CHAPTER 8

Findings, Conclusions & Suggestions

Chapter Contents

CHAPTER 8
FINDINGS, CONCLUSIONS AND SUGGESTIONS

In this chapter, the major findings of this study have been summarized and conclusions based on the study are presented. For the purpose of systematic presentation, the chapter is divided into 7 sections. Section 1 gives a brief of Indian Services Sector; Section 2 presents the background of study along with main objectives and hypothesis of the study; Section 3 briefs the methodology adopted; Section 4 presents the major findings and conclusions which is segmented as per the phases of empirical analysis; Section 5 presents suggestions based on findings; Section 6 gives the limitations of the study and Section 7 gives suggestions for further research in the related area.

8.1 Growth of Indian Service Sector: A Brief

Services Sector has come to the core of every developed economy with an overall share of 67.8 % in world GDP. The services sector across the globe has been playing a dominant role in the growth of economies, especially in high income economies which have transited to services-led economies[1]. Its growing importance in the world economy is indisputable with rising trend in contribution to world GDP.

India's performance in terms of services GDP is not only above that of other emerging developing economies, but also very close to that of the top developed countries. Among the top 12 countries with highest overall GDP in 2010, India ranked 8th. India's services sector has been resilient even during the tumultuous years of the global economic crisis maintaining a steady growth of around 10 per cent. This happened even when overall GDP growth dipped sharply to 6.7 per cent in 2008-09[1]. Despite the slowing down of economic growth for the fiscal year 2011-12, the Indian Services Sector continued to be a star performer as its share in GDP climbed from 58% in 2010-11 to 59% in 2011-12 with a growth rate of 9.4%[2]. Various services *viz,* Trade, Health, Hotels and Restaurant, Communication Services, IT and IT enabled services, Transport Services, Recreational Services *etc.* are driving the Indian Services Sector. Indian Services Sector has emerged as a dominant sector in terms of both contribution as well as growth. This sector is a growth engine not only for the national economy but also for many states. It is also the major FDI-attracting sector. Indian Services Sector is considered to be an uncharted sea with plenty of opportunities with great future prospects as well as new challenges with many untold stories and unfolded mysteries. This sector is envisaged to take the Indian growth story to the next level of development phase.

8.2 Rationale of the Study

Working capital management has become the subject of wide interest amongst academicians, researchers and practitioners across the globe. The contribution of short term financial management is of prime importance for any and every business activity as it is major revenue generating activity and in absence of efficient WCM the health and survival of an entity is put to test. "Inadequacy of working capital is a symptom, and sometimes an excuse of business failure.[3]" According to Companies Act, 2002 a *Sick Industrial Company* means "an industrial company which has *i)* Accumulated losses in any financial year equal to 50 per cent or more of its average net worth during four years immediately preceding such financial year; or *ii)* Failed to repay its debts within any three consecutive quarters on demand made in writing for its repayment by a creditor or creditors of such company." Thus, inefficient management of working capital is one of the major factors leading to industrial sickness and hence cause of concern as well as matter demanding greater vigilance. The effective and efficient WCM contributes not only to the survival and earnings of an entity in the short run but also to the *i) Long term solvency* – as if a firm is able to honor current obligations, its credibility and capability to raise funds from the market eases which further contributes to the good health of the business as well as its growth; and *ii) Growth* – Sales is considered to be the barometer of growth which is facilitated by fixed assets but materialized only through the interplay of current assets and current liabilities of a firm which makes the short term financial management an inevitable and significant aspect of financial management for an enterprise. Thus, WCM decisions are synonymous with the liquidity as well as operational profitability decisions and therefore, there has been much debate on how these liquidity decisions influence the profitability on an entity, *i.e.,* positively or negatively?

Studies of Azam and Haider[4], Hayajneh and Yassine[5], Kaddumi and Ramadan[6], Bieniasz and Golas[7] have found positive influence of liquidity on profitability which rests on the premise that only through sufficient levels of current assets, an entity can generate revenue from sales. However, studies of Azhar and Saad[8], Sen and Oruc[9], Nassirzadeh and Rostami[10] have found negative influence of liquidity on profitability which rests on the premise that funds blocked in current assets are unproductive till realized but as the funds have a cost, so no revenue against cost influences the profitability negatively. Further, liquidity measures were observed to affect different measures of profitability differently.

