3.4.2 Time Trends in WCM, LEV and PROF: Health Services Industry

Time trends in WCM, LEV and profitability ratios of Health Services Industry have been examined by fitting the Linear Trend Model and Quadratic Trend Model. The results of linear trend on time variable are presented in Table 5.40 whereas the results of quadratic trend are presented in Table 5.41 for all the ratios. The results of both the models are interpreted jointly and the interpretations are presented as per the group to which each ratio belongs.

A. Leverage and Working Capital Policy Ratios

- On examining the outcome of regression analysis from Tables 5.40 and 5.41, a significant quadratic trend is observed for LTDTAR as well as CLTAR. The trend is declining at increasing rate for LTDTAR which is likely to reverse in 9th year for the period under study. However, CLTAR is increasing at decreasing rate and the trend in this ratio is likely to reverse in 16th year for the period under study. From these results, it is concluded that over the study period there is decline in use of long term debt (LTD) whereas growth in utilization of CL to finance the total assets of the Health Services Industry and that the industry prefers CL to LTD for its financing needs which is obvious as "Long term interest rates normally exceeds short-term rates because of reduced flexibility of long term borrowing relative to short-term borrowing. In fact, the effective cost of long term debt may be higher than the cost of short-term debt, even when short-term interest rates are equal to or greater than long term rates[15]." Further, "the justification of higher cost of long-term financing can be found in the **liquidity preference theory** which says that since lenders are risk averse and risk generally increases with the length of lending time (because it is more difficult to forecast the more distant future), most lenders would prefer to make short-term loans. The only way to induce these lenders to lend for longer periods is to offer them higher rates of interest[16]." Thus, the firms in Health Services Industry are moving towards aggressive approach for asset financing. Further, a significant uptrend observed for TDTAR indicates that there is

an increased use of total debt in the Health Services Industry over the study period which is mainly due to increased use of CL as observed from rising trend in CLTAR and declining trend in LTDTAR. In addition, industry is pursuing an aggressive working capital financing policy.

- A significant uptrend is also observed in CATAR indicating rise in the ratio and it is concluded that over the study period, there is increased investments by the firms in Health Services Industry in the current assets in proportion to total assets and the industry is moving towards adopting a conservative current asset investment policy.
- However, CLCAR and NWCCAR has remained stable over a period of time indication preference for use of current funds over NWC for funding its current assets as also observed from significant trend of CLTAR.

B. Analysis of Current Asset Structure

- On examining the outcome of time trend from Tables 5.40 and 5.41, no significant trend is observed for ITCAR. Maybe that looking to the industry requirement, holding 16% inventory is the ideal standard and there may be no need to further curtail it. Hence it is concluded that the Health Services Industry has followed a uniform policy with respect to investment in inventories which has remained stable over a period of time.
- A significant downtrend is observed for RTCAR indicating a possibility of cautious measures taken by the industry to reduce the investment in receivables which results in lower credit risk and higher liquidity and can further be substantiated by analyzing the turnover ratios.
- Further, it is observed that Quadratic Trend model fitted best for CBBTCAR, PETCAR, LATCAR and MSTCAR. The results of quadratic trend indicate that CBBTCAR is declining at increasing rate and the trend is likely to reverse in 10^{th} year. PETCAR, LATCAR and MSTCAR are increasing at decreasing rate and the trend is likely to reverse in 10^{th}, 11^{th} and 11^{th} year respectively for the period under study. From these results, it is concluded that there is increased blocking of funds in Prepaid Expenses, Loans and Advances as well as increased investments in marketable securities leading to decline in Cash Balances of Industry. Also it is concluded that the increase in CATAR is due to increase in PETCAR, LATCAR and MSTCAR. It also seems that the industry has taken cognisant measures to reduce the excess cash balances and invest excess cash in marketable securities as evident by declining trend in CBBTCAR and increasing trend in MSTCAR.

TABLE – 5.40							
Linear Trend on Time Variable for WCM, LEV & Profitability Ratios: Health Services Industry							
Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Leverage and Working Capital Policy Ratios							
LTDTAR	0.090	0.020	0.198	0.004	1.131	0.279	0.411
TDTAR	0.710	0.688	0.322	0.017	5.648*	0.000	0.784
CLTAR	0.863	0.852	0.124	0.013	9.048*	0.000	0.937
CATAR	0.848	0.836	0.231	0.012	8.502*	0.000	1.039
CLCAR	0.163	0.098	0.709	0.011	1.590	0.136	0.895
NWCCAR	0.163	0.098	0.291	-0.011	-1.590	0.136	0.895
Current Asset Structure Ratios							
ITCAR	0.057	-0.015	0.166	-0.001	-0.889	0.390	0.932
RTCAR	0.326	0.274	0.479	-0.011	-2.509**	0.026	0.517
CBBTCAR	0.493	0.454	0.260	-0.009	-3.552*	0.004	0.629
PETCAR	0.042	-0.032	0.065	0.001	0.756	0.463	0.605
LATCAR	0.719	0.698	0.006	0.018	5.770*	0.000	0.527
MSTCAR	0.283	0.228	0.023	0.002	2.266**	0.041	0.928
Current Liabilities Structure Ratio							
TCCLR	0.454	0.412	0.285	0.007	3.290*	0.006	0.865
DACECLR	0.493	0.454	0.009	0.002	3.553*	0.004	1.922
PCLR	0.317	0.264	0.245	-0.007	-2.456**	0.029	0.597
STBBCLR	0.329	0.278	0.166	0.006	2.526**	0.025	1.264
CFCCLR	0.405	0.359	0.107	-0.004	-2.974**	0.011	1.443
OCLCLR	0.307	0.253	0.188	-0.003	-2.399**	0.032	0.969
Liquidity Ratios							
CR	0.330	0.278	2.277	-0.060	-2.530**	0.025	0.963
QR	0.388	0.341	2.104	-0.067	-2.871**	0.013	0.928
ALR	0.391	0.345	0.970	-0.058	-2.892**	0.013	0.862
Current Asset Management Efficiency Ratios & Operating Cycle Variables							
TATR	0.686	0.662	0.545	0.030	5.331*	0.000	1.518
CATR	0.326	0.275	3.181	-0.040	-2.510**	0.026	0.785
WCTR	0.042	-0.032	0.406	1.237	0.755	0.464	2.393
ITR	0.158	0.093	14.726	0.188	1.562	0.142	1.774
IHP	0.233	0.174	25.114	-0.289	-1.989	0.068	1.305
RTR	0.022	-0.053	8.917	0.048	0.543	0.596	1.050
ACP	0.089	0.018	76.438	-0.921	-1.124	0.281	2.012
CBTR	0.318	0.265	38.701	-1.310	-2.461**	0.029	0.736
CTR	0.149	0.083	8.826	0.428	1.507	0.156	1.610
APP	0.347	0.296	25.495	1.921	2.627**	0.021	1.253
OC	0.128	0.061	101.552	-1.211	-1.380	0.191	1.986
NTC	0.485	0.445	76.057	-3.132	-3.498*	0.004	0.527

TABLE – 5.40 (Continued...)							
Linear Trend on Time Variable for WCM, LEV & Profitability Ratios: Health Services Industry							
Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Profitability Ratios							
OPM	0.547	0.512	18.667	-1.357	-3.964*	0.002	1.794
NPM	0.437	0.394	9.742	-1.078	-3.179*	0.007	1.716
ROTA	0.161	0.096	10.474	-0.371	-1.579	0.138	1.304
EAT/TA	0.137	0.071	5.100	-0.310	-1.440	0.174	1.283
RONW	0.001	-0.076	8.184	-0.038	-0.102	0.920	1.164
* Indicating significant results at 1% level of significance. ** Indicating significant results at 5% level of significance.							

Critical Values of "t"		
Degrees of Freedom	Probability (Alpha)	Table Value – t
13	0.01	3.010
13	0.05	2.160

Durbin – Watson Statistic (D-W Statistic), K = 1			
N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
13	0.01	0.738	1.038
13	0.05	1.010	1.340
Where, N = Sample size and K represents number of independent variables			

C. Analysis of Current Liabilities Structure Ratios

- A significant rising trend is observed for TCCLR and DACECLR and significant falling trend is observed for CFCCLR and OCLCLR which indicates that there is an increase in the share of Trade Credit and DACE whereas decline in share of CFC and OCL in CL structure as also as a source of financing current assets.
- Further, for PCLR a significant quadratic trend is observed which is falling at increasing rate and the trend is likely to reverse in 9^{th} year. STBBCLR is increasing at decreasing rate and the trend is likely to reverse in 15^{th} year. From these and above results it is concluded that firms in Health Services Industry have increased their reliance on Trade Credit, DACE and STBB to fund the current assets whereas Provisions, CFC and OCL are preferred less to create liquidity for financing the current assets.

D. Liquidity Analysis

A significant quadratic trend is observed for all the liquidity ratios. All the ratios, *viz,* CR, QR and ALR are observed to be falling at increasing rate and the trend is likely to reverse in 10^{th}, 10^{th} and 11^{th} year respectively for the period under study. Hence, it is concluded that the liquidity position of the Health Services Industry has deteriorated which is in line with the results of quadratic trend observed for CBBTCAR. Further, as also observed from the perusal of Table 5.37, the firms in industry are becoming parsimonious with increased risk of cash crunch situation.

TABLE – 5.41

Quadratic Trend on Time Variable for WCM, LEV and Profitability Ratios: Health Services Industry

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope β1	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic
Leverage and Working Capital Policy Ratios									
LTDTAR	0.657	0.599	0.311	-0.034	0.002	-3.906* (0.002)	4.452* (0.001)	11.476* (0.002)	0.866
TDTAR	0.815	0.785	0.400	-0.010	0.002	-0.927 (0.372)	2.611** (0.023)	26.493* (0.000)	1.106
CLTAR	0.908	0.893	0.089	0.025	-0.00077	4.849* (0.000)	-2.437** (0.031)	59.454* (0.000)	1.358
CATAR	0.848	0.822	0.229	0.013	-2.946 E-5	2.011 (0.067)	-0.078 (0.939)	33.385* (0.000)	1.041
CLCAR	0.352	0.244	0.561	0.061	-0.003	2.230** (0.046)	-1.872 (0.086)	3.259 (0.074)	1.212
NWCCAR	0.352	0.244	0.439	-0.061	0.003	-2.230** (0.046)	1.872 (0.086)	3.259 (0.074)	1.212
Current Asset Structure Ratios									
ITCAR	0.223	0.093	0.149	0.005	-0.00041	1.331 (0.208)	-1.599 (0.136)	1.722 (0.220)	1.129
RTCAR	0.453	0.361	0.561	-0.038	0.002	-2.251** (0.044)	1.665 (0.122)	4.962** (0.027)	0.637
CBBTCAR	0.794	0.760	0.350	-0.039	0.002	-5.342* (0.000)	4.192* (0.001)	23.141* (0.000)	0.917
PETCAR	0.712	0.664	0.011	0.019	-0.001	5.444* (0.000)	-5.281* (0.000)	14.818* (0.001)	1.210
LATCAR	0.805	0.773	-0.068	0.043	-0.002	3.820* (0.002)	-2.307** (0.040)	24.848* (0.000)	0.731
MSTCAR	0.515	0.434	-0.002	0.011	-0.0005	2.943** (0.012)	-2.392** (0.034)	6.360** (0.013)	1.125
Current Liabilities Structure Ratio									
TCCLR	0.498	0.414	0.257	0.017	-0.0007	1.773 (0.102)	-1.021 (0.327)	5.950** (0.016)	1.014
DACECLR	0.637	0.577	0.021	-0.00233	0.000262	-1.168 (0.265)	2.187** (0.049)	10.541* (0.002)	2.513
PCLR	0.612	0.547	0.333	-0.037	0.002	-3.677* (0.003)	3.021* (0.011)	9.465* (0.003)	1.026
STBBCLR	0.653	0.595	0.096	0.029	-0.001	4.051* (0.002)	-3.347* (0.006)	11.293* (0.002)	2.025
CFCCLR	0.411	0.313	0.100	-0.002	-0.00014	-0.332 (0.746)	-0.358 (0.726)	4.189** (0.042)	1.456
OCLCLR	0.309	0.194	0.192	-0.004	7.632 E-5	-0.756 (0.464)	0.215 (0.834)	2.689 (0.108)	0.973
Liquidity Ratios									
CR	0.712	0.664	3.069	-0.325	0.016	-4.755* (0.000)	3.990* (0.002)	14.832* (0.001)	1.971
QR	0.733	0.689	2.881	-0.327	0.016	-4.819* (0.000)	3.941* (0.002)	16.497* (0.000)	1.860
ALR	0.718	0.671	1.622	-0.276	0.013	-4.587* (0.001)	3.726* (0.003)	15.267* (0.001)	1.425

TABLE – 5.41 (Continued)

Quadratic Trend on Time Variable for WCM, LEV and Profitability Ratios: Health Services Industry

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope β1	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic
Current Asset Management Efficiency Ratios & Operating Cycle Measures									
TATR	**0.686**	0.634	0.544	0.030	-2.855 E-5	1.233 (0.241)	-0.020 (0.985)	13.120* (0.001)	1.517
CATR	**0.407**	0.309	2.938	0.041	-0.005	0.635 (0.537)	-1.281 (0.224)	4.125** (0.043)	**0.864**
WCTR	0.043	-0.116	-2.152	2.092	-0.053	0.291 (0.776)	-0.122 (0.905)	0.271 (0.767)	2.395
ITR	0.293	0.175	12.676	0.911	-0.045	1.855 (0.088)	-1.514 (0.156)	2.488 (0.125)	2.076
IHP	0.424	0.328	28.202	-1.379	0.068	-2.452 (0.030)	1.996 (0.070)	4.417** (0.037)	1.690
RTR	0.192	0.057	7.273	0.598	-0.034	1.679 (0.119)	-1.588 (0.138)	1.426 (0.278)	1.249
ACP	0.280	0.160	92.453	-6.574	0.353	-2.022 (0.066)	1.788 (0.099)	2.337 (0.139)	2.503
CBTR	0.553	0.478	23.769	3.388	-0.29 36	1.762 (0.103)	-2.513** (0.027)	7.422* (0.007)	1.191
CTR	0.328	0.216	14.601	-1.503	0.119	-1.355 (0.200)	1.792 (0.098)	2.933 (0.092)	2.135
APP	0.459	0.369	12.089	6.404	-0.276	2.189** (0.049)	-1.577 (0.141)	5.088** (0.025)	1.517
OC	0.356	0.248	120.655	-7.953	0.421	-2.363** (0.036)	2.060 (0.062)	3.312 (0.072)	2.508
NTC	**0.887**	**0.868**	109.738	-15.020	0.743	-8.016* (0.000)	6.525* (0.000)	49.961* (0.000)	1.963
Profitability Ratios									
OPM	0.591	0.523	23.377	-2.932	0.097	-2.051 (0.063)	1.134 (0.279)	8.673* (0.005)	1.961
NPM	0.437	0.344	9.963	-1.152	0.005	-0.773 (0.454)	0.051 (0.960)	4.666** (0.032)	1.716
ROTA	0.193	0.058	12.503	-1.050	0.042	-1.036 (0.320)	0.690 (0.504)	1.435 (0.276)	1.387
EAT/TA	0.138	-0.006	5.342	-0.391	0.005	-0.413 (0.687)	0.088 (0.931)	0.961 (0.410)	1.288
RONW	0.247	0.121	16.089	-2.828	0.174	-1.950 (0.075)	1.978 (0.071)	1.963 (0.183)	1.537

* Indicating significant results at 1% level of significance.

** Indicating significant results at 5% level of significance.

Critical Values of "t" and "F"

t-test			F-test: Degrees of Freedom = 2		
DF	Probability (Alpha)	Table Value – t	N	Probability (Alpha)	Table Value – F
12	0.01	3.055	12	0.01	6.93
12	0.05	2.179	12	0.05	3.88

Durbin – Watson Statistic (D-W Statistic), K = 2

N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
12	0.01	0.569	1.274
12	0.05	0.812	1.579

Where, N = Sample size and K represents number of independent variables

E. Current Asset Management Efficiency Analysis

- On examining the outcome of regression analysis from Tables 5.40 and 5.41, a significant rising trend is observed for TATR indicating that the ratio has increased over the period under study and it is concluded that over the study period there is an increased efficiency in asset utilization by firms in Health Services Industry.
- CATR has significantly declined over a period of time indicating that current asset management efficiency of the Health Services Industry has deteriorated over the study period.
- Further, from the perusal of Tables 5.40 and 5.41 it is observed that WCTR, ITR, IHP, RTR, ACP, CTR, and OC have exhibited no significant trend with time indicating that there are no significant changes in WCM efficiency measured in terms of these ratios.
- A significant negative linear trend in CBTR indicates that there is significant decline in the ratio over a period of time. Hence, it is concluded that the cash management efficiency of the firms in Health Services Industry has deteriorated over the period under study.
- A significant positive linear trend is observed for APP indicating that the duration of APP has increased over the period under study which may be due to reduced frequency of repaying the creditors and hence it is concluded that firms in Health Services Industry have slowed down payment of its dues.
- A significant quadratic trend is observed for NTC which is declining at increasing rate and the trend is likely to reverse in 10^{th} year. The results indicate that there is significant decline in the duration of NTC over the study period which signifies quick realization of working capital investments in cash. Hence, it is concluded that the working capital requirements of the firms in Health Services Industry have reduced which can be assigned to increased APP.

F. Profitability Analysis

On examining the outcome of regression analysis from Tables 5.40 and 5.41, a significant negative linear trend is observed in OPM and NPM indicating that OPM and NPM have declined over the period under study and hence it is concluded that the profitability of firms in Health Services Industry measured in terms of sales has deteriorated over the study period. However, ROTA, EAT/TA and RONW have exhibited no significant trend over the period under study.

5.3.5 Trend Analysis: WCM, LEV and PROF of Communication Services Industry (2 companies)

This para examines the overall trends as well as the time trends (Linear and Quadratic Trend) in WCM, LEV and Profitability Ratios of the Communication Services Industry for 2 sample companies. The overall trends is presented and interpreted first which is followed by the presentation and elucidation of the time trends analysis.

5.3.5.1 Trends in WCM; LEV and PROF: Communication Services Industry

The overall trends in WCM, LEV and Profitability ratios is observed by taking industry average on yearly basis to understand the yearly movements in ratios as well as the nature of WCM, LEV and Profitability position in the Communication Services Industry. The results of the analysis are presented and interpreted as per the group to which each ratio belongs.

A. Leverage and Working Capital Policy Ratios

The computation for each ratio of LEV and Working Capital Policy over the study period is presented in Table 5.42. Chart 5.16 presents the current asset financing mix, *i.e.,* share of current liabilities and net working capital in financing total current assets.