In light of the growing debate and unresolved puzzle it was considered apt to carry out "A Study on Some Important Aspects of Working Capital Management in Selected Indian Industries" wherein, for the purpose of inquiry, Service Industry is selected due to its growing significance in context of India as well the world economy which would help in understanding the nature of WCM in the Service Industries. Further, it was difficult to find an empirical study examining all the important aspects of working capital management *viz* current asset and current liabilities structure, nature of working capital requirements, liquidity management, efficiency of WCM, working capital policy, working capital leverage as well as impact of Sales on Working Capital; impact of WCL on ROTA and impact of WCM on the profitability of the Service Sector and so through present study an attempt has been made to examine all these aspects for the Non Financial Service Industry by employing firm level data. This study would contribute to the existing literature by providing an insight to the WCM of the Non Financial Service Industry in Indian context.

The main objective of the study has been to understand the WCM of the Non Financial Service Industry through examination of trends and patterns in current asset and current liabilities structure as well as operating and net trade cycle; WCM policy, WCM efficiency, WCL and WCM risk as also to examine the impact of Sales on Working Capital; WCL on ROTA; and impact of liquidity, working capital management, efficiency and risk on profitability by undertaking empirical analysis at firm level as well as industry level *i.e.,* by grouping of the sample companies in respective 6 constituent industries of Indian Non Financial Service Sector.

For the purpose of undertaking this study, the selected sample of 79 Non Financial Service Sector companies in India represented 6 industries. The period of the study is 15 years starting from the year 1995-96 to 2009-10.

To test the hypothesis of the study (As mentioned in Chapter 4), total **40** measures were examined. Of these, **33** measures related to WCM were categorized into ***five*** major heads *viz, i)* Working Capital Policy, *ii)* Current Asset Structure Ratios, *iii)* Current Liabilities Structure Ratios, *iv)* Current Asset Management Efficiency Ratios, and *v)* Operating Cycle Variables have been applied in this study over and above **5** measures of Profitability and **2** measures of Leverage.

In this study, **30 independent variables** were selected to study the impact of WCM (Policy, Liquidity and Efficiency), Firm Size and LEV on ***five*** measures of profitability of 79 sample firms belonging to Indian Non Financial Service Industry as well as the major 3 industry groups. The list of all the WCM, PROF and LEV ratios along with

their abbreviations as also the list of Independent variables along with their indicators, definition and abbreviation is presented in Tables 4.6 and 4.7 respectively.

8.3 Methodology Adopted

The present study had carried out empirical analysis in three stages and research methodology adopted for the same to test the main hypotheses of the study is briefed in the following paras.

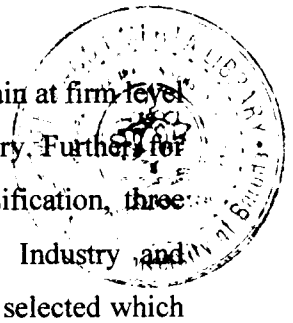
First Stage of Analysis: Analysis of Trends

Trend Analysis: The general trends in 40 ratios relating to WCM, LEV and PROF of 79 Service Sector companies in India as well as the industry wise trends have been studied by calculating year wise mean of WCM, LEV and Profitability Ratios for the period 1994-95 to 2009-10. The Descriptive statistics, *i.e.,* Standard Deviation and Coefficient of Variation were also computed to support the analysis.

Time Trends in WCM, LEV and PROF (Trends over a period of time): To study the time trends in WCM, LEV and Profitability of Selected 79 Non Financial Service Sector Companies, the "Method of Least Squares" is applied. In the first step, to examine whether the selected 40 ratios exhibit a significant linear trend, the *Linear Trend Model* is applied and in the second step, *Quadratic Trend Model* was applied to examine if the Quadratic Trend is applicable to ratios which did not exhibit linear trend. Test of significance like t-test, F-test, p value, Durbin – Watson (D statistic) have also been applied to test the hypothesis.