TABLE – 5.42

Working Capital Policy and Leverage Ratios: Communication Services Industry

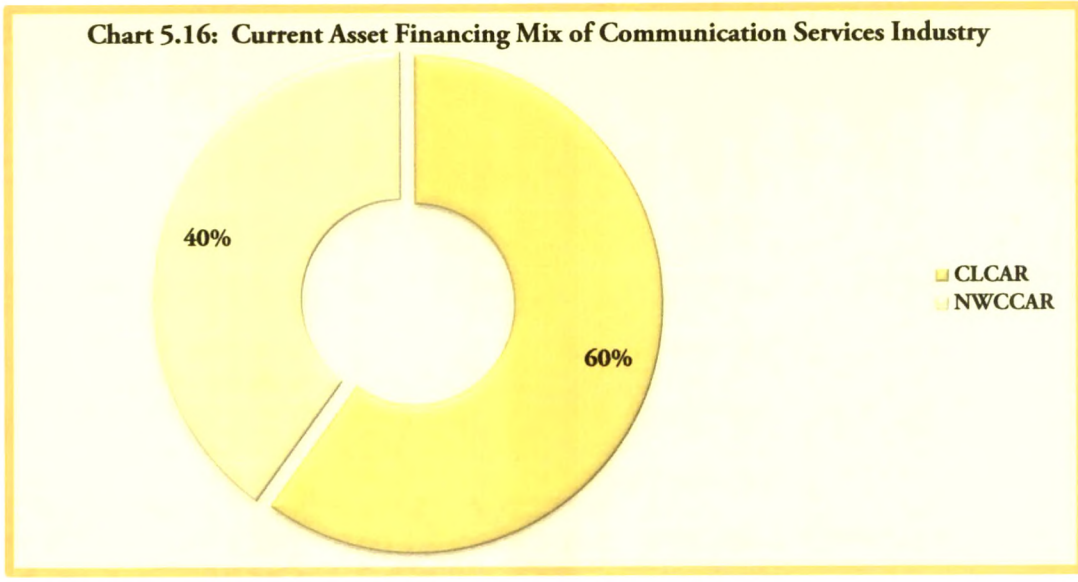
	Leverage Ratios		Working Capital Policy Ratios			
Year	LTDTAR	TDTAR	CLTAR	CATAR	CLCAR	NWCCAR
Mar-96	0.27	0.68	0.41	0.68	0.61	0.39
Mar-97	0.26	0.63	0.37	0.70	0.53	0.47
Mar-98	0.22	0.56	0.34	0.70	0.48	0.52
Mar-99	0.14	0.50	0.36	0.69	0.52	0.48
Mar-00	0.10	0.43	0.33	0.68	0.49	0.51
Mar-01	0.09	0.41	0.32	0.69	0.46	0.54
Mar-02	0.04	0.42	0.38	0.69	0.56	0.44
Mar-03	0.00	0.38	0.38	0.64	0.58	0.42
Mar-04	0.00	0.35	0.35	0.61	0.56	0.44
Mar-05	0.00	0.35	0.35	0.59	0.58	0.42
Mar-06	0.00	0.34	0.34	0.54	0.61	0.39
Mar-07	0.00	0.33	0.33	0.51	0.65	0.35
Mar-08	0.00	0.35	0.35	0.51	0.69	0.31
Mar-09	0.03	0.41	0.38	0.53	0.72	0.28
Mar-10	0.06	0.50	0.44	0.48	0.88	0.12
Mean	**0.08**	**0.44**	**0.36**	**0.62**	**0.60**	**0.40**
SD	**0.10**	**0.11**	**0.03**	**0.08**	**0.11**	**0.11**
CV(%)	**121.78**	**24.71**	**8.93**	**13.31**	**18.23**	**26.75**

◈ From the perusal of Table 5.42, it is observed that LTDTAR ranged between 0 to 27% with 8% of the total assets of the industry being financed by long term debt

(LTD) on an average which seems to be a very conservative approach of asset financing. Overall a declining trend in LTDTAR can be observed and the industry has done away with the long term debt from 2003 to 2008, *i.e.,* for 6 years which implies that the Communication Services Industry prefers lesser LTD to finance their total assets. CLTAR ranged between 32% and 44% with 36% of the total assets of the industry being financed by the current liabilities on an average. Also, it is interesting to note that the CL is utilized more as compared to LTD to fund the total assets which indicates an aggressive approach of assets financing. TDTAR has ranged between 33% and 68% with 44% of the total assets of the industry being financed by total debt on an average of which current debt forms the major portion.

- It is also observed that the ratio of current assets to total assets ranged between 48% and 70% which is a very high range and on an average, 62% of the Communication Services Industry's funds are invested in current assets. This is a very high ratio for an industry belonging to service sector and is a revelation. Such high ratio was also observed in the IT&A Industry. The high CATAR suggests that the industry is following a conservative current investment policy by maintaining a higher level of current assets in the total asset structure which comes out as a distinctive feature of Communication Services Industry with high liquidity in asset structure resulting to lower risk. Such a proportion is generally observed in manufacturing concerns. It is even higher than that observed by Ansari[1] for 11 manufacturing industries which was found to be 50% as well as Kantawala and Joshi[5] for Steel industry which was found to be 39%. Possibly the industry has awaken to the fact and therefore a declining trend is observed for CATAR is observed over the selected time frame and indicates that the industry is steadily reducing its investments in current assets. The cause for such a high proportion as well as decline can be understood by examining the current assets structure ratios.
- From the perusal of Chart 5.26, it is observed that CL finance 60% of current assets whereas NWC contributes 40%. From the perusal of Table 5.42 it is observed that CLCAR ranged between 0.46 and 0.88 whereas NWCCAR ranged between 0.12 and 0.54 indicating that there is a high reliance on short term funds to finance the current assets as compared to NWC. From this it can be concluded that the Communication Services Industry is operating with lower NWC and prefer more of short term funds to finance the current assets and thus is following an aggressive current asset financing policy which was also observed in the study of Pradhan[3] for 6 manufacturing industries. Such a policy also implicates that the industry is having

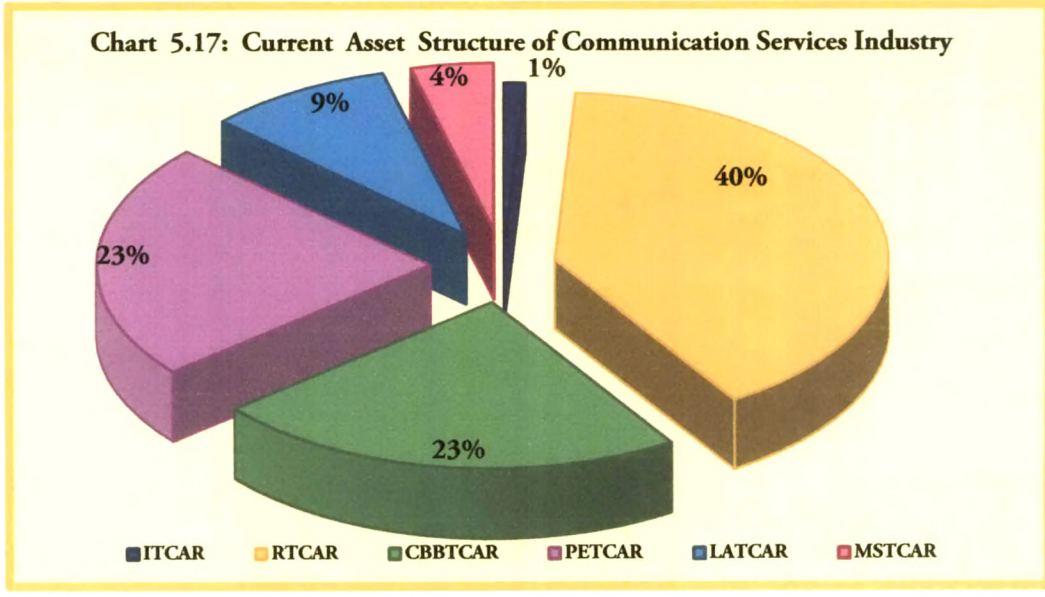
an easy access to current funds for financing its current assets which can only be due to the good reputation, established business and creditworthiness. Similar phenomenon was observed in the study of Ansari[1].



B. Analysis of Current Asset Structure

In order to examine the structure of current assets, the composition of CA with reference to various components of CA is studied. The computation for each ratio over the study period is presented in Table 5.43. Chart 5.17 presents the share of each CA in the pie of total current asset.

- From the perusal of Chart 5.17, it is observed that Receivables had the highest share in the current assets of Communication Services industry with 40% on an average followed by Cash and Bank Balance as well as Prepaid Expenses at 23% each, Loans and Advances at 9%, Marketable Securities at 4% and Inventories at 1%.



◈ From the perusal of Table 5.43 it is observed that the share of inventories ranged between 0% and 2% which is a low range as well as very low ratio and from this it can be noted that the Communication Services Industry is operating at very low level of inventory, *i.e.,* 1% on an average which necessarily distinguishes this service industry, from the manufacturing sector, where inventory is a very high proportion of current assets. It is interesting to note that, within the service sector also, ITCAR is found to be lowest for Communication Services Industry. May be looking at the nature of industry and requirement, holding 1% inventory is the ideal standard and there may be no need to further increase it and hence, the ratio has remained stable over a period of time as evidenced by low value of SD.

TABLE – 5.43

Current Asset Structure Ratios: Communication Services Industry

Year	ITCAR	RTCAR	CBBTCAR	PETCAR	LATCAR	MSTCAR
Mar-96	0.02	0.39	0.06	0.16	0.37	0.00
Mar-97	0.01	0.51	0.16	0.15	0.17	0.00
Mar-98	0.01	0.59	0.27	0.13	0.00	0.00
Mar-99	0.01	0.55	0.29	0.15	0.00	0.00
Mar-00	0.01	0.51	0.30	0.17	0.01	0.00
Mar-01	0.01	0.35	0.39	0.17	0.08	0.00
Mar-02	0.01	0.27	0.40	0.20	0.12	0.00
Mar-03	0.01	0.31	0.34	0.27	0.07	0.00
Mar-04	0.01	0.29	0.28	0.32	0.03	0.07
Mar-05	0.00	0.27	0.25	0.34	0.04	0.10
Mar-06	0.00	0.33	0.20	0.33	0.05	0.09
Mar-07	0.01	0.40	0.10	0.31	0.04	0.14
Mar-08	0.01	0.43	0.10	0.29	0.08	0.09
Mar-09	0.01	0.40	0.16	0.25	0.13	0.05
Mar-10	0.01	0.36	0.17	0.27	0.14	0.05
Mean	**0.01**	**0.40**	**0.23**	**0.23**	**0.09**	**0.04**
SD	**0.01**	**0.10**	**0.11**	**0.08**	**0.09**	**0.05**
CV(%)	**49.04**	**25.76**	**45.71**	**32.18**	**105.80**	**122.50**

◈ Further, it is observed that receivables ranged between 27% and 59% of current assets which is a very wide range wherein a fluctuating trend is observed with an average of 40% investments as receivables. Loans and advances ranged between 0% and 37% which is again a very high range with an average share of 9% in CA structure. The share of prepaid expenses ranged between 13% and 34% and it has progressively increased from 1999 to 2006, whereafter again a decline is observed. However a share of 23% is very high indicating high blockage of current funds in the form of prepaid expenses.

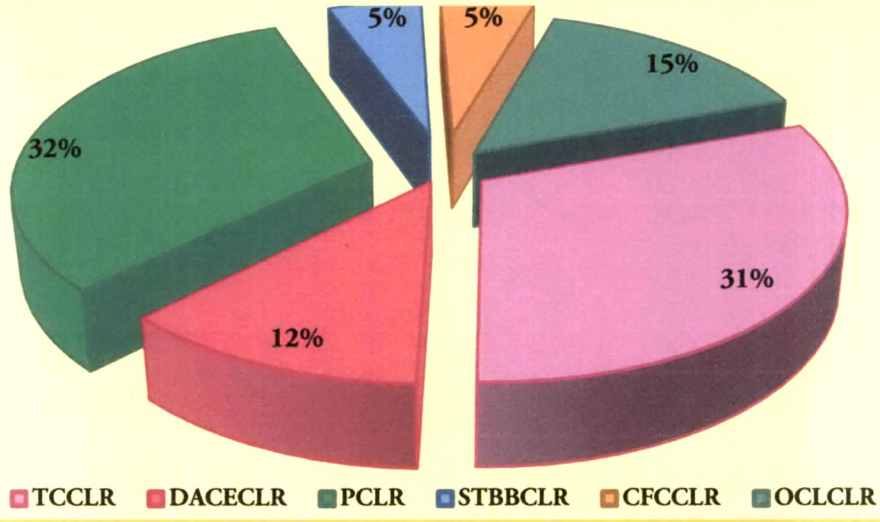
◈ The share of cash and bank balance has ranged between 6% and 40% which is also observed to be a very high and wide range which has increased till 2002 whereafter

it has declined and again increased from 2009. The share of Marketable securities has ranged between 0% and 14%. Also, it is observed that industry has commenced investments in marketable securities 2004 onwards. From a simultaneous glance at C&BB and marketable securities it can be noted that 2004 onwards every decline in C&BB results to corresponding increase in marketable securities and indicates that the industry has invested excess cash in marketable securities. The mean share of cash assets (CBB+MS) at 27% indicates a good liquidity position in the industry which can further be substantiated by the analysis of liquidity ratios.

C. Analysis of Current Liabilities Structure Ratios

In order to examine the structure of current liabilities of Communication Services Industry, the composition of CL with reference to various components of CL is studied. The computation for each ratio over the study period is presented in Table 5.44. Chart 5.18 presents the share of each component of CL in pie of total current liability.

Chart - 5.18: Current Liabilities Structure of Communication Services



- From the perusal of Chart 5.18 it is observed that Provisions with 32% of the total current liabilities is the major source of financing the current assets of the Communication Services Industry, followed by Trade Credit at 31%, Other Current Liabilities at 15%, Deposits and Advances from Customers and Employees at 12%, which is followed by Short Term Bank Borrowings and Current Financing Charge at 5% each. Also, among the current liabilities, Spontaneous source of short term finance (Trade Credit, CFC, Provisions and OCL) is dominating the current liabilities structure at 83% and balance 17% comprises of the negotiated sources of short term finance (STBB and DACE).
- From the perusal of Table 5.44 it is observed that over the study period TCCLR and has declined whereas OCLCLR has increased indicating higher reliance on OCL

with diminishing share of Trade Credit for financing current assets. Also, it can be observed that the changes in CL structure ratios have been progressive and with lower volatility throughout the study period as evidenced by the values of SD.

TABLE – 5.44						
Current Liabilities Structure Ratios: Communication Services Industry						
Year	TCCLR	DACECLR	PCLR	STBBCLR	CFCCLR	OCLCLR
Mar-96	0.32	0.07	0.29	0.07	0.09	0.16
Mar-97	0.33	0.15	0.30	0.06	0.07	0.09
Mar-98	0.34	0.15	0.29	0.04	0.10	0.08
Mar-99	0.35	0.14	0.28	0.01	0.15	0.07
Mar-00	0.38	0.15	0.28	0.00	0.08	0.11
Mar-01	0.34	0.17	0.34	0.00	0.02	0.13
Mar-02	0.27	0.12	0.37	0.05	0.10	0.09
Mar-03	0.29	0.09	0.31	0.12	0.07	0.12
Mar-04	0.33	0.09	0.34	0.07	0.00	0.17
Mar-05	0.34	0.08	0.34	0.02	0.00	0.22
Mar-06	0.30	0.12	0.35	0.02	0.00	0.21
Mar-07	0.27	0.16	0.35	0.04	0.00	0.18
Mar-08	0.26	0.14	0.33	0.10	0.00	0.17
Mar-09	0.27	0.12	0.32	0.11	0.04	0.14
Mar-10	0.26	0.10	0.23	0.06	0.09	0.26
Mean	0.31	0.12	0.32	0.05	0.05	0.15
SD	0.04	0.03	0.04	0.04	0.05	0.06
CV(%)	12.31	25.39	11.64	74.68	90.13	38.11

). Liquidity Analysis

The outcome of computations for the liquidity ratios over the study period is presented n Table 5.45.

- From the perusal of Table 5.45, it is observed that the industry CR ranged between 1.23 and 2.20 whereas industry QR ranged between 1.22 and 2.18 and industry ALR ranged between 0.09 and 0.91. CR was above 2 only in 4 of 15 years, QR was above the thumb rule in all years except last 3 years whereas ALR was above thumb rule in 7 of 15 years. On an average the industry maintains ₹ 1.81 of current assets and ₹ 1.79 of quick assets against ₹ 1 of current liabilities which can be considered as a reasonable proportion. Also since the level of inventory in Communication Services Industry is very very low the difference between CR and QR is also observed to be low. However on an average the industry maintains only ₹ 0.45 of quick assets against ₹ 1 of current liabilities which is lower as compared to standard norm of ₹ 0.50. The gap between QR and ALR is very huge and from this it can be remarked that the problem lies with the liquidity of Receivables of the industry which can be further substantiated by analyzing turnover ratios.

TABLE – 5.45			
Liquidity Ratios: Communication Services Industry			
Year	CR	QR	ALR
Mar-96	1.87	1.83	0.09
Mar-97	2.06	2.03	0.26
Mar-98	2.15	2.12	0.52
Mar-99	1.92	1.89	0.56
Mar-00	2.06	2.04	0.65
Mar-01	2.20	2.18	0.91
Mar-02	1.86	1.84	0.80
Mar-03	1.88	1.87	0.73
Mar-04	1.99	1.99	0.64
Mar-05	1.86	1.85	0.49
Mar-06	1.67	1.67	0.34
Mar-07	1.55	1.54	0.15
Mar-08	1.45	1.44	0.15
Mar-09	1.39	1.38	0.23
Mar-10	1.23	1.22	0.17
Mean	1.81	1.79	0.45
SD	0.29	0.29	0.27
CV(%)	16.05	15.90	59.67

- As QR is considered to be a more rigorous test of liquidity when compared with CR, it is concluded that the Communication Services Industry had good liquidity position over the selected time frame. However, ALR is a test of absolute liquidity and it indicates that the absolute liquidity position of industry is sparing.

E. Current Asset Management Efficiency Analysis

The computation for each CAME ratio and Operating Cycle Variables over the study period is presented in Table 5.46.

- From the perusal of Table 5.46 it is observed that TATR has ranged between 0.19 and 1.01 and on average total assets of Communication Services Industry have been turned over 0.49 times on an average. Further, CATR has ranged between 1.49 and 0.42 and on average current assets have been turned over 0.79 times which indicates inefficiently managed current assets as well as opportunity to improve the current assets management. A consistently declining trend can be observed in TATR as well as CATR throughout the study period and indicates deterioration in the efficiency of total assets utilization which can be attributed to decline in current asset management efficiency. WCTR has ranged between -0.04 and 7.25.
- ITR ranged from 38.61 to 79.37 and on an average the inventory of the industry is turned over 48.46 times which is a very high ratio. Such high ITR is indicative of overtrading situation which arises when a higher level of sales is supported with

lower level of inventory which is the case for Communication Services Industry as it is operating at only 1% of inventory in the CA structure. The reason for such a low level of inventory is again attributable to the nature of the industry due to which operating with lower level of inventory is justified in case of Communication Services Industry and so this overtrading situation is actually not a risky preposition for the industry. IHP has ranged from 5 to 11 days and an average the inventory of Communication Services Industry gets converted into cash in 8 days. On the whole inventory is a very minor part of total CA and hence the improvement in ITR/IHP does not have far reaching implication for CATR or OC.

- It is also observed that RTR ranged between 1.43 and 4.01 whereas ACP ranged between 92 and 452 days. On an average the receivables of the Industry gets turned over 2.34 times with 259 days as ACP which reflects a very poor state of receivables management in the industry. In addition, it is observed that RTR has reduced and ACP has increased, thereby indicating deterioration in receivables management over the selected time frame and is the cause for deteriorating liquidity position of the industry as well as the inefficiency of the current asset management. These results thus substantiate the findings observed for QR and ALR in p*ara C* as well as TATR and CATR in the preceding *para.*
- CTR has ranged between 9.16 and 2.39 and APP ranged between 47 and 154 days. On an average the creditors of Communication Services Industry are turned over 6.23 times with 76 days as the time taken by the industry to repay its creditors. Overall it can be observed that CTR has decreased and APP has increased. Thus, over the study period, the industry has gradually delayed payments to its creditors. Further, throughout the study period CTR has been greater than RTR meaning thereby that the industry is repaying its liabilities more frequently than the company's debtors indicating that the company is extending credit greater than what it is receiving from its trade creditors which needs due attention in order to improvement the Credit Management and thereby the WCM in Communication Services Industry.
- CBTR ranged between 2.13 and 22.74 and on an average cash is turned over 6.91 times, *i.e.,* sales are getting turned over 6.91 times on an average which is which is a very low ratio. However, this low ratio is obvious given the slack collection policy as observed from RTR and CTR and is a cause of concern as it indicates poor utilization of cash assets as well as poor liquidity of the current assets as also inefficiency of operating activities of the industry.

TABLE 5.46												
Year	Efficiency Ratios and Operating Cycle Variables: Communication Services Industry											
	TATR	CATR	WCTR	ITR	IHP (In Days)	RTR	ACP (In Days)	CBTR	CTR	APP (In Days)	OC (In Days)	NTC (In Days)
Mar-96	1.01	1.49	7.25	33.89	11	4.01	92	22.74	9.16	47	103	56
Mar-97	0.77	1.10	3.14	38.61	10	2.20	265	9.01	7.72	56	275	219
Mar-98	0.67	0.94	1.96	42.87	9	2.11	366	4.28	7.98	57	375	317
Mar-99	0.62	0.87	1.82	48.89	8	1.91	299	3.26	7.93	64	307	243
Mar-00	0.59	0.85	1.64	48.96	8	1.81	255	2.96	7.03	64	263	199
Mar-01	0.58	0.82	1.49	47.05	8	2.37	174	2.29	7.56	56	182	126
Mar-02	0.54	0.77	1.69	44.73	8	2.80	141	2.13	8.56	53	149	96
Mar-03	0.45	0.70	1.72	48.33	7	2.43	196	2.29	7.90	57	203	146
Mar-04	0.38	0.62	1.53	79.37	5	2.82	195	2.40	6.74	72	200	128
Mar-05	0.35	0.62	1.47	63.63	6	3.22	213	2.45	4.93	82	219	137
Mar-06	0.36	0.72	1.76	56.71	6	2.85	236	3.49	4.91	76	242	166
Mar-07	0.33	0.74	2.00	47.19	7	2.16	298	11.65	4.50	81	305	224
Mar-08	0.28	0.61	1.96	40.87	9	1.51	341	18.75	3.63	102	350	248
Mar-09	0.26	0.54	2.01	45.76	8	1.43	358	8.84	3.09	123	366	243
Mar-10	0.19	0.42	-0.04	39.01	9	1.45	452	7.04	2.39	154	461	307
Mean	0.49	0.79	2.09	48.46	8	2.34	259	6.91	6.23	76	267	190
SD	0.22	0.26	1.56	11.22	1.58	0.72	95.67	6.41	2.16	29.55	95.87	76
CV(%)	44.84	32.65	74.50	23.15	19.91	30.57	36.98	92.78	34.48	38.75	35.95	39.95

- From the perusal of Table 5.46, it is observed that OC has ranged between 92 days to 452 days and the working capital investments of Communication Services Industry remains blocked for 258 days in the form of current assets on an average. NTC has ranged between 48 days to 309 days and on an average the working capital investments of the industry gets realized in cash in 182 days. It can be observed that there are grave fluctuations in OC and NTC. It is surprising to find such a high OC and NTC for a service industry operating with a very low level of inventory. Thus, the major cause for such a high OC and NTC can be assigned to the credit policy of the industry as already discussed above, which needs critical attention. Hence, with improvement in receivables management, the length of OC and NTC can be shortened leading to liquidity of asset structure along with overall WCM efficiency.

Profitability Analysis

The computations for each of the profitability ratio of the Communication Services Industry over the study period are presented in Table 5.47.

TABLE – 5.47

Profitability Ratios: Communication Services Industry (In %)

Year	OPM	NPM	ROTA	EAT/TA	RONW
Mar-96	34.18	13.11	22.61	10.71	33.10
Mar-97	40.56	16.41	19.64	9.48	26.62
Mar-98	41.50	20.02	21.09	11.89	26.51
Mar-99	42.18	22.55	22.11	12.99	25.17
Mar-00	26.78	16.50	14.57	8.74	15.38
Mar-01	35.54	25.49	20.63	14.61	23.89
Mar-02	33.41	21.39	17.70	11.53	19.62
Mar-03	26.89	16.14	12.11	7.35	12.12
Mar-04	21.32	14.92	7.74	5.41	9.33
Mar-05	27.05	19.83	10.05	7.32	11.36
Mar-06	15.35	11.53	5.90	4.32	6.70
Mar-07	19.85	13.17	6.55	4.32	6.80
Mar-08	16.06	10.84	4.43	2.93	4.89
Mar-09	15.51	9.25	4.74	2.78	4.76
Mar-10	-27.25	-28.16	-1.42	-2.34	-8.76
Mean	**24.60**	**10.99**	**10.88**	**6.25**	**14.50**
SD	**17.15**	**6.23**	**4.49**	**3.65**	**11.20**
CV(%)	**69.73**	**91.83**	**61.79**	**61.62**	**125.50**

From the perusal of Table 5.47 it is observed that RONW has ranged between -8.76% and 33.10%. Overall, it can be observed that there has been a declining trend in RONW. The steadily declining returns on net worth in the industry can be due to growing competition in the Telecommunication Sector and it can be concluded that

companies in the Industry are not able to provide stable returns to its investors. *Overall a declining trend is observed in* all the profitability ratios with negative returns of the industry in 2010 and the operational efficiency of industry is not very good with post tax return on total assets being lesser than the risk free rate of return – 8.10%[14] in 8 out of 15 years which is a murky situation.

5.3.5.2 Time Trends in WCM, LEV and Profitability of Communication Services Industry

Time trends in WCM, LEV and profitability ratios of Communication Services Industry have been examined by fitting the Linear Trend Model and Quadratic Trend Model. The results of linear trend on time variable are presented in Table 5.48 whereas the results of quadratic trend are presented in Table 5.49 for all the ratios. The results of both the models are interpreted jointly and the interpretations are presented as per the group to which each ratio belongs.

A. Leverage and Working Capital Policy Ratios

- On examining the outcome of regression analysis it is observed that the LTDTAR, TDTAR and CLTAR have exhibited significant quadratic trend over the study period. From the results of quadratic trend it is observed that LTDTAR, TDTAR as well as CLTAR are falling at increasing rate over a period of time and the trend is likely to reverse in 12^{th}, 11^{th} and 10^{th} year respectively. The results are indicating that there is a reduction in utilization of LTD, CL as well as total debt for the financing of assets by firms in Communication Services Industry over the study period. On account of simultaneous decline in both the LEV ratios as well as CLTAR, it was considered important to examine the trend in Net Worth to Total Asset Ratio (NWTAR). The results of the regression analysis indicated significant quadratic trend in NWTAR which is observed to be increasing at declining rate and the trend is likely to reverse in the 10th year for the period under study. This result indicates that over the study period there is an increased use of owned funds. Hence, it is concluded that firms in Communication Services Industry have reduced their reliance on total debt and preferred owned funds to finance the total assets over the period under study.
- A significant quadratic trend is also observed for CLCAR and NWCCAR. CLCAR is observed to be falling at increasing rate over the period under study and reverse is the case for NWCCAR. The trend is likely to reverse in the 5^{th} year for the period under study for both the ratios. These results further substantiate that the industry has reduced use of CL and increased the use of long term funds to finance CA and

it is concluded that over the period under study the firms in Communication Services Industry are adopting a conservative working capital financing policy.

TABLE – 5.48

Linear Trend on Time Variable for WCM, LEV & Profitability Ratios: Communication Services Industry

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Leverage and Working Capital Policy Ratios							
LTDTAR	0.669	0.643	0.224	-0.018	-5.124*	0.000	0.283
TDTAR	0.485	0.446	0.579	-0.017	-3.500*	0.004	0.338
NWTAR	0.358	0.309	0.434	0.013	2.694**	0.018	0.331
CLTAR	0.016	-0.059	0.355	0.001	0.467	0.648	0.935
CATAR	0.870	0.860	0.753	-0.017	-9.338*	0.000	0.659
CLCAR	0.587	0.555	0.446	0.019	4.297*	0.001	0.719
NWCCAR	0.587	0.555	0.446	-0.019	-4.297*	0.001	0.719
Current Asset Structure Ratios							
ITCAR	0.175	0.112	0.013	-0.0004	-1.662	0.120	1.215
RTCAR	0.212	0.151	0.482	-0.011	-1.869	0.084	0.616
CBBTCAR	0.054	-0.019	0.275	-0.005	-0.862	0.404	0.383
PETCAR	0.633	0.605	0.127	0.013	4.734*	0.000	0.428
LATCAR	0.052	-0.021	0.127	-0.005	-0.845	0.413	0.704
MSTCAR	0.532	0.496	-0.024	0.008	3.844*	0.002	0.827
Current Liabilities Structure Ratios							
TCCLR	0.494	0.455	0.358	-0.006	-3.563*	0.003	1.200
DACECLR	0.015	-0.061	0.130	-0.001	-0.445	0.664	1.106
PCLR	0.025	-0.050	0.304	0.001	0.573	0.576	0.993
STBBCLR	0.103	0.034	0.029	0.003	1.221	0.244	1.119
CFCCLR	0.297	0.243	0.101	-0.006	-2.342**	0.036	1.248
OCLCLR	0.490	0.451	0.077	0.009	3.535*	0.004	1.360
Liquidity Ratios							
CR	0.699	0.676	2.244	-0.054	-5.496*	0.000	0.965
QR	0.668	0.643	2.210	-0.052	-5.118*	0.000	0.945
ALR	0.091	0.022	0.590	-0.018	-1.144	0.273	0.330
Current Asset Management Efficiency Ratios & Operating Cycle Variables							
TATR	0.916	0.909	0.870	-0.047	-11.903*	0.000	0.859
CATR	0.753	0.733	1.186	-0.050	-6.287*	0.000	0.753
WCTR	0.340	0.289	3.720	-0.203	-2.587**	0.023	0.908
ITR	0.051	-0.022	43.915	0.568	0.838	0.417	0.946
IHP	0.189	0.127	9.162	-0.154	-1.741	0.105	0.555
RTR	0.194	0.132	2.902	-0.070	-1.767	0.101	0.873
ACP	0.255	0.198	172.33	10.80	2.109	0.055	0.699
CBTR	0.000	-0.077	6.986	-0.010	-0.025	0.980	0.751
CTR	0.841	0.828	9.814	-0.443	-8.280*	0.000	0.743
APP	0.705	0.683	31.933	5.550	5.580*	0.000	0.465
OC	0.247	0.189	181.495	10.646	2.063	0.060	0.690
NTC	0.091	0.021	149.333	5.125	1.140	0.275	0.808

TABLE – 5.48 (Continued...)

Linear Trend on Time Variable for WCM, LEV & Profitability Ratios: Communication Services Industry

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Profitability Ratios							
OPM	0.642	0.614	49.172	-3.072	-4.826*	0.000	1.507
NPM	0.332	0.280	26.332	-1.600	-2.539**	0.025	1.108
ROTA	0.897	0.889	25.714	-1.644	-10.636*	0.000	2.172
EAT/TA	0.723	0.701	14.469	-0.875	-5.821*	0.000	1.465
RONW	0.905	0.898	33.561	-2.383	-11.120*	0.000	2.313

* Indicating significant results at 1% level of significance.
** Indicating significant results at 5% level of significance.

Critical Values of "t"

Degrees of Freedom	Probability (Alpha)	Table Value – t
13	0.01	3.010
13	0.05	2.160

Durbin – Watson Statistic (D-W Statistic), K = 1

N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
13	0.01	0.738	1.038
13	0.05	1.010	1.340

Where, N = Sample size and K represents number of independent variables

- Further the proportion of CA to TA has shown significant downtrend which means that there is a reduction in the investment in CA in proportion to TA in the Industry. Hence, it is concluded that over the study period the firms in the Communication Services Industry are moving toward aggressive current asset investment policy in order to do away with illiquid and excess investments in CA.

B. Analysis of Current Asset Structure

- A quadratic trend is observed for ITCAR, CBBTCAR and LATCAR. Both ITCAR and LATCAR are declining at increasing rate and the trend is likely to reverse in the 11^{th} and 8^{th} year respectively for the period under study which indicates that firms in Communication Services Industry are making efforts to reduce investment in inventories as well as loans and advances. The decline also indicates efficient inventory management and improvement in receivables management in terms of loans advanced over the study period. However, CBBTCAR is increasing at decreasing rate which is likely to reverse in 7^{th} year. These results indicate that there is an increase in cash & bank balances of the industry and thereby liquidity. Hence, it is concluded that over the study period firms in have reduced blockage of funds in Inventories and Loans and Advances resulting to increase in cash & bank balances which is also the cause for significant downtrend in CATAR.

TABLE – 5.49

Quadratic Trend on Time Variable for WCM, LEV and Profitability Ratios: Communication Services Industry

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope β1	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic
Leverage and Working Capital Policy Ratios									
LTDTAR	0.975	0.971	0.368	-0.069	0.003	-15.995* (0.000)	12.143* (0.000)	234.775* (0.000)	1.715
TDTAR	0.958	0.951	0.778	-0.087	0.004	-14.124* (0.000)	11.686* (0.000)	138.288* (0.000)	1.129
NWTAR	0.948	0.939	0.238	0.082	-0.004	13.432* (0.000)	-11.637* (0.000)	108.852* (0.000)	0.969
CLTAR	0.434	0.339	0.410	-0.019	0.001	-2.754** (0.017)	2.974** (0.012)	4.596** (0.033)	1.231
CATAR	0.923	0.910	0.703	0.000	-0.001	0.061 (0.952)	-2.850** (0.015)	71.538* (0.000)	0.931
CLCAR	0.903	0.887	0.607	-0.038	0.004	-4.096* (0.001)	6.527* (0.000)	55.898* (0.000)	1.777
NWCCAR	0.903	0.887	0.393	0.038	-0.004	4.096* (0.001)	-6.257* (0.000)	55.898* (0.000)	1.777
Current Asset Structure Ratios									
ITCAR	0.422	0.326	0.019	-0.003	0.00 0133	-2.648** (0.021)	2.265** (0.043)	4.386** (0.037)	1.563
RTCAR	0.363	0.257	0.587	-0.048	0.002	-2.105 (0.057)	1.686 (0.118)	3.416 (0.067)	0.847
CBBTCAR	0.599	0.532	0.069	0.067	-0.005	3.626* (0.003)	-4.034* (0.002)	8.947* (0.004)	0.697
PETCAR	0.713	0.665	0.070	0.033	-0.001	2.984** (0.011)	-1.834 (0.092)	14.923* (0.001)	0.547
LATCAR	0.482	0.395	0.289	-0.062	0.004	-3.322* (0.006)	3.153* (0.008)	5.574** (0.019)	0.911
MSTCAR	0.539	0.463	-0.034	0.012	-0.00 024	1.294 (0.220)	-0.438 (0.669)	7.025* (0.010)	0.830
Current Liabilities Structure Ratio									
TCCLR	0.564	0.491	0.331	0.003	-0.00 059	0.485 (0.636)	-1.383 (0.192)	7.752* (0.007)	1.347
DACECLR	0.026	-0.136	0.121	0.002	-0.00 019	0.260 (0.800)	-0.370 (0.718)	0.161 (0.853)	1.088
PCLR	0.433	0.339	0.243	0.023	-0.001	3.030* (0.010)	-2.943** (0.012)	4.590** (0.033)	1.448
STBBCLR	0.195	0.061	0.060	-0.008	0.001	-0.851 (0.412)	1.172 (0.264)	1.454 (0.272)	1.239
CFCCLR	0.384	0.282	0.139	-0.019	0.001	-1.831 (0.092)	1.306 (0.216)	3.745 (0.054)	1.368
OCLCLR	0.527	0.448	0.105	-0.001	0.001	-0.119 (0.907)	0.969 (0.352)	6.690* (0.011)	1.369
Liquidity Ratios									
CR	0.901	0.884	1.899	0.067	-0.008	2.656** (0.021)	-4.937* (0.000)	54.444* (0.000)	2.365
QR	0.894	0.876	1.852	0.074	-0.008	2.878** (0.014)	-5.043* (0.000)	50.429* (0.000)	2.369
ALR	0.713	0.666	0.036	0.178	-0.012	4.506* (0.001)	-5.104* (0.000)	14.940* (0.001)	0.710

TABLE – 5.49 (Continued)

Quadratic Trend on Time Variable for WCM, LEV and Profitability Ratios: Communication Services Industry

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope β1	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic
Current Asset Management Efficiency Ratios & Operating Cycle Measures									
TATR	0.953	0.946	0.982	-0.087	0.002	-6.603* (0.000)	3.106* (0.009)	122.777* (0.000)	1.219
CATR	0.837	0.810	1.384	-0.120	0.004	-4.165* (0.001)	2.497** (0.028)	30.839* (0.000)	0.968
WCTR	0.516	0.435	5.449	-0.814	0.038	-2.710* (0.019)	2.091 (0.059)	6.400* (0.013)	1.109
ITR	0.484	0.398	24.419	7.449	-0.430	3.342* (0.006)	-3.174* (0.008)	5.635** (0.019)	1.585
IHP	0.779	0.743	12.367	-1.285	0.071	-3.637* (0.000)	5.666* (0.000)	21.191* (0.000)	1.492
RTR	0.226	0.098	2.560	0.050	-0.008	0.288 (0.778)	-0.712 (0.490)	1.756 (0.214)	0.951
ACP	0.450	0.359	284.077	-28.639	2.465	-1.459 (0.170)	2.067 (0.061)	4.918** (0.028)	0.999
CBTR	0.478	0.391	18.680	-4.137	0.258	-3.229* (0.007)	3.313* (0.006)	5.488** (0.020)	1.228
CTR	0.911	0.897	8.294	0.093	-0.034	0.523 (0.610)	-3.098* (0.009)	61.750* (0.000)	1.343
APP	0.904	0.887	66.666	-6.709	0.766	-2.642** (0.021)	4.964* (0.000)	56.212* (0.000)	0.929
OC	0.453	0.362	296.444	-29.924	2.536	-1.525 (0.153)	2.126 (0.055)	4.965** (0.027)	0.999
NTC	0.250	0.125	229.374	-23.125	1.766	-1.269 (0.228)	1.594 (0.137)	1.998 (0.178)	1.041
Profitability Ratios									
OPM	0.759	0.719	33.646	2.408	-0.342	1.034 (0.321)	-2.421** (0.032)	18.932* (0.000)	1.912
NPM	0.691	0.639	6.661	5.343	-0.434	2.794** (0.016)	-3.734* (0.003)	13.404* (0.001)	1.831
ROTA	0.906	0.890	23.815	-0.974	-0.042	-1.475 (0.166)	-1.044 (0.317)	57.502* (0.000)	2.327
EAT/TA	0.835	0.807	10.400	0.561	-0.090	1.084 (0.300)	-2.853** (0.015)	30.317* (0.000)	2.247
RONW	0.906	0.890	32.766	-2.102	-0.018	-2.207** (0.048)	-0.303 (0.767)	57.549* (0.000)	2.318

* Results significant at 1% level of significance ** Results significant at 5% level of significance

Critical Values of "t" and "F"

t-test			F-test: Degrees of Freedom = 2		
DF	Probability (Alpha)	Table Value – t	N	Probability (Alpha)	Table Value – F
12	0.01	3.055	12	0.01	6.93
12	0.05	2.179	12	0.05	3.88

Durbin – Watson Statistic (D-W Statistic), K = 2

N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
12	0.01	0.569	1.274
12	0.05	0.812	1.579

Where, N = Sample size and K represents number of independent variables

- Further, a significant uptrend is observed for PETCAR and MSTCAR indicating that these ratios have increased over a period of time. Hence, it is concluded that over the study period there is increased blockage of funds in prepaid expenses. It is also concluded that there is a rising trend of investing excess cash in marketable securities in the Communication Services Industry. No significant trend is observed for RTCAR.

C. Analysis of Current Liabilities Structure Ratios

- On examining the outcome of time trend, a significant negative linear trend is observed for TCCLR and CFCCLR whereas a significant positive linear trend is observed for OCLCLR indicating that there is a decrease in the share of Trade Credit and CFC whereas rise in share of OCL in CL structure as also a source of financing current assets. The decline in CFC and Trade Credit is in line with downtrend observed for LTDTAR, TDTAR, CLTAR and CLCAR.
- However, PCLR exhibits a significant quadratic relationship over the study period increasing at decreasing rate and the trend is likely to reverse in 12^{th} year, thereby indicating that Provisions are used to create liquidity for financing the current assets.
- No significant trend is observed for DACECLR and STBBCLR thereby indicating that share of DACE as well as STBB in total CL structure has not undergone significant changes over the study period as also observed from the analysis of Table 5.44.

D. Liquidity Analysis

- On examining the outcome of regression analysis, it is observed that Quadratic Trend fitted best for all the liquidity ratios. From the results it is observed that all the liquidity ratios, *viz,* CR, QR and ALR are increasing at decreasing rate and the trend is likely to reverse in 4^{th}, 5^{th} and 7^{th} year respectively. Thus, it is concluded that there is an increased liquidity in the Communication Services Industry which is in line with the results of quadratic trend observed for CBBTCAR and indicates improvement in liquidity position of the industry.

E. Current Asset Management Efficiency Analysis

- On examining the outcome of regression analysis from Tables 5.48 and 5.49, a significant quadratic trend is observed in both TATR and CATR. The values of β_1 and β_2 indicate that the ratios are falling at increasing rate and the trend is likely to reverse in 22^{nd} and 15^{th} year. Thus, over the study period there is deterioration in the total asset utilization and current asset management efficiency of the firms in the

Communication Services Industry which is a situation of great concern. However, no significant trend is observed for WCTR, RTR, ACP, OC and NTC on examining the results of regression analysis.

- Moreover a significant quadratic trend is observed for ITR as well as IHP. The trend in ITR is increasing at decreasing rate and reverse is the case for IHP. The trend in both cases is likely to reverse in 9th year. Increase in ITR is associated with improved and efficient inventory management and decline in IHP is associated with shorter cycle of converting inventories into cash and is an indicator of liquidity of inventories. From these results it is concluded that inventory management of the industry has improved and become more efficient over the study period which is in line with the results of time trend observed for ITCAR in *para B*, which, however, does not agree with the study of Ganesan[17] in the Telecommunication Equipment Industries in US wherein inventory management was not found to be good. Hence, it can be concluded that the Indian Communication Services Industry is efficiently managing its inventories.
- A significant quadratic trend is observed in CBTR which is falling at increasing rate and the trend is likely to reverse in 8th year for the period under study. The results indicate that over the study period the turnover of cash in the Communication Services Industry has declined and hence it is concluded that there is deterioration in utilization of cash resources of firms in the industry and supports the analysis of Table 5.46.
- A significant negative linear trend is observed for CTR whereas a quadratic trend is observed in APP. The downtrend in CTR indicates that the turnover of creditors have reduced over a period of time indicating that gradually the Communication Services Industry is delaying payments to their creditors. This situation has its own implications. If the firms are established with good credibility in the market and at the same time have multiple suppliers of raw materials then adopting such a policy would not harm the reputation and the operations of the industry however in *vice versa* situation such a policy can prove to be detrimental.
- A significant quadratic trend in APP indicates decline in the ratio at an increasing rate and the trend is likely to reverse in the 4th year for the period under study. Hence, thereafter APP has increased with reduction in CTR.

F. Profitability Analysis

On examining the outcome of regression analysis from Table 5.48 and 5.49, a significant downtrend is observed in all the profitability ratios except NPM which has a

significant quadratic trend rising at falling rate which is likely to reverse in 6th year. These results indicate that there is consistent decline in the earnings of firms in the Communication Services Industry over the study period with weakened profitability position except post tax returns measured as a percentage of sales.

5.3.6 Trend Analysis: WCM, LEV and PROF of Miscellaneous Services Industry (9 companies)

This para examines the overall trends as well as the time trends (Linear and Quadratic Trend) in WCM, LEV and Profitability Ratios of the Miscellaneous Services Industry for 9 sample companies. The overall trends is presented and interpreted first which is followed by the presentation and elucidation of the time trends analysis.

5.3.6.1 Trends in WCM and PROF: Miscellaneous Services Industry

The overall trends in WCM, LEV and Profitability ratios is observed by taking industry average on yearly basis to understand the yearly movements in ratios as well as the nature of WCM, LEV and Profitability position in the Miscellaneous Services Industry. The results of the analysis are presented and interpreted as per the group to which each ratio belongs.

A. Leverage and Working Capital Policy Ratios

The computation for each ratio of LEV and Working Capital Policy over the study period is presented in Table 5.50. Chart 5.19 presents the current asset financing mix, *i.e.,* share of current liabilities and net working capital for financing total current assets.

- From the perusal of Table 5.50, it is observed that LTDTAR ranged from 11% to 22% with 17% of the total assets of the industry being financed by long term debt (LTD) on an average which seems to be a reasonable policy of asset financing. Overall a fluctuating trend in LTDTAR can be observed. It is also observed that CLTAR ranged from 23% to 40% and on an average 32% of the total assets of industry are financed by the current liabilities indicating that the industry is following moderate working capital financing policy. Also, it is interesting to note that the CL is utilized more as compared to LTD to fund the total assets which indicates an aggressive approach of assets financing. TDTAR has ranged between 40% and 54% with 49% of the total assets of the industry being financed by total debt on an average of which current debt forms the major portion. However it is observed that over the study period there has been decline in share of both CL and LTD which indicates a possibility of increased use of owned funds to debt funds for financing the assets in Miscellaneous Services Industry.

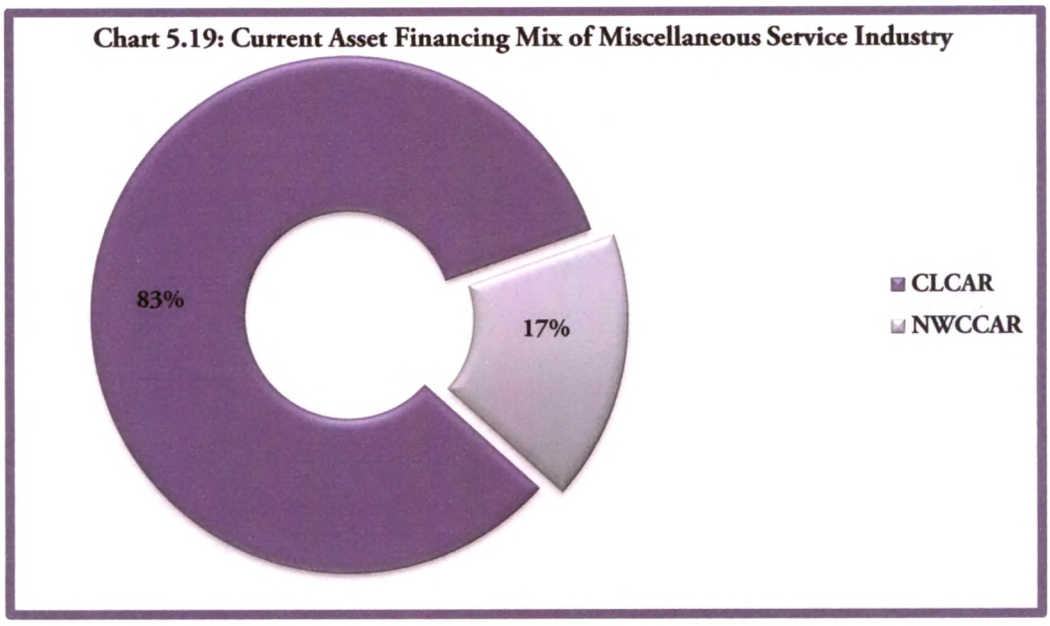
- It can also be observed that the ratio of current assets to total assets ranged between 38% and 53% and on an average firm in the Miscellaneous Services Industry invests 43% of its funds in current assets indicating that the industry is pursuing a conservative current asset investment policy which is characterized with higher proportion of current assets due to which the asset structure is liquid. Such dominance of current assets in total assets structure is generally found in manufacturing concerns which comes out as a striking characteristic of the Miscellaneous Services industry. This ratio is even higher than that observed by Kantawala and Joshi[5] in their study in Steel industry which was found to be 39%. However, it is lower than the results observed by Ansari[1] for 11 manufacturing industries where this ratio was observed to be 50%. Also over the selected time frame a declining trend is observed for CATAR and indicates that the industry is steadily reducing its investments in current assets.

TABLE – 5.50

Working Capital Policy and Leverage Ratios: Miscellaneous Services Industry

	Leverage Ratios		Working Capital Policy Ratios			
Year	LTDTAR	TDTAR	CLTAR	CATAR	CLCAR	NWCCAR
Mar-96	0.15	0.48	0.33	0.50	0.75	0.25
Mar-97	0.15	0.49	0.34	0.53	0.89	0.11
Mar-98	0.17	0.51	0.34	0.39	0.94	0.06
Mar-99	0.22	0.54	0.32	0.39	0.85	0.15
Mar-00	0.21	0.52	0.31	0.38	0.94	0.06
Mar-01	0.16	0.50	0.34	0.38	0.98	0.02
Mar-02	0.15	0.49	0.34	0.40	0.88	0.12
Mar-03	0.14	0.48	0.34	0.41	0.82	0.18
Mar-04	0.11	0.49	0.38	0.39	1.03	-0.03
Mar-05	0.14	0.54	0.40	0.38	1.20	-0.20
Mar-06	0.19	0.50	0.31	0.39	0.80	0.20
Mar-07	0.22	0.48	0.26	0.45	0.63	0.37
Mar-08	0.20	0.45	0.25	0.51	0.60	0.40
Mar-09	0.18	0.41	0.23	0.50	0.56	0.44
Mar-10	0.14	0.40	0.26	0.49	0.64	0.36
Mean	0.17	0.49	0.32	0.43	0.83	0.17
SD	0.03	0.04	0.05	0.06	0.18	0.18
CV(%)	19.77	15.18	8.27	13.15	31.52	23.70

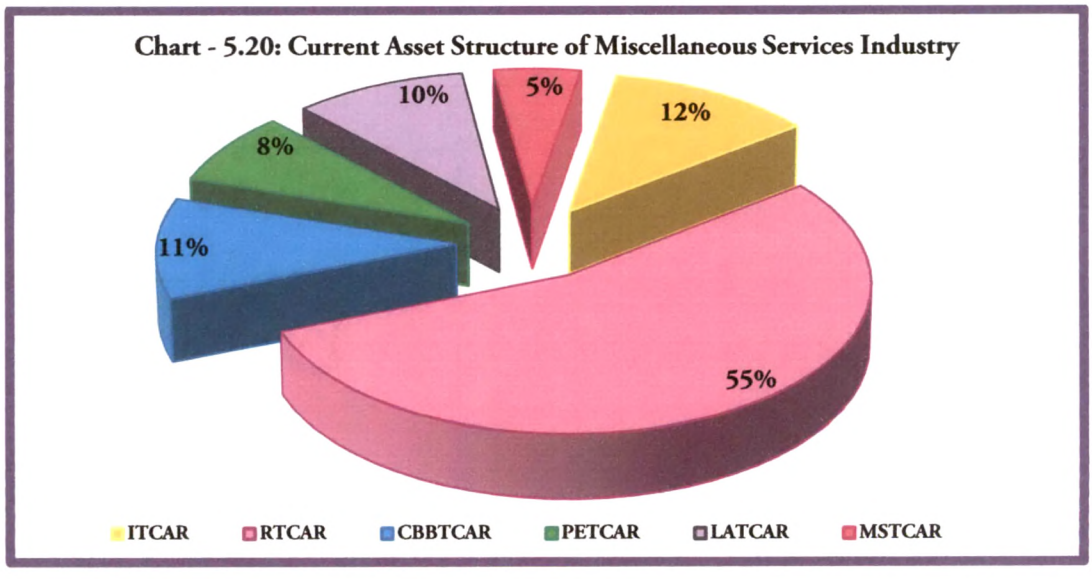
- From the perusal of Chart 5.19, it is observed that CL finance 83% of current assets whereas NWC contributes 17%. Further from the perusal of Table 5.50 it can also be observed that the industry is operating with very low levels of NWC which had been negative in 2 years.



B. Analysis of Current Asset Structure

In order to examine the structure of current assets of Miscellaneous Services Industry, the composition of CA with reference to various components of CA is studied. The computation for each ratio over the study period is presented in Table 5.51. Chart 5.20 presents the share of each CA in the pie of total current asset.

- As observed from Chart 5.20, Receivables had the highest share in the current assets of Miscellaneous Services Industry with 55% on an average followed by Inventories at 12%, Cash and Bank Balance at 11%, Loans and Advances at 10%, Prepaid Expenses at 8% and Marketable Securities at 5%.



- From the perusal of Table 5.51 it is observed that the share of inventories ranged between 7% and 20% and overall, it can be observed that the share of inventories in

current assets has declined thereby indicating improvement in inventory management which can be further substantiated by the analysis of turnover ratios. From the perusal of Table 5.51 it is also observed, that ITCAR of 12% in Miscellaneous Services Industry is higher as compared to other service industry groups except Health Services Industry where it is observed to be 14%. However, it is lower when compared with the manufacturing sector which is obvious also looking at the nature of the industry. The share of prepaid expenses ranged between 4% and 12% and it can be observed that its share has increased progressively over the study period indicating that there has been increased blockage of current funds in prepaid expenses of Miscellaneous Services Industry.

TABLE – 5.51

Current Asset Structure Ratios: Miscellaneous Services Industry

Year	ITCAR	RTCAR	CBBTCAR	PETCAR	LATCAR	MSTCAR
Mar-96	0.18	0.64	0.12	0.04	0.02	0.00
Mar-97	0.20	0.65	0.08	0.04	0.02	0.01
Mar-98	0.19	0.61	0.09	0.05	0.06	0.00
Mar-99	0.16	0.60	0.08	0.06	0.10	0.00
Mar-00	0.15	0.60	0.09	0.06	0.10	0.00
Mar-01	0.14	0.56	0.09	0.07	0.14	0.00
Mar-02	0.09	0.55	0.09	0.07	0.18	0.02
Mar-03	0.08	0.59	0.09	0.06	0.14	0.04
Mar-04	0.09	0.61	0.09	0.06	0.12	0.03
Mar-05	0.09	0.60	0.10	0.08	0.13	0.00
Mar-06	0.07	0.57	0.08	0.11	0.09	0.08
Mar-07	0.08	0.45	0.15	0.12	0.04	0.16
Mar-08	0.09	0.39	0.16	0.12	0.08	0.16
Mar-09	0.09	0.39	0.16	0.11	0.09	0.16
Mar-10	0.09	0.41	0.11	0.11	0.13	0.15
Mean	0.12	0.55	0.11	0.08	0.10	0.05
SD	0.05	0.09	0.03	0.03	0.05	0.07
CV(%)	21.24	106.69	38.07	16.58	27.30	37.37

- Further it is observed that receivables ranged between 39% and 65% of current assets and overall, it can be observed that the share of receivables in current assets has declined thereby indicating improvement in receivables management which can be further substantiated by the analysis of turnover ratios. Loans and advances ranged between 2% and 18% and on an average 10% of the CA Structure represents Loans & Advances. Total receivables including Loans and Advances of Miscellaneous Services Industry are 65% which is a very high proportion.
- The share of cash and bank balance has ranged between 8% and 16% and the share of Marketable securities ranged between 0% and 16% which has increased as a

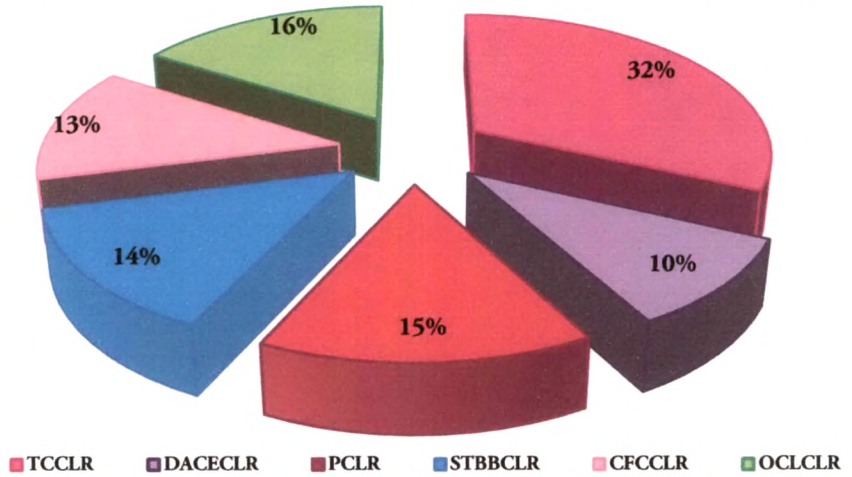
share of current asset over the study period. The mean share of cash assets of 16% seems to be a risky liquidity position in the industry.

C. Analysis of Current Liabilities Structure Ratios:

In order to examine the structure of current liabilities of Miscellaneous Services Industry, the composition of CL with reference to various components of CL is studied. The computation for each ratio over the study period is presented in Table 5.52. Chart 5.21 presents the share of each component of CL in pie of total current liability.

- From the perusal of Chart 5.21, it is observed that Trade Credit with 32% of the total current liabilities is the major source of financing the current assets of the Miscellaneous Services Industry, followed by Other Current Liabilities at 16%, Provisions at 15%, Short Term Bank Borrowings at 14%, Current Financing Charge at 13% and Deposits and Advances from Customers and Employees at 10%. Also, among the current liabilities, the Spontaneous source of short term finance (Trade Credit, CFC, Provisions and OCL) is dominating the current liabilities structure at 76% and balance 24% comprises of the negotiated sources of short term finance (STBB and DACE)..

Chart 5.21:Current Liabilities Structure of Miscellaneous Service Industry



- From the perusal of Table 5.52 it is observed that PCLR has increased over the study period indicating higher reliance on them for creating liquidity to finance the current assets; TCCLR has reduced over the study period indicating reduced reliance on Trade Credit as a source to finance current assets. DACECLR has increased until 2005 where after the trend has reversed. Further due to fluctuations the values of CV of all the ratios are observed to be very high. These fluctuations also indicate that the industry does not follow a definite policy with respect to the structure of current liabilities.

TABLE – 5.52						
Current Liabilities Structure Ratios: Miscellaneous Services Industry						
Year	TCCLR	DACECLR	PCLR	STBBCLR	CFCCLR	OCLCLR
Mar-96	0.40	0.00	0.08	0.17	0.12	0.23
Mar-97	0.42	0.00	0.06	0.20	0.12	0.20
Mar-98	0.40	0.00	0.07	0.17	0.14	0.21
Mar-99	0.43	0.01	0.07	0.16	0.16	0.17
Mar-00	0.34	0.06	0.08	0.16	0.17	0.19
Mar-01	0.31	0.15	0.08	0.12	0.17	0.17
Mar-02	0.37	0.18	0.06	0.11	0.19	0.09
Mar-03	0.35	0.19	0.05	0.12	0.19	0.10
Mar-04	0.27	0.19	0.12	0.13	0.16	0.13
Mar-05	0.24	0.17	0.18	0.11	0.16	0.14
Mar-06	0.23	0.14	0.25	0.13	0.10	0.15
Mar-07	0.25	0.11	0.28	0.15	0.06	0.15
Mar-08	0.27	0.10	0.28	0.12	0.08	0.15
Mar-09	0.27	0.09	0.28	0.11	0.09	0.16
Mar-10	0.24	0.09	0.26	0.15	0.09	0.17
Mean	0.32	0.10	0.15	0.14	0.13	0.16
SD	0.07	0.07	0.10	0.03	0.04	0.04
CV(%)	48.35	126.14	22.47	72.47	65.23	19.46

D. Liquidity Analysis

The outcome of computations for the liquidity ratios over the study period is presented in Table 5.53.

TABLE – 5.53			
Liquidity Ratios: Miscellaneous Services Industry			
Year	CR	QR	ALR
Mar-96	1.74	1.48	0.20
Mar-97	2.02	1.74	0.14
Mar-98	1.56	1.30	0.11
Mar-99	1.76	1.51	0.11
Mar-00	2.14	1.87	0.14
Mar-01	2.15	1.94	0.13
Mar-02	1.85	1.72	0.14
Mar-03	1.87	1.75	0.15
Mar-04	1.82	1.70	0.12
Mar-05	1.56	1.46	0.13
Mar-06	1.57	1.47	0.26
Mar-07	1.96	1.84	0.67
Mar-08	2.31	2.14	0.98
Mar-09	2.24	2.03	0.82
Mar-10	2.16	2.00	0.81
Mean	1.91	1.73	0.33
SD	0.25	0.25	0.32
CV(%)	13.11	14.20	96.33

- From the perusal of Table 5.53, it is observed that the industry CR ranged between 1.56 and 2.31whereas the QR ranged between 1.30 and 2.14 which is a very wide range. The yearly industry mean of CR is below the thumb rule in 9 of 15 years, whereas yearly industry mean of QR is below the thumb rule in 4 of 15 years. On an average the industry maintains ₹ 1.91 of current assets and ₹ 1.73 of quick assets against ₹ 1 of current liabilities which can be considered to be a reasonable proportion. The industry ALR ranged between 0.11 and 0.98 with industry mean of 0.33 and is observed to be below the thumb rule in 11 of 15 years which indicates the possibility of cash crunch situation in the Miscellaneous Services Industry. It has been above the thumb rule in last 4 years under study which indicates improvement in the cash and liquidity position in the recent years. The gap between QR and ALR is very high indicating higher proportion of current assets being blocked in receivables which is also observed from the analysis of Table 5.51 in *para B.*
- As quick ratio is considered to be a more rigorous test of liquidity when compared with current ratio it can be concluded that the Miscellaneous Services Industry had sound liquidity position over the selected time frame. However, ALR being is a piercing test of liquidity indicates a situation of liquidity crunch in the industry which may lead to technical insolvency as it is managing its operations with lower levels of cash in majority of the years under study as also observed by the analysis of CBBTCAR and MSTCAR from Table 5.51.

E. Current Asset Management Efficiency Analysis

The computation for each CAME ratio and Operating Cycle Variables over the study period is presented in Table 5.54.

- From the perusal of Table 5.54 it is observed that TATR has ranged between 0.82 and 0.48 and on an average the total assets of the Miscellaneous Services Industry have been turned over 0.62 times thereby indicating that an investment of ₹ 1 in total assets generates sales of ₹ 0.62. A fluctuating trend can be observed however, overall, TATR has declined which indicates decline in efficiency of total assets utilization with a scope to utilize total assets more productively. CATR has ranged between 1.29 and 1.89 and on an average current assets have been turned over 1.54 times. A fluctuating trend is also observed for CATR which has also declined over the study period indicating inefficiency in current asset management. WCTR has ranged between -3.15 and 15.90 indicating utilization of lower levels and negative

NWC in the industry for operating sales. An erratic trend is observed for WCTR as also evident by CV of 153.48%.

- ITR ranged between 6.95 and 33.69 and on an average inventory is turned over 19 times. IHP has ranged from 11 to 52 days and on an average the inventory of Miscellaneous Services Industry gets converted into cash in 28 days. The lower length of IHP and reduction in the length over the study period coupled with simultaneous increase in ITR throughout the selected time frame is indicative of efficiency in inventory management in the Miscellaneous Services Industry. It also appears that the industry has made conscious efforts to do away with excess inventory by reducing investment in inventory.
- RTR ranged between 2.55 and 6.46 whereas ACP ranged between 94 and 219 days. On an average receivables are turned over 3.54 times with 148 days as the ACP. Overall, it can be observed that there has been marginal increase in RTR however ACP has declined substantially which indicates an improvement in receivables management. However, ACP of 148 days is very high and therefore credit and collection policy of the industry needs due attention with need for controlling the credit policy and bringing promptness in the collection process. CTR ranged between 6.80 and 26.59 whereas APP ranged between 35 and 65 days. On an average the payables of the industry is turned over 13.17 times with APP of 52 days. Overall, it can be observed that CTR has increased with a corresponding decline in APP which indicates that over the study period the Miscellaneous Services Industry has become prompt in paying its dues and is repaying its dues more frequently. It was observed from Table 5.50 that the industry has reduced its reliance on CL and has increased using NWC for financing its current assets. The reason can be assigned to reduced APP. In the said context the increased CTR and reduced APP indicates that the trade creditors of the Miscellaneous Services Industry have restricted their credit policy and thereby shortened the credit period due to which there is increased frequency of payments which has lead to reduced reliance on CL for financing of assets in the Miscellaneous Services Industry. It can also be observed that throughout the study period the CTR has been greater than RTR meaning thereby that the industry is repaying its liabilities regularly and more frequently than the Industry's debtors indicating that the Industry is extending credit greater than what it is receiving from its trade creditors which needs attention and improvement on the part of management of companies in Miscellaneous Services Industry.

TABLE 5.54												
Year	Efficiency Ratios and Operating Cycle Variables: Miscellaneous Services Industry											
	TATR	CATR	WCTR	ITR	IHP (In Days)	RTR	ACP (In Days)	CBTR	CTR	APP (In Days)	OC (In Days)	NTC (In Days)
Mar-96	0.82	1.56	-0.90	7.22	51	3.30	219	26.81	7.46	68	270	202
Mar-97	0.72	1.58	5.60	6.95	52	3.04	182	30.18	7.04	60	234	174
Mar-98	0.67	1.66	5.60	9.98	52	3.07	143	33.34	7.75	58	195	137
Mar-99	0.60	1.56	0.57	7.52	49	2.83	149	30.62	6.80	64	198	134
Mar-00	0.57	1.49	-0.34	8.38	43	2.74	159	34.27	8.22	55	202	147
Mar-01	0.48	1.35	15.09	11.41	32	2.75	187	21.97	11.42	66	219	153
Mar-02	0.50	1.31	6.99	14.52	25	2.88	175	21.86	9.78	69	200	131
Mar-03	0.51	1.33	3.88	14.98	24	2.55	175	26.89	16.39	63	199	136
Mar-04	0.63	1.70	1.22	19.37	19	2.92	140	33.84	12.80	56	159	103
Mar-05	0.67	1.89	1.87	25.36	14	3.61	125	30.00	15.67	45	139	94
Mar-06	0.64	1.79	-3.15	32.31	11	3.70	128	32.27	13.28	38	139	101
Mar-07	0.67	1.60	3.00	33.69	11	4.63	107	20.09	14.93	36	118	82
Mar-08	0.69	1.56	2.13	33.68	11	6.46	94	21.07	18.90	35	105	70
Mar-09	0.62	1.41	1.66	32.15	11	4.84	111	24.47	20.53	37	122	85
Mar-10	0.57	1.29	-0.61	27.35	13	3.81	120	34.30	26.59	37	133	96
Mean	0.62	1.54	2.84	18.99	28	3.54	148	28.13	13.17	52	175	123
SD	0.09	0.18	4.36	10.68	17	1.06	34.91	5.18	5.77	13.00	48.45	37.09
CV(%)	14.47	11.60	153.48	56.21	61.00	33.28	18.40	29.81	23.65	23.26	27.61	30.15

- CBTR ranged between 21.07 and 34.30 and on an average cash is turned over 28.13 times, *i.e.*, sales are getting turned over 28 times on an average which is a high ratio and a positive sign and indicating better utilization of cash assets, liquidity of the current assets as well as efficiency in operating activities of the industry and is in line with the results observed for ITCAR and RTCAR in *Para B,* Table 5.51.
- Further it is observed that OC ranged from 105 days to 270 whereas NTC ranged between 70 days to 202 days. On an average the working capital investments of Miscellaneous Services Industry remains blocked for 175 days in the form of total current assets it gets realized in cash in 123 days. A fluctuating trend can be observed in both OC and NTC, however, overall both have declined which indicates that there has been improvement in management of inventory as well as receivables in the Miscellaneous Services Industry and the results are in line with the findings observed for ITCAR, RTCAR, RTR, ACP, IHP, ITR and CBBTR. However, OC and NTC of the industry are very high considering the fact that it is operating with very low level of inventories (12% on an average). Thus, the major cause for such a high OC and NTC can be assigned to the credit policy of the industry as already discussed in the preceding para which needs critical attention for further improvement in receivables management which will lead to shortening of the length of OC and NTC further leading to liquidity in asset structure along with overall improvement in WCM efficiency.

Profitability Analysis

The computations for each of the profitability ratio of the Miscellaneous Services Industry over the study period are presented in Table 5.55.

- From the perusal of Table 5.55 it is observed that OPM has ranged between 7.52% and 37.59% with industry mean of 17.08%. NPM has ranged between -3.47% and 28.66% with industry mean of 8.31%. The range of both the ratios is very high as evidenced by CV of 84.4% and 84.86% respectively which is due to a vacillating trend in both the ratios. However, an overall rise is observed in OPM over the study period. The trend in profitability measured in terms of ROTA and EAT/TA is also observed to be fluctuating. It is also observed that in the last five years the profitability of the industry is very good as compared to the previous 10 years. Thus, the operational efficiency of the industry seems to be improving in the recent years. Further, *RONW ranged between 2.62% and 29.11%* with industry mean of 10.77% wherein a fluctuating trend can be observed and it can be concluded that companies in the industry are not able to provide stable returns to its investors.

TABLE – 5.55						
Profitability Ratios: Miscellaneous Services Industry						(In %)
Year	OPM	NPM	ROTA	EAT/TA	RONW	RONW#
Mar-96	16.61	9.32	7.87	3.60	7.83	7.73
Mar-97	12.84	4.58	7.69	3.26	9.58	6.88
Mar-98	11.98	3.75	6.57	2.23	7.45	3.81
Mar-99	12.16	1.80	6.27	1.15	6.98	-1.77
Mar-00	15.83	4.47	6.90	2.03	7.22	-3.37
Mar-01	7.52	-3.47	3.37	-0.52	2.62	48.19
Mar-02	9.41	0.59	4.31	0.48	3.09	5.67
Mar-03	10.89	3.11	5.32	1.86	5.16	5.41
Mar-04	5.70	-2.27	5.05	1.02	6.65	10.82
Mar-05	13.36	7.61	8.61	5.16	11.38	9.86
Mar-06	37.59	28.66	22.87	17.35	29.11	18.39
Mar-07	24.29	15.91	14.00	9.10	19.16	13.03
Mar-08	32.74	23.32	19.10	13.53	22.44	-6.61
Mar-09	22.49	14.90	11.90	7.70	12.66	25.82
Mar-10	22.79	12.40	10.80	5.74	10.17	11.00
Mean	17.08	8.31	9.38	4.91	10.77	10.32
SD	9.19	9.21	5.56	5.09	7.41	13.30
CV	84.40	84.86	30.91	25.91	68.84	128.78

The RONW of United Van Der Horst Ltd. was found to be very high for 7 out of 15 years on account of negative net worth in those years which affected the industry mean RONW which is presented as RONW#. Also the effect of eliminating the company is very much evident from mean, SD and CV values in RONW column. Considering the same, it was considered appropriate to eliminate this company for the analysis of RONW which is based on 6 companies.

5.3.6.2 Time Trends in WCM, LEV and Profitability of Miscellaneous Services Industry

Time trends in WCM, LEV and profitability ratios of Miscellaneous Services Industry have been examined by fitting the Linear Trend Model and Quadratic Trend Model. The results of linear trend on time variable are presented in Table 5.56 whereas the results of quadratic trend are presented in Table 5.57 for all the ratios. The results of both the models are interpreted jointly and the interpretations are presented as per the group to which each ratio belongs.

A. Leverage and Working Capital Policy Ratios

- On examining the outcome of regression analysis from the perusal of Tables 5.56 and 5.57, it is observed that LTDTAR has not shown significant. However, TDTAR exhibits significant quadratic trend which is observed to be rising at falling rate and the trend is likely to reverse in the 6^{th} year conveying that after 6^{th} year there is fall in the utilization of total debt for asset financing in Miscellaneous Services Industry over the period under study.
- A significant downtrend in CLTAR indicates decline in use of CL to finance the total assets. Thus, it is concluded that firms in Miscellaneous Services Industry are

moving towards conservative approach of working capital financing. A significant quadratic trend is also observed for CLCAR and NWCCAR. The trend in CLCAR is observed to be increasing at decreasing rate and reverse is the case for NWCCAR. The trend in both the ratios is likely to reverse in 7th year for the period under study. These results indicate that there is reduced use of CL and more reliance on NWC to finance the current assets by firms in Miscellaneous Services Industry which is in line with decline in CLTAR. Hence, it is concluded that the firms in Miscellaneous Services Industry are gradually shifting to adopting a conservative working capital financing policy over the period under study.

- A significant quadratic trend is observed for CATAR which is falling at an increasing rate over a period of time and the trend is likely to reverse in 7th year for the period under study. The results indicate that firms in Miscellaneous Services Industry are doing away with the excess liquidity by reducing investments in current assets leading to decline in CATAR.

B. Analysis of Current Asset Structure

- On examining the outcome of time trend from Tables 5.56 and 5.57, a significant quadratic trend is observed for ITCAR and LATCAR. The results indicate that ITCAR is declining at increasing rate and the trend is likely to reverse in 13th year for the period under study. The trend in LATCAR is increasing at decreasing rate which is likely to reverse in 7th year for the period under study. Hence, it is concluded that firms in Miscellaneous Services Industry are making efforts to reduce investment in inventories which also signifies improvement of inventory management in the industry. Further there is an increase in loans & advances as a component of CA of firms in the Miscellaneous Services Industry.
- The remaining four CA structure ratios are found to have linear trend for the period under study. The declining trend in RTCAR indicates reduced investments in receivables over a period of time thereby resulting to liquidity of receivables as well as improvement in receivables management. The increasing trend observed in PETCAR indicates increased blocking of funds in the form of prepaid expenses in the Industry over the study period. An increasing trend in CBBTCAR indicates increase in liquidity attributable to reduction in receivables and inventory leading to increased cash assets in the industry. From increasing trend in MSTCAR it is concluded that the firms are investing excess cash in the marketable securities implying systematic cash management. From the above results it is also noted that the decline in CATAR is caused due to decline in ITCAR and RTCAR.

TABLE – 5.56 Linear Trend on Time Variable for WCM, LEV & Profitability Ratios: Miscellaneous Services Industry							
Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Working Capital Policy and Debt Ratios							
LTDTAR	0.003	-0.073	0.165	0.0004	0.208	0.839	0.858
TDTAR	0.385	0.338	0.530	-0.006	-2.853**	0.014	0.659
CLTAR	0.312	0.259	0.365	-0.006	-2.427**	0.031	0.681
CATAR	0.029	-0.045	0.415	0.002	0.627	0.542	0.664
CLCAR	0.217	0.156	0.981	-0.018	-1.895	0.080	0.945
NWCCAR	0.217	0.156	0.019	0.018	1.895	0.080	0.945
Current Asset Structure Ratios							
ITCAR	0.742	0.722	0.189	-0.009	-6.114*	0.000	0.590
RTCAR	0.718	0.696	0.686	-0.017	-5.746*	0.000	0.647
CBBTCAR	0.327	0.276	0.076	0.004	2.515**	0.026	1.306
PETCAR	0.842	0.829	0.030	0.006	8.312*	0.000	0.843
LATCAR	0.105	0.036	0.069	0.003	1.233	0.240	0.567
MSTCAR	0.728	0.708	-0.050	0.013	5.905*	0.000	0.758
Current Liabilities Structure Ratio							
TCCLR	0.777	0.760	0.432	-0.014	-6.727*	0.000	1.372
DACECLR	0.278	0.222	0.031	0.008	2.237**	0.043	0.263
PCLR	0.765	0.747	-0.003	0.019	6.511*	0.000	0.464
STBBCLR	0.382	0.335	0.171	-0.004	-2.837*	0.014	1.180
CFCCLR	0.263	0.206	0.172	-0.005	-2.155	0.051	0.435
OCLCLR	0.245	0.187	0.194	-0.004	-2.054	0.061	0.714
Liquidity Ratios							
CR	0.141	0.074	1.746	0.021	1.458	0.169	1.200
QR	0.322	0.269	1.481	0.031	2.482**	0.028	1.344
ALR	0.599	0.568	-0.109	0.055	4.407*	0.001	0.517
Current Asset Management Efficiency Ratios & Operating Cycle Variables							
TATR	0.049	-0.024	0.660	-0.004	-0.817	0.428	0.466
CATR	0.006	-0.070	1.564	-0.003	-0.285	0.780	0.675
WCTR	0.066	-0.006	4.837	-0.250	-0.955	0.357	1.847
ITR	0.860	0.849	1.282	2.214	8.937*	0.000	0.651
IHP	0.895	0.887	56.638	-3.596	-10.536*	0.000	0.443
RTR	0.426	0.382	2.309	0.154	3.108*	0.008	1.000
ACP	0.666	0.640	198.571	-6.371	-5.093*	0.000	1.000
CBTR	0.038	-0.036	29.939	-0.226	-0.718	0.486	1.521
CTR	0.833	0.821	3.747	1.178	8.065*	0.000	1.536
APP	0.714	0.692	72.124	-2.457	-5.697*	0.000	0.755
OC	0.846	0.835	255.210	-9.968	-8.465*	0.000	1.025
NTC	0.820	0.806	183.086	-7.511	-7.703*	0.000	1.197

TABLE – 5.56 (Continued...)							
Linear Trend on Time Variable for WCM, LEV & Profitability Ratios: Miscellaneous Services Industry							
Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Profitability Ratios							
OPM	0.323	0.271	7.745	1.167	2.489**	0.027	1.417
NPM	0.327	0.275	-1.106	1.177	2.511**	0.026	1.246
ROTA	0.325	0.273	3.705	0.709	2.503**	0.026	1.345
EAT/TA	0.347	0.297	-0.452	0.671	2.629**	0.021	1.300
RONW	0.279	0.224	3.759	0.876	2.245**	0.043	1.066
* Indicating significant results at 1% level of significance. ** Indicating significant results at 5% level of significance.							

Critical Values of "t"		
Degrees of Freedom	Probability (Alpha)	Table Value – t
13	0.01	3.010
13	0.05	2.160

Durbin – Watson Statistic (D-W Statistic), K = 1			
N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
13	0.01	0.738	1.038
13	0.05	1.010	1.340
Where, N = Sample size and K represents number of independent variables			

C. Analysis of Current Liabilities Structure Ratios

- From the perusal of Tables 5.56 and 5.57, a significant linear trend is observed for TCCLR as well as PCLR. The downtrend in TCCLR indicates that over the study period there is a decline in share of trade credit to CL. The uptrend in PCLR indicates that over the study period there is an increase in the share of Provisions in proportion to CL which have been used to create liquidity for financing the currents assets.
- Moreover, the remaining four CL Structure ratios are found to have quadratic trend. From the results of quadratic trend, it is observed that DACECLR and CFCCLR are increasing at decreasing rate and the trend is likely to reverse in 9^{th} and 5^{th} year which indicates that over the study period DACE as well as CFC had been used in the Miscellaneous Services Industry to create liquidity for financing the current assets. However, STBBCLR and OCLCLR have declined at increasing rate over a period of time and the trend is likely to reverse in the 9^{th} and 7^{th} year indicating declined proportion of STBB as well as OCL to total CL as well as lesser reliance on them as a source of financing current assets. Thus, over a period of time the decline in CLTAR can be attributed to decline observed in TCCLR, STBBCLR and OCLCLR.

TABLE – 5.57

Quadratic Trend on Time Variable for WCM, LEV and Profitability Ratios: Miscellaneous Services Industry

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope β1	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic
Working Capital Policy & Leverage Ratios									
LTDTAR	0.004	-0.162	0.168	-0.0004	5.171 E-5	-0.043 (0.966)	0.092 (0.928)	0.024 (0.976)	**0.863**
TDTAR	**0.738**	0.694	0.467	0.017	-0.0 0139	2.930* (0.013)	-4.021* (0.002)	16.902* (0.000)	1.204
CLTAR	0.577	0.506	0.299	0.017	-0.001	1.973 (0.072)	-2.742** (0.018)	8.180* (0.006)	1.110
CATAR	**0.694**	0.643	0.538	-0.041	0.003	-4.713* (0.001)	5.104* (0.000)	13.602* (0.001)	1.857
CLCAR	**0.554**	0.480	0.710	0.078	-0.006	2.370** (0.035)	-3.016* (0.011)	7.464* (0.008)	1.572
NWCCAR	**0.554**	0.480	0.290	-0.078	0.006	-2.370** (0.035)	3.016* (0.011)	7.464* (0.008)	1.572
Current Asset Structure Ratios									
ITCAR	**0.888**	0.870	0.235	-0.025	0.001	-5.939* (0.000)	3.965* (0.002)	47.718* (0.000)	1.357
RTCAR	0.804	0.771	0.615	0.008	-0.002	0.690 (0.503)	-2.299** (0.040)	24.598* (0.000)	**0.934**
CBBTCAR	0.494	0.409	0.107	-0.007	0.001	-1.280 (0.225)	1.984 (0.071)	5.847** (0.017)	1.739
PETCAR	0.847	0.821	0.035	0.004	0.00 0118	1.290 (0.221)	0.620 (0.547)	33.097* (0.000)	**0.887**
LATCAR	**0.470**	0.381	-0.005	0.029	-0.002	3.154* (0.008)	-2.875** (0.014)	5.315** (0.022)	**0.981**
MSTCAR	0.849	0.824	0.012	-0.009	0.001	-1.232 (0.241)	3.091* (0.009)	33.693* (0.000)	1.360
Current Liabilities Structure Ratio									
TCCLR	**0.796**	0.762	0.459	-0.023	0.001	-2.609** (0.023)	1.061 (0.309)	23.412* (0.000)	1.520
DACECLR	**0.774**	0.737	-0.102	0.055	-0.003	5.893* (0.000)	-5.138* (0.000)	20.587* (0.000)	**0.741**
PCLR	0.842	0.816	0.067	-0.006	0.002	-0.571 (0.579)	2.417** (0.032)	32.014* (0.000)	**0.691**
STBBCLR	**0.655**	0.597	0.209	-0.017	0.001	-3.842* (0.002)	3.076* (0.010)	11.378* (0.002)	2.019
CFCCLR	**0.660**	0.603	0.102	0.020	-0.002	2.928* (0.013)	-3.743* (0.003)	11.648* (0.002)	**0.889**
OCLCLR	**0.706**	0.657	0.263	-0.028	0.002	-4.958* (0.000)	4.340* (0.001)	14.422* (0.001)	1.585
Liquidity Ratios									
CR	0.217	0.087	1.929	-0.044	0.004	-0.713 (0.490)	1.085 (0.299)	1.666 (0.230)	1.327
QR	0.342	0.233	1.574	-0.002	0.002	-0.035 (0.973)	0.617 (0.549)	3.124 (0.081)	1.392
ALR	**0.838**	0.811	0.298	-0.089	0.009	-2.534** (0.026)	4.203* (0.001)	31.000* (0.000)	1.180

TABLE – 5.57 (Continued)

Quadratic Trend on Time Variable for WCM, LEV and Profitability Ratios: Miscellaneous Services Industry

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope β1	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic
Current Asset Management Efficiency Ratios & Operating Cycle Measures									
TATR	0.384	0.282	0.798	-0.053	0.003	-2.714** (0.019)	2.557** (0.025)	3.746 (0.054)	0.655
CATR	0.033	-0.129	1.487	0.024	-0.002	0.493 (0.631)	-0.573 (0.577)	0.203 (0.819)	0.673
WCTR	0.155	0.014	1.398	0.964	-0.076	0.870 (0.402)	-1.126 (0.282)	1.099 (0.365)	1.993
ITR	0.861	0.838	2.183	1.896	0.020	1.722 (0.111)	0.297 (0.772)	37.179* (0.000)	0.666
IHP	0.938	0.928	65.982	-6.894	0.206	-5.910* (0.000)	2.907** (0.013)	91.544* (0.000)	0.704
RTR	0.544	0.468	3.266	-0.184	0.021	-0.932 (0.370)	1.762 (0.104)	7.165* (0.009)	1.314
ACP	0.666	0.610	198.549	-6.364	-0.00 048	-1.140 (0.246)	-0.001 (0.999)	11.971* (0.001)	1.001
CBTR	0.047	-0.112	31.246	-0.687	0.029	-0.491 (0.632)	0.339 (0.740)	0.298 (0.748)	1.526
CTR	0.884	0.865	7.171	-0.030	0.076	-0.056 (0.956)	2.284** (0.041)	45.678* (0.000)	1.977
APP	0.767	0.729	64.182	0.346	-0.175	0.199 (0.845)	-1.661 (0.123)	19.801* (0.000)	0.980
OC	0.852	0.827	264.532	-13.258	0.206	-2.568** (0.025)	0.655 (0.525)	34.469* (0.000)	1.004
NTC	0.851	0.827	200.349	-13.604	0.381	-3.438* (0.005)	1.584 (0.139)	34.359* (0.000)	1.286
Profitability Ratios									
OPM	0.423	0.327	15.445	-1.551	0.170	-0.803 (0.437)	1.448 (0.173)	4.405** (0.037)	1.664
NPM	0.430	0.335	6.711	-1.582	0.172	-0.822 (0.427)	1.474 (0.166)	4.525** (0.034)	1.472
ROTA	0.371	0.266	6.850	-0.401	0.069	-0.329 (0.748)	0.936 (0.368)	3.540 (0.062)	1.460
EAT/TA	0.382	0.279	2.066	-0.218	0.056	-0.197 (0.847)	0.826 (0.425)	3.713 (0.056)	1.390
RONW	0.295	0.178	6.244	-0.001	0.055	-0.0007 (0.999)	0.524 (0.610)	2.516 (0.122)	1.106

* Results significant at 1% level of significance. ** Results significant at 5% level of significance.

Critical Values of "t" and "F"

t-test			F-test: Degrees of Freedom = 2		
DF	Probability (Alpha)	Table Value – t	N	Probability (Alpha)	Table Value – F
12	0.01	3.055	12	0.01	6.93
12	0.05	2.179	12	0.05	3.88

Durbin – Watson Statistic (D-W Statistic), K = 2

N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
12	0.01	0.569	1.274
12	0.05	0.812	1.579

Where, N = Sample size and K represents number of independent variables

D. Liquidity Analysis

- On examining the results of time trend from Tables 5.56 and 5.57, no significant trend is observed in CR indicating that over a period of time the policy of the firms in Miscellaneous Services Industry with respect to the proportion of current assets to current liabilities has remained same.
- However a significant rising trend is observed for QR and hence it is concluded that there is increase in the liquidity of firms in Miscellaneous Services Industry measured in terms of quick ratio.
- Further, a significant quadratic trend is observed for ALR which is decreasing at an increasing rate and the trend is likely to reverse in 5^{th} year for the period under study which indicate decline in the absolute liquidity position. Thus, it is concluded that there is deterioration in the absolute liquidity position of the firms in Miscellaneous Services Industry as also observed from the findings of Table 5.53.

E. Current Asset Management Efficiency Analysis

- From perusal of Tables 5.56 and 5.57, no significant trend is observed for TATR, CATR, WCTR and CBTR and it is concluded that there is no significant change in the current asset, total asset and net working capital utilization efficiency as well as cash management efficiency of firms in the Miscellaneous Services Industry.
- On observing the results of regression analysis from Tables 5.56 and 5.57, a significant positive linear trend is observed for ITR whereas a significant quadratic trend is observed for IHP declining at increasing rate and the trend is likely to reverse in 17^{th} year. The uptrend in ITR indicates that over the study period there is substantial rise in the ITR and hence improved and efficient inventory management which is further substantiated by fall in IHP. Thus, it is concluded that the inventory management in Miscellaneous Services Industry is efficient and has got better with time which is in line with the results of time trend observed for ITCAR in *para B.*
- A significant linear trend is observed in RTR and ACP. RTR has increased over a period of time as a result ACP has reduced. This indicates that there is an improvement in receivables management of firms in Miscellaneous Services Industry and is in line with the results of trend observed for RTCAR in *para B.*
- A significant linear trend is also observed for CTR and APP, which is increasing in case of CTR and falling in case of APP. From these results it is concluded that the firms in Miscellaneous Services Industry have increased its frequency of repaying the creditors over the study period which is in line with the results of time trends

observed for CLTAR in *para A* and TCCLR in *para C* as also the findings of Table 5.54 for CTR and APP discussed in p*ara E* of Section 5.3.6.1.

- Further, a significant linear downtrend is observed for both OC and NTC indicating significant decline in the length of OC and NTC over the study period. The declining trend in OC indicates reduced working capital investments and declining trend in NTC indicates quicker conversion of these investments in cash and further signifies improvement in WCM. Thus, it is concluded that over the study period the WCM of the firms in the Miscellaneous Services Industry has improved which is on account of improvement in inventory and receivables management as observed from the results of trends for ITCAR, RTCAR, ITR, IHP, RTR and ACP.

F. Profitability Analysis: On examining the outcome of regression analysis from Tables 5.56 and 5.57, a significant linear uptrend is observed for all the five measures of profitability indicating a rise in the profitability of the firms in Miscellaneous Services Industry and hence it is concluded that the profitability of Miscellaneous Services Industry has improved over the study period. Also, it is interesting to note that amongst all the Non Financial Service Industry groups, rising trend in profitability is observed only for Miscellaneous Services Industry.

SECTION IV

In this section, the trends in Working Capital Leverage (WCL) is observed and interpreted for the Non Financial Service Industry taken in entirety, *i.e.,* for 79 companies as well as individually for the 6 constituent industries of the Non Financial Service Industry. For lucidity and better understanding, the analysis is divided into two parts. The **first part** presents the findings based on descriptive statistics *i.e.,* analyzes the overall trends in WCL of the Non Financial Service Industry as well as its constituent industry groups. The **second part** presents the results of time trend analysis of WCL *i.e.,* inferential statistics for the Non Financial Service Industry as well as its constituent industries. Working Capital Leverage is a measure of sensitivity of ROTA (EBIT/TA) to changes in level of current asset investment and thus is affected by the asset structure. Therefore, for more appropriate understanding and interpretations, CANFAR and ROTA have been included in the overall analysis. As discussed in Chapter 4, the equation employed for calculation of WCL is:-

$$WCL = \frac{\triangle CA}{TA \pm \triangle CA}$$

The analysis of WCL is presented for 14 years due to loss of observations of 2 years in computation as already discussed in *para 5.2.* And in the said context for the purpose of

analysis of WCL and in order to maintain consistency in presentation and interpretation of results, the observations for CANFAR and ROTA is also considered for the period of 14 years ranging from March 97 to March 2010 for all firms across industries.

5.4 Trends in Working Capital Leverage: Non Financial Service Industry

The overall trend in WCL of the Non Financial Service Industry and its constituent industry groups is presented in this section. The yearly mean, SD and CV of WCL, CANFAR and ROTA for the Non Financial Service Industry (79 companies) is presented in Table 5.58 and for its constituent industries in Table 5.59. Moreover, the trends in WCL of Non Financial Service Industry as well as its constituents are presented in Chart 5.22. The findings are presented for the entire Non Financial Service Industry first, followed by Hotels and Restaurant, IT, Transport Services, Health Services, Communication Services and Miscellaneous Services Industry

A. Non Financial Service Industry (79 Companies)

- From the perusal of Table 5.58, it is observed that mean WCL of the entire Service Industry (79 companies) is 0.48 on an average. and has ranged between 0.44 and 0.52. Mean CANFAR of the entire Service Industry (79 companies) is 1.68, which ranged between 1.53 and 1.86.
- Banerjee[18] observed, "The industries having low ratio of fixed assets to working capital are more responsive to working capital leverage than those having a high fixed assets to working capital ratio." Considering this, an industry having a high Current Asset to Net Fixed Asset ratio (CANFAR) can be understood to be more sensitive to WCL as compared to industries having low CANFAR. The CANFAR of the Non Financial Service Industry fluctuated until 2001 whereafter a consistently rising trend is observed indicating that there have been increased investments in Current Assets as compared to Net Fixed Assets over the study period. Thus, it can be inferred that the ROTA of the Non Financial Service Industry is moderately sensitive to variability in level of current asset investments. However, WCL is less than 1 for the Service Industry indicating that the decrease in ROTA is less than proportionate to increase in level of working capital investment, *i.e.,* level of investment in current assets. Hyderabad[19] observed, "WCL indicates the number of times the ROCE decreases for every one percent increase in working capital." And based on the same, it can be inferred that in the Non Financial Service Industry with 1% increase in current asset investment, the ROTA would decrease by 0.48% on an average and *vice versa.* Mean WCL of 0.48 indicates that, with 1% change in Current Assets, the ROTA will be affected by 0.48%.

TABLE – 5.58			
WCL and Related Ratios: Non Financial Service Industry			
Year	WCL	CANFAR	ROTA
Mar-97	0.52	1.75	13.93
Mar-98	0.50	1.53	11.91
Mar-99	0.49	1.53	11.25
Mar-00	0.48	1.55	12.02
Mar-01	0.48	1.54	10.49
Mar-02	0.45	1.57	7.39
Mar-03	0.44	1.58	7.87
Mar-04	0.46	1.61	8.98
Mar-05	0.48	1.74	11.25
Mar-06	0.49	1.80	14.97
Mar-07	0.50	1.80	15.69
Mar-08	0.49	1.82	15.10
Mar-09	0.48	1.86	11.79
Mar-10	0.48	1.86	10.25
Mean	0.48	1.68	11.95
SD	0.02	0.13	2.79
CV (%)	4.30	7.91	30.56

B. Hotels and Restaurant Industry

- From the perusal of Table 5.59, it is observed that WCL of the Hotels and Restaurant Industry ranged between 0.27 and 0.37 with mean WCL of 0.33. Mean CANFAR of the Hotels and Restaurant Industry is 0.99 which ranged between 0.73 and 1.44. The CANFAR of Hotels and Restaurant industry has consistently declined until 2002 whereafter an uptrend can be observed for the same, thereby indicating that there was decline in current asset investments as compared to Net Fixed Assets until 2002 whereafter it has increased. Mean WCL of 0.33 indicates that, with 1% change in Current Assets, the ROTA will be affected by 0.33% *i.e.,* with 1% increase in current asset investment, the ROTA would decrease by 0.33% on an average and *vice versa.* In addition, the WCL for the Hotels and Restaurant Industry is noted to be is less than 1 indicating that the decrease in ROTA is less than proportionate to increase in level of working capital investment, *i.e.,* level of investment in current assets. However, due to high ratio of CANFAR, it can be observed that there have been heavy fluctuations in ROTA, which indicates high sensitivity of ROTA to changes in current asset investment and signifying a risky position in the Hotels and Restaurant Industry.

Chart 5.22: Trends in Working Capital Leverage of Non Financial Service Industry and Constituent Industries

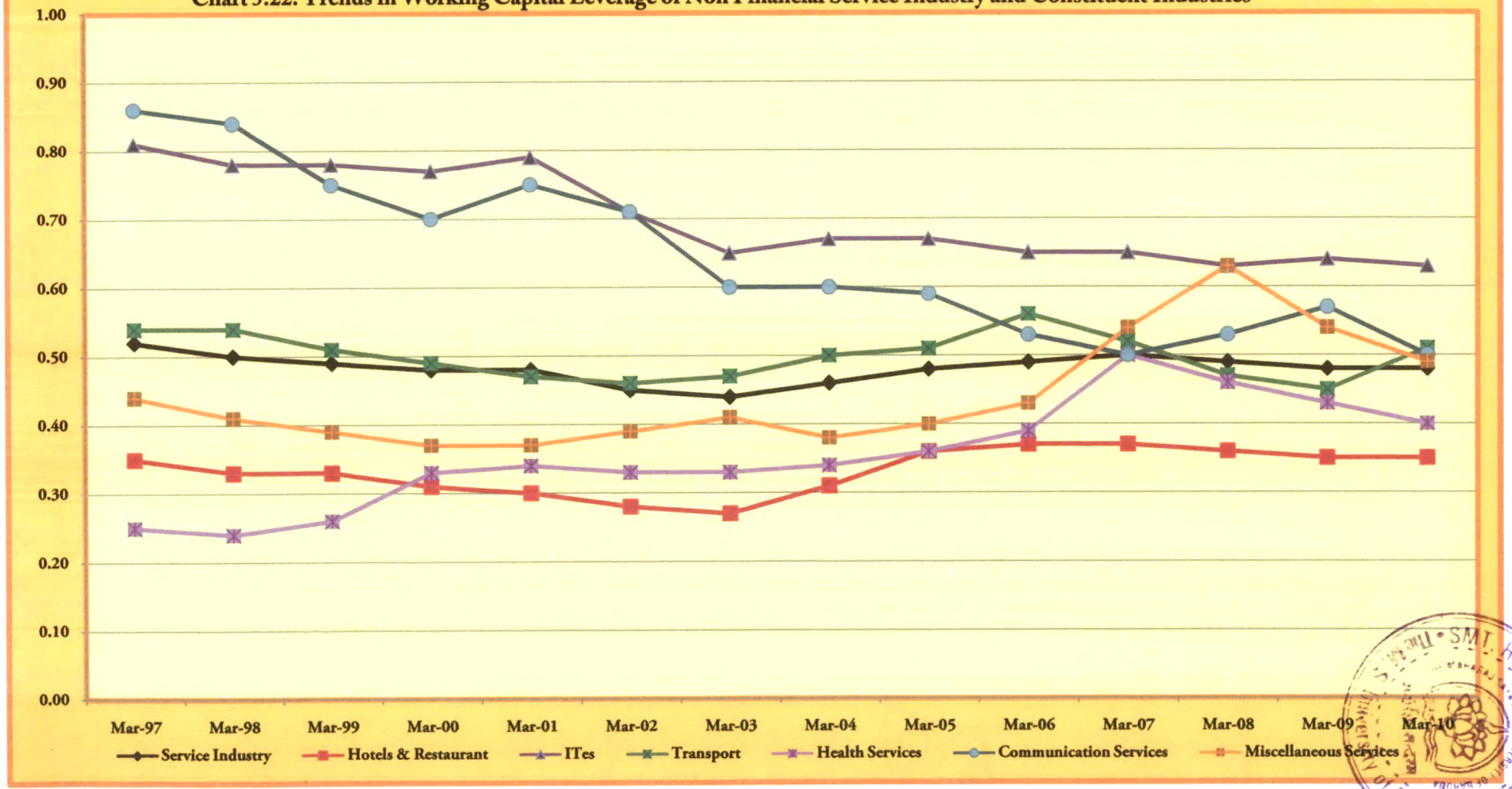


TABLE – 5.59

Industry Wise Mean of WCL and related ratios

Year	Hotels and Restaurant Industry			IT&A Industry			Transport Services			Health Services			Communication Services			Miscellaneous Services		
	WCL	CANFAR	ROTA	WCL	CANFAR	ROTA	WCL	CANFAR	ROTA	WCL	CANFAR	ROTA	WCL	CANFAR	ROTA	WCL	CANFAR	ROTA
Mar-97	0.35	0.82	15.00	0.81	2.57	20.08	0.54	1.69	12.68	0.25	0.37	11.58	0.86	4.62	19.64	0.44	1.16	7.69
Mar-98	0.33	0.75	11.75	0.78	2.80	18.54	0.54	1.62	10.65	0.24	0.33	10.30	0.84	5.04	21.09	0.41	0.91	6.57
Mar-99	0.33	0.76	9.11	0.78	2.92	19.03	0.51	1.54	9.90	0.26	0.36	10.26	0.75	4.95	22.11	0.39	0.91	6.27
Mar-00	0.31	0.74	7.45	0.77	2.93	23.92	0.49	1.52	10.34	0.33	0.46	9.26	0.70	4.72	14.57	0.37	0.86	6.90
Mar-01	0.30	0.73	6.87	0.79	3.20	25.01	0.47	1.35	11.41	0.34	0.55	5.10	0.75	4.56	20.63	0.37	0.85	3.37
Mar-02	0.28	0.70	1.60	0.71	3.14	14.18	0.46	1.38	10.03	0.33	0.60	7.47	0.71	4.80	17.70	0.39	0.91	4.31
Mar-03	0.27	0.74	6.41	0.65	3.24	11.69	0.47	1.44	8.59	0.33	0.60	5.65	0.60	4.00	12.11	0.41	0.94	5.32
Mar-04	0.31	0.86	7.59	0.67	3.38	12.28	0.50	1.69	13.09	0.34	0.63	2.54	0.60	4.11	7.74	0.38	0.92	5.05
Mar-05	0.36	1.02	11.66	0.67	3.56	12.79	0.51	1.63	16.15	0.36	0.67	0.58	0.59	3.36	10.05	0.40	0.90	8.61
Mar-06	0.37	1.22	14.24	0.65	3.29	17.48	0.56	1.68	13.8	0.39	0.82	7.71	0.53	3.12	5.90	0.43	0.81	22.87
Mar-07	0.37	1.30	16.79	0.65	3.12	20.05	0.52	1.65	12.08	0.50	1.04	16.58	0.50	2.87	6.55	0.54	1.03	14.00
Mar-08	0.36	1.44	16.75	0.63	2.84	18.17	0.47	1.80	12.51	0.46	0.85	7.63	0.53	3.00	4.43	0.63	1.44	19.10
Mar-09	0.35	1.42	11.52	0.64	3.05	17.67	0.45	1.57	10.53	0.43	0.82	4.20	0.57	3.10	4.74	0.54	1.48	11.90
Mar-10	0.35	1.37	9.79	0.63	3.25	16.41	0.51	1.70	9.23	0.40	0.81	3.06	0.50	1.98	-1.42	0.49	1.43	10.80
Mean	0.33	0.99	10.47	0.70	3.09	17.66	0.50	1.59	11.50	0.35	0.64	7.28	0.65	3.87	11.85	0.44	1.04	9.48
SD	0.03	0.29	4.35	0.07	0.26	4.02	0.03	0.13	2.03	0.08	0.21	4.20	0.12	0.96	7.52	0.08	0.24	5.75
CV (%)	9.89	29.56	41.57	9.73	8.42	22.74	6.66	8.23	17.65	21.66	33.47	57.69	18.98	24.78	63.50	17.79	22.95	60.67

C. IT&A Industry

◈ From the perusal of Table 5.59, it is observed that WCL of the IT&A Industry ranged between 0.63 and 0.81 with industry mean of 0.70. Overall, a declining trend is observed in WCL from the perusal of Chart 5.22. Mean CANFAR of the IT&A Industry is 3.09, which, ranged between 2.57 and 3.38. Overall, an uptrend can be observed in the CANFAR, thereby indicating that there was an increase in current asset investments as compared to Net Fixed Assets. In addition, in all the years the ratio of CANFAR is more than 1 which indicates that the Current asset investment in all the years was more than net fixed assets in case of IT&A Industry. Mean WCL of 0.70 indicates that, with 1% change in Current Assets, the ROTA will be affected by 0.70%. Further, the WCL of the IT&A Industry is very near to 1, indicating that the decrease in ROTA is very sensitive to proportionate change in level of working capital investment, *i.e.*, level of investment in current assets. This may also be because of high CANFAR and confirms, "Asset structure is the basic determinant of working capital leverage.[18]" The results indicate a risky position in the IT&A Industry.

D. Transport Services Industry

◈ From the perusal of Table 5.59, it is observed that WCL of the Transport Services Industry ranged between 0.56 and 0.49 with industry mean of 0.50. Overall, a fluctuating trend can be observed in WCL as also observed from Chart 5.22. A declining trend can be observed in the CANFAR until 2002 whereafter the trend is fluctuating. However, in all the years the ratio of CANFAR is more than 1 which indicates that the Current asset investment in all the years was more than net fixed assets in case of Transport Services Industry. However, observing WCL, CANFAR and ROTA simultaneously on year-to-year basis it can be observed that ROTA is not very sensitive to change in level of current asset investment.

E. Health Services Industry

◈ From the perusal of Table 5.59, it is observed that WCL of the Health Services Industry ranged between 0.24 and 0.50 with mean of 0.35. From the perusal of Chart 5.22, a rising trend can be noted in WCL over the study period. However, mean WCL of 0.35 is much less than 1 which indicates that the change in ROTA is less than proportionate to change in current asset investment which may also be because of the low CANFAR. Thus, it confirms, "Asset structure is the basic

determinant of working capital leverage[18]" which could be the reason for ROTA not being sensitive to WCL in the Health Services Industry.

F. Communication Services Industry

- From the perusal of Table 5.59, it is observed that WCL of the Communication Services Industry ranged between 0.86 and 0.50 with mean of 0.65. Overall, a consistently declining trend can be observed in WCL as also evident from Chart 5.41. CANFAR ranged between 5.04 and 1.98 with mean of 3.87 wherein a declining trend is observed. In addition, in all the years the ratio of CANFAR is more than 1 which indicates that the Current asset investment in all the years was more than net fixed assets in case of Communication Services Industry. Mean WCL of 0.65 indicates that, with 1% change in Current Assets, the ROTA will be affected by 0.65%, *i.e.,* with 1% increase in current asset investment, the ROTA would decrease by 0.65% on an average and *vice versa.* Due to high ratio of CANFAR, it can be observed that there have been heavy fluctuations in ROTA, which indicates high sensitivity of ROTA to changes in current asset investment and signifying a risky position in the Communication Services Industry.

G. Miscellaneous Services Industry

- From the perusal of Table 5.59, it is observed that WCL of the industry ranged between 0.37 and 0.63 with industry mean of 0.44. Overall, a rising trend is observed in WCL from perusal of Chart 5.22. CANFAR of ranged between 0.81 and 1.48 with mean of 1.04 wherein a fluctuating trend can be observed. Mean WCL of 0.44 indicates that, with 1% change in Current Assets, the ROTA will be affected by 0.44%. In addition, by observing CANFAR, ROTA and WCL it can be noted that a small change in Current asset investment causes wide fluctuations in ROTA indicating that ROTA of Miscellaneous Services Industry is sensitive to WCL and is a risky position.

5.4.1 Time Trends in WCL: Non Financial Service Industry

Time trend in WCL of Non Financial Service Industry and the 6 individual service industry groups have been examined by fitting the Linear Trend Model and Quadratic Trend Model and the results of both the models are interpreted jointly.

The results of linear trend on time variable are presented in Table 5.60 whereas the results of quadratic trend are presented in Table 5.61 for the entire Service Industry (79 Companies) as well as individual 6 Service Industry Groups. The findings are presented for the entire Non Financial Service Industry first, followed by Hotels and Restaurant,

ITes, Transport Services, Health Services, Communication Services, and Miscellaneous Services Industry.

TABLE 5.60

Linear Trend on Time Variable for Working Capital Leverage

Name of Industry	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Service (as a whole)	0.038	-0.042	0.489	-0.001	-0.690	0.503	0.510
Hotels & Restaurant	0.187	0.119	0.306	0.003	1.659	0.123	0.523
ITes	0.855	0.843	0.815	-0.015	-8.424*	0.000	1.178
Transport Services	0.062	-0.016	0.515	-0.002	-0.889	0.391	0.994
Health Services	0.782	0.764	0.233	0.016	6.560*	0.000	1.261
Comm. Services	0.880	0.870	0.851	-0.027	-9.392*	0.000	1.253
Misc. Services	0.449	0.403	0.348	0.013	3.124*	0.009	0.818

* Indicating significant results at 1% level of significance.

Critical Values of "t"

DF	Probability (Alpha)	Table Value – t
12	0.01	3.055

Durbin – Watson Statistic (D Statistic), K = 1

N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
12	0.01	0.697	1.023

Where, N = Sample size and K represents number of independent variables

TABLE 5.61

Quadratic Trend on Time Variable for Working Capital Leverage

Name of Industry	R^2	Adj. R^2	Intercept	Slope β1	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D Statistic
Service (as a whole)	0.484	0.390	0.527	-0.015	0.001	-3.250* (0.008)	3.081* (0.010)	5.153** (0.026)	0.819
Hotels & Restaurant	0.432	0.328	0.351	-0.014	0.001	-1.698 (0.118)	2.179 (0.052)	4.179** (0.045)	0.629
Transport Services	0.142	-0.014	0.541	-0.012	0.001	-1.185 (0.261)	1.012 (0.333)	0.908 (0.432)	1.085
Misc. Services	0.592	0.518	0.430	-0.018	0.002	-1.140 (0.279)	1.968 (0.075)	7.987* (0.007)	1.153

* Results significant at 1% level of significance. ** Results significant at 5% level of significance.

Critical Values of "t" and "F"

t-test			F-test: Degrees of Freedom = 2		
DF	Probability (Alpha)	Table Value – t	N	Probability (Alpha)	Table Value – F
11	0.01	3.106	11	0.01	7.21
11	0.05	2.201	11	0.05	3.98

Durbin – Watson Statistic (D-W Statistic), K = 2

N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
11	0.01	0.519	1.297
11	0.05	0.658	1.604

Where, N = Sample size and K represents number of independent variables

A. Non Financial Service Industry (79 Companies)

On examining the outcome of regression analysis from Table 5.60 and 5.61, it is observed that WCL exhibits significant trend which is declining at increasing rate and likely to reverse in 8th year. From this, it is concluded that there has been decline in sensitivity of ROTA due to change in level of current asset investment of firms in the Non Financial Service Industry over the period under study.

B. Hotels and Restaurant Industry (25 Companies)

For WCL of Hotels and Restaurant Industry no significant trend is observed and it is concluded that the WCL of this industry has remained stable over the study period which is due to no trend in the CATAR observed from Table 5.16 indicating stable current asset investment policy.

C. ITes Industry (20 Companies)

A significant downtrend is observed for WCL of ITeA Industry with 86% change in WCL explained by time. Hence it is concluded that the WCL of ITeA Industry has declined over the study period as also observed from Chart 5.22. The reason for the same can be assigned to the falling trend observed in CATAR observed from Table 5.24. As already discussed that asset structure is the basic determinant of WCL and with decline in the current assets in the total asset structure, degree of WCL is bound to reduce and thus the sensitivity of ROTA also lessens.

D. Transport Services Industry (16 Companies)

On examining the outcome of regression analysis from Table 5.60 and 5.61, no significant trend is observed for WCL and it is concluded that the WCL of Transport Services Industry has remained stable over the study period.

E. Health Services Industry (7 Companies)

A significant uptrend is observed for WCL with 78% change in WCL for Health Services Industry, hence it is concluded that the WCL has increased over the study period as also observed from Chart 5.22 thereby indicating increased sensitivity of ROTA to change in current asset investment policy. Thus, over the study period the working capital risk in the industry has increased. The reason for the same is assigned to the rising share of CA in the TA structure observed from Table 5.40 which leads to high degree of WCL and thus greater sensitivity in ROTA.

F. Communication Services Industry (2 Companies)

A significant downtrend is observed for WCL with 88% change in WCL explained by the time factor, hence it is concluded that the WCL has declined over the study period

as also observed in Chart 5.22. The reason for the same can be assigned to the falling trend observed in CATAR observed from Table 5.48.

G. Miscellaneous Services Industry (9 Companies)

On examining the outcome of time trend for Miscellaneous Services Industry, a significant positive linear trend is observed for WCL indicating increase in the degree of WCL of firms in the Miscellaneous Services Industry leading to greater sensitivity in ROTA due to change in CA investment policy. Thus, over the study period the working capital risk in the industry has increased. The reason for the same is assigned to the rise in share of CA in TA structure7th year onwards.

SUMMARY

In this chapter the trend analysis was performed for the selected 40 ratios of WCM, LEV and Profitability of the Non Financial Service Industry (79 companies) as well as its constituent industry groups, *i.e.,* Hotels and Restaurant Industry (25 companies); IT$_{eA}$ Industry (20 companies); Transport Services Industry (16 companies); Health Services Industry (7 companies); Communication Services Industry (2 companies) and Miscellaneous Services Industry (9 companies) through application of descriptive statistics as well as Linear and Quadratic Trend Model. A summary of some major observations are presented here, wherein, based on descriptive statistics are presented first as per the aspect of WCM studied for all industries which is followed by summary of Time Trend Analysis.

Trend Analysis

The overall trends in WCM, LEV and PROF ratios were observed by taking industry average on yearly basis. Five different aspects of WCM, along with LEV and PROF were analyzed and the crux is presented in Table 5.62 for each aspect studied.

TABLE 5.62

SUMMARY OF TREND ANALYSIS

Sr. No.	Ratio	Description	Name of Industry
		LEVERAGE	
1	TDTAR	Conservative Debt Financing Policy.	Non Financial Service Industry as well as all the 6 Industry groups
2	LTDTAR	Long term debt formed major component of Total Debt.	Hotels and Restaurant and Health Services
3	CLTAR	Short term debt formed major component of Total Debt.	Non Financial Service Industry IT$_{eA}$; Transport Services; Communication Services and Miscellaneous Services.

TABLE 5.62 (Continued...)			
SUMMARY OF TREND ANALYSIS			
Sr. No.	**Ratio**	**Description**	**Name of Industry**
WORKING CAPITAL POLICY			
4	CATAR	Conservative Current Asset Investment Policy.	Non Financial Service Industry ITeS Industry; Transport Services; Communication Services & Miscellaneous Services.
		Moderate Current Asset Investment Policy.	Hotels and Restaurant Industry and Health Services Industry
5	CLCAR, NWCCAR & CLTAR	Aggressive Current Asset Financing Policy.	Non Financial Service Industry and all its constituent industry groups.
WORKING CAPITAL LEVERAGE			
6	WCL	ROTA is sensitive to the current asset investment policy indicating inherent working capital risk in the asset structure.	Non Financial Service Industry as well as all its constituent industry groups.
		Industries least affected by WCL.	Transport Services & Health Services
		ITeS Industry followed by the Communication Services Industry is very sensitive to the changes in the CA investment policy amongst all the Non Financial Service Industry groups.	
CURRENT ASSET STRUCTURE			
7	RTCAR	Receivables formed the major share in the current asset structure.	Non Financial Service Industry as well as all its constituent industry groups.
8	ITCAR	Inventory had a very low proportion in the current asset structure.	Non Financial Service Industry (8%); Communication Services Industry (2%); ITeS Industry (4%), Transport Services Industry (5%), Hotels and Restaurant Industry (9%), Health Services Industry (12%) and Miscellaneous Services Industry (14%).
CURRENT LIABILITIES STRUCTURE			
9	TCCLR	Trade Credit formed the major share in the current liabilities structure.	Non Financial Service Industry as well as all its constituent industry groups.
10	TCCLR, CFCCLR, PCLR, OCLCLR	Among CL, the Spontaneous source of short term finance is noted to be dominating the current liabilities structure.	Non Financial Service Industry as well as all its constituent industry groups.
LIQUIDITY POSITION			
11	CR, QR & ALR	Sound Liquidity and Short term Solvency position.	Non Financial Service Industry as well as Hotels and Restaurant Industry.
		Excess Liquidity	ITeS and Transport Services.
		Tight fisted liquidity position with risk of technical insolvency.	Health Services and Communication Services
CURRENT ASSET MANAGEMENT EFFICIENCY			
12	TATR and CATR	Efficient management of Total Assets and Current Assets.	Non Financial Service Industry Hotels and Restaurant; ITeS; Transport Services; Health Services

TABLE 5.62 (Continued...)			
SUMMARY OF TREND ANALYSIS			
Sr. No.	**Ratio**	**Description**	**Name of Industry**
CURRENT ASSET MANAGEMENT EFFICIENCY			
12	WCTR	Utilization of low level and at times negative NWC for supporting sales.	Non Financial Service Industry as well as all its constituent industry groups.
13	CBTR, ITR, IHP, RTR and ACP	Efficient Inventory & Cash Management. Improving but unsatisfactory receivables management with a scope to improve credit management.	Non Financial Service Industry as well as all its constituent industry groups.
14	CTR and APP	Prompt payment of dues resulting to good reputation and is considered as the possible cause for easy access to short term funds which has resulted to heavy reliance on current liabilities to finance the current assets.	Non Financial Service Industry as well as all its constituent industry groups. However, in case of Communication Services as well as Miscellaneous Services Industry it is observed that gradually the industry is delaying payments to creditors.
15	OC and NTC	Long Operating and Net Trade Cycles indicating greater working capital requirements	Non Financial Service Industry as well as all its constituent industry groups.
PROFITABILITY POSITION			
16	OPM, NPM, ROTA, EAT/TA, RONW	The industry is not able to provide stable returns to its investors. Moreover, the post tax returns of the industry are observed to be lower than risk free rate of return.	Non Financial Service Industry as well as Hotels and Restaurant and Communication Services Industry.
		Poor & Unstable Profitability Position.	IT[illegible]; Transport Services & Health Services (refer Table 5.23 and 5.39)

Time Trend Analysis

The results of time trend analysis are presented here for each industry separately. Moreover, the summary of the results of Trend analysis is presented in Table 5.63.

A. Non Financial Service Industry

The study rejects the null hypothesis that no significant linear trend is observed in WCM, LEV and PROF ratios of Non Financial Service Industry over a period of time for LTDTAR, TDTAR, CLTAR, CATAR, CLCAR, NWCCAR, WCL, ITCAR, RTCAR, PETCAR, LATCAR, MSTCAR, TCCLR, CFCCLR, PCLR, DACECLR, OCLCLR, CR, QR, ALR, CATR, ITR RTR, IHP, OC, NTC and OPM. However the null hypothesis is accepted for CBBTCAR, STBBCLR, TATR, WCTR, CBTR, CTR, ACP, APP, NPM, ROTA, EAT/TA and RONW.

TABLE 5.63	
INDUTRY WISE SUMMARY OF TIME TRENDS IN WCM, LEV AND PROF RATIOS	
LINEAR TREND	
Name of Industry	**Name of WCM, LEV and PROF RATIOS**
Non Financial Service Industry	ITCAR, TCCLR, CR, QR, ALR, RTR, OC, NTC
Hotels and Restaurant Industry	RTCAR, RTR, CBTR, APP
IT&A Industry	CATAR, TCCLR, RTR, NTC, WCL
Transport Services Industry	LTDTAR, CATAR, ITCAR, RTR
Health Services Industry	CATAR, DACECLR, CFCCLR, TATR, APP, WCL
Communication Services Industry	TCCLR, CFCCLR, OCLCLR, OPM, ROTA, EAT/TA, RONW, WCL
Miscellaneous Services Industry	CBBTCAR, TCCLR, QR, CTR, NTC, OPM, NPM, ROTA, EAT/TA
LINEAR TREND AND AUTOCORRELATION PROBLEM	
Name of Industry	**Name of WCM, LEV and PROF Ratios**
Non Financial Service Industry	CLTAR, RTCAR, PETCAR, ITR
Hotels and Restaurant Industry	CLTAR, PETCAR, LATCAR, MSTCAR, TCCLR, ALR, TATR, ITR, IHP, ACP, OC
IT&A Industry	CLCAR, NWCCAR, PETCAR, CR, QR, TATR
Transport Services Industry	TDTAR, CLTAR, RTCAR, CBBTCAR, MSTCAR, TCCLR, CR, QR, ALR, TATR, ITR, CBTR
Health Services Industry	TDTAR, RTCAR, TCCLR, OCLCLR, CATR, CBTR
Communication Services Industry	CATAR, PETCAR, MSTCAR, CTR
Miscellaneous Services Industry	CLTAR, RTCAR, PETCAR, MSTCAR, PCLR, ITR, RTR, ACP, APP, OC,
QUADRATIC TREND	
Name of Industry	**Name of WCM, LEV and PROF RATIOS**
Non Financial Service Industry	LTDTAR, CLCAR, NWCCAR, LATCAR, MSTCAR, CFCCLR, PCLR, DACECLR, CATR, IHP, OPM
Hotels and Restaurant Industry	TDTAR, CATR, CTR
IT&A Industry	LTDTAR, STBBCLR, OPM, NPM
Transport Services Industry	PCLR, STBBCLR, CFCCLR, CATR, WCTR, IHP, ACP, OC, NTC,
Health Services Industry	CLTAR, STBBCLR, CR, QR, ALR, NTC
Communication Services Industry	LTDTAR, CLCAR, NWCCAR, ITCAR, PCLR, CR, QR, ITR, IHP, NPM
Miscellaneous Services Industry	CATAR, CLCAR, NWCCAR, ITCAR, STBBCLR, OCLCLR
RATIOS DECREASING AT INCREASING RATE WITH PERSISTING AUTOCORRELATION	
Name of Industry	**Name of WCM, LEV and PROF RATIOS**
Non Financial Service Industry	TDTAR, CATAR, OCLCLR, WCL
Hotels and Restaurant Industry	CATAR, PCLR, OCLCLR, OPM
IT&A Industry	TDTAR, ITCAR, RTCAR, CFCCLR, OCLCLR, IHP, CBTR
Transport Services Industry	OCLCLR

TABLE 5.63 (Continued...)	
INDUTRY WISE SUMMARY OF TIME TRENDS IN WCM, LEV AND PROF RATIOS	
RATIOS DECREASING AT INCREASING RATE WITH PERSISTING AUTOCORRELATION	
Health Services Industry	LTDTAR, CBBTCAR, PCLR,
Communication Services Industry	TDTAR, CLTAR, LATCAR, TATR, CATR, CBTR, APP
Miscellaneous Services Industry	ALR, IHP
RATIOS INCREASING AT DECREASING RATE WITH PERSISTING AUTOCORRELATION	
Name of Industry	**Name of WCM, LEV and PROF RATIOS**
Non Financial Service Industry	—
Hotels and Restaurant Industry	LTDTAR, ITCAR, DACECLR,
IT&A Industry	NWTAR, LATCAR, MSTCAR, DACECLR, PCLR, ITR
Transport Services Industry	—
Health Services Industry	PETCAR, LATCAR, MSTCAR,
Communication Services Industry	CBBTCAR, ALR
Miscellaneous Services Industry	TDTAR, LATCAR, DACECLR, CFCCLR,
NO TREND	
Name of Industry	**Name of WCM, LEV and PROF RATIOS**
Non Financial Service Industry	CBBTCAR, STBBCLR, TATR, WCTR, CBTR, CTR, ACP, APP, NPM, ROTA, EAT/TA, RONW,
Hotels and Restaurant Industry	CLCAR, NWCCAR, CBBTCAR, CFCCLR, STBBCLR, CR, QR, WCTR, NTC, NPM, ROTA, EAT/TA, RONW, WCL
IT&A Industry	CLTAR, CBBTCAR, ALR, CATR, WCTR, ACP, CTR, APP, OC, ROTA, EAT/TA, RONW
Transport Services Industry	CLCAR, NWCCAR, LATCAR, PETCAR, DACECLR, CTR, OPM, NPM, ROTA, EAT/TA, RONW, WCL
Health Services Industry	CLCAR, NWCCAR, ITCAR, WCTR, ITR, IHP, RTR, ACP, CTR, OC, OPM, NPM, ROTA, EAT/TA, RONW
Communication Services Industry	RTCAR, DACECLR, STBBCLR, WCTR, RTR, ACP, OC, NTC
Miscellaneous Services Industry	LTDTAR, CR, TATR, CATR, WCTR, CBTR, RONW, WCL

B. Hotels and Restaurant Industry

The study rejects the null hypothesis that no significant linear trend is observed in WCM, LEV and PROF ratios of Non Financial Service Industry over a period of time for LTDTAR, TDTAR, CLTAR, CATAR, , ITCAR, RTCAR, PETCAR, LATCAR, MSTCAR, TCCLR, DACECLR, PCLR, OCLCLR, TATR, ALR, CATR, ITR RTR, CTR, CBTR, IHP, OC, ACP, APP, and OPM. However the null hypothesis is accepted for CLCAR, NWCCAR, WCL, CBBTCAR, STBBCLR, CFCCLR, CR, QR, WCTR, NTC, NPM, ROTA, EAT/TA and RONW.

C. IT&A Industry

The study rejects the null hypothesis that no significant linear trend is observed in WCM, LEV and PROF ratios of IT&A Industry over a period of time for LTDTAR, TDTAR, CATAR, CLCAR, NWCCAR, WCL, ITCAR, RTCAR, PETCAR, LATCAR, MSTCAR, TCCLR, DACECLR, PCLR, STBBCLR, CFCCLR, OCLCLR, CR, QR, TATR, ITR, RTR, CBTR, IHP, NTC, OPM, and NPM. However the null hypothesis is accepted for CLTAR, CBBTCAR, ALR, CATR, WCTR, CTR, OC, ACP, APP, ROTA, EAT/TA and RONW.

C. Transport Services Industry

The study rejects the null hypothesis that no significant linear trend is observed in WCM, LEV and PROF ratios of Transport Services Industry over a period of time for LTDTAR, TDTAR, CLTAR, CATAR, ITCAR, RTCAR, CBBTCAR, MSTCAR, TCCLR, DACECLR, PCLR, STBBCLR, CFCCLR, OCLCLR, CR, QR, ALR, TATR, CATR, WCTR, ITR, RTR, CBTR, IHP, ACP, APP, OC and NTC. However the null hypothesis is accepted for CLCAR, NWCCAR, WCL, LATCAR, PETCAR, CTR, OPM, NPM, ROTA, EAT/TA and RONW.

D. Health Services Industry

In case of Health Services Industry, the study rejects the null hypothesis for LTDTAR, TDTAR, CLTAR, CATAR, WCL, RTCAR, CBBTCAR, PETCAR, LATCAR, MSTCAR, TCCLR, DACECLR, PCLR, STBBCLR, CFCCLR, OCLCLR, CR, QR ALR, TATR, CATR, CBTR, APP and NTC. However the null hypothesis is accepted for CLCAR, NWCCAR, ITCAR, WCTR, ITR, IHP, RTR, ACP, CTR, OC, OPM, NPM, ROTA, EAT/TA and RONW.

E. Communication Services Industry

In case of Communication Services Industry the study rejects the null hypothesis for LTDTAR, TDTAR, CLTAR, CATAR, CLCAR, NWCCAR, WCL, ITCAR, CBBTCAR, PETCAR, LATCAR, MSTCAR, TCCLR, PCLR, CFCCLR, OCLCLR, CR, QR ALR, TATR, CATR, ITR CTR, CBTR, IHP, APP, OPM NPM, ROTA, EAT/TA and RONW. However the null hypothesis is accepted for RTCAR, DACECLR, STBBCLR, WCTR, RTR, ACP, OC and NTC.

F. Miscellaneous Services Industry

In case of Miscellaneous Services Industry the study rejects the null hypothesis for TDTAR, CLTAR, CATAR, CLCAR, NWCCAR, WCL, ITCAR, RTCAR, PETCAR, LATCAR, MSTCAR, CBBTCAR, TCCLR, PCLR, DACECLR, STBBCLR, CFCCLR, OCLCLR, QR, ALR, ITR RTR, CTR, IHP, OC, ACP, APP, NTC, OPM, NPM, ROTA

and EAT/TA. However the null hypothesis is accepted for LTDTAR, WCL, CR, TATR, CATR, WCTR, CBTR and RONW.

Having examined the trends in WCM, LEV and PROF for the Non Financial Service Industry as well as its constituent industry groups, the next chapter presents the ***second stage of analysis*** which proposes to examine if, differences exists between companies, between years and between industries with respect to the working capital management.

----------@♦♦♦@----------

REFERENCES

1 Ansari S. A. (1985). *Working Capital Management of Small Scale Industries – A Comparative Study of Certain Units.* Unpublished Thesis, Department of Commerce and Business Administration. University of Allahabad – January 1985.

2 Kantawala A. S. and Joshi M. N. (2010). Analysis of Components of Current Assets With Reference to the Steel Industry in India. *Management Trends.* Vol. 7, No. 2 – September 2010, pp. 65-78.

3 Pradhan R. (1986), Financing Pattern of Working Capital in Indian Industries, *The Management Accountant*, April 1986, pp. 205-206.

4 Alam Rabiul S. M. and Hossain Dr. S. Z. (2001). Aspects of Inventory Management in Shipbuilding Industry in Bangladesh. *The Management Accountant.* Vol 36(9), September 2001, pp. 699-706.

5 Janakiramudu Dr. P. (2010). Working Capital Structure and Liquidity Analysis: An Empirical Research of Indian Commercial Vehicles Industry. *Journal of Accounting and Finance*, Vol. 24 (1), October 2009-March 2010, pp. 44-59.

6 Kannadhasan M. (2007). Working Capital Management in a Public Limited Company – A Case Study. *The Icfaian Journal of Management Research*, Vol 6 (5), May 2007, pp 20-33.

7 Khatik S. K. and Singh P.K. (2003). Working Capital Management in Indo-Gulf Corporation Limited: A Case Study. *International Journal of Management and Systems.* Vol 19 (1), Jan- April 2003, pp. 91-100.

8 Mallick A. K. and Sur D (1999), "Working Capital Management: A Case Study of Hindustan Lever Ltd.", *Finance India.* Vol XIII (3), September 1999, pp. 857-871.

9 Padachi, K., Narsimham M.S., Durbarry R. and Howorth C. (2008). An Analysis of Working Capital Structure and Financing Pattern of Mauritian Small Manufacturing Firms. *Icfai Journal of Applied Finance*, Vol 14, No. 7, July 2008, pp. 42-61.

10 Reddy Dr. P.I. and Rao K. S. (1996). Working Capital Management in Public Sector Undertakings - A case study. *The Management Accountant*, September-1996, pp. 643-645.

11 Sarma MS. And Chary T. (1999). Working Capital Management in VST-An Appraisal. *Finance India.* Vol XII (1), March 1999, pp. 71-79.

12 Hossain Dr. S. Z. and Akon Md. H. R. (1997) Financing of Working Capital: A Case Study of Bangladesh Textile Mills Corporation. *Journal of Financial Management and Analysis*, July – Dec 1997, Vol 10, No. 2, pp. 37 – 43.

13 Khandelwal, N. M. (1985), *Working Capital Management in Small Scale Industries*, Ashish Publishing House, New Delhi.

14 Website of Reserve Bank of India http://www.rbi.org.in/home.aspx accessed on 24th Sept 2012.

15 Bhalla, V. K. (2010), *Working Capital Management (Text and Cases)*, Eleventh Revised Edition, Anmol Publications Pvt. Ltd., New Delhi, p. 37.

16 Pandey, I. M. (2009), *Financial Management*, Ninth Edition, Vikas Publishing House Pvt Ltd., p. 591.

17 Ganesan V. (2007). An Analysis of Working Capital Management Efficiency in Telecommunication Equipment Industry. *Rivier Academic Journal*, Vol-3 (2) – Fall pp 1-10.

18 Banerjee, B. (1990) *Financial Policy and Management Accounting,* World Press Pvt. Ltd, Calcutta, p. 90.

19 Hyderabad, R. L. (1999), Working Capital Leverage Management: Case Analysis, *Journal of Accounting and Finance*, 13(1), March 1999, pp. 96-104.