Second Stage of Analysis – Analysis of Variances: To examine variations, if any, in the selected ratios of WCM, LEV and PROF Single Factor Analysis of Variance (ANOVA) is applied. This technique is applied to serve three fold objectives of examining variations, *viz, i)* To examine the variations between the industries and between the years *ii)* To examine variations between the companies of the NFSI as well as for 5 industry groups; and *iii)* To examine the variations between the years for the NFSI as well as for individual 5 service industry groups. ANOVA for Communication Services Industry was not conducted as there were only 2 firms in the industry.

Third Stage of Analysis – Impact of Sales on Working Capital; Impact of Working Capital Leverage on ROTA; Impact of Firm Size, Leverage, Liquidity, Working Capital Policy and Efficiency on Profitability: In this study, to examine the impact of sales on working capital; impact of working capital leverage on ROTA; and impact of certain variables related with Liquidity, WCP, WCME, Firm Size and LEV on measures of PROF, firm level analysis is applied in two ways: *i)* By taking all the 79 sample companies without



further industry classification and *ii)* The same analysis is carried out again at firm level but within given class of industry, for *e.g.* Hotels and Restaurant Industry. Further, for conducting firm level empirical analysis based on industry-wise classification, three major industry groups, *viz,* Hotels and Restaurant Industry, IT-ITeS Industry and Transport Services Industry having at least 15 member companies were selected which is necessary for conducting stepwise regression analysis and only these three industries satisfied the criterion of 10 data points.

Firstly, the impact of sales on working capital is examined. *Secondly* the impact of Working Capital Leverage on ROTA is examined. *Thirdly,* the impact of 5 independent variables on PROF is examined, wherein as a *first step*, simple linear regression on each indicator of selected independent variables one at a time for each measure of Profitability is conducted. In the *second step* Stepwise Regressions are carried out to identify the variables that explain the highest variation in selected measures of profitability simultaneously eliminating the problem of multicollinearity as stepwise regression method eliminates those independent variables that are highly correlated considering the values of Variance Inflationary Factor (VIF) and Tolerance Limit. VIFs for each regression run are also reported.

Having briefed the methodology the succeeding paras presents the major findings of the study and conclusions drawn based on empirical analysis which is followed by Suggestions.

8.4 Major Findings and Conclusions

The major findings of the study are presented here for each stage of empirical analysis, *i.e.*, ***firstly*** for Trend Analysis, ***secondly*** for Analysis of Variances and ***finally*** for Empirical Examination of impact of Sales on Working Capital, Working Capital Leverage on ROTA as well as impact of LEV, Size, WCP, Liquidity and WCME on 5 measures of Profitability is presented.

8.4.1 Major Findings and Conclusions: 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. The mean values of all the 40 ratios over a period of time for all the industries are presented in Table 8.1.

Further, the major findings of overall trends are presented in Table 8.2 for each aspect studied for all the industries to enable a comparative analysis and quick review of the WCM in the Non Financial Service Industry.

TABLE 8.1

SUMMARY OF INDUSTRY WISE TRENDS IN WCM, LEV AND PROF RATIOS

Sr. No.	Category & Name of Ratio	Name of the Service Industry						
		Service (All 79 Co.s)	Hotels (25 Co.s)	IT$_{ad}$ (20 Co.s)	Transport (16 Co.s)	Health (7 Co.s)	Comm. (2 Co.s)	Misc Services (9 Co.s)
Leverage and Working Capital Policy Ratios								
1	LTDTAR	0.18	0.24	0.073	0.21	0.23	0.08	0.17
2	TDTAR	0.44	0.44	0.396	0.47	0.45	0.44	0.49
3	CLTAR	0.26	0.20	0.323	0.26	0.22	0.36	0.32
4	CATAR	0.44	0.31	0.61	0.48	0.33	0.62	0.43
5	CLCAR	0.76	0.98	0.58	0.63	0.80	0.60	0.83
6	NWCCAR	0.24	0.02	0.42	0.37	0.20	0.40	0.17
7	WCL	0.48	0.33	0.70	0.50	0.35	0.65	0.44
8	CANFAR	1.68	0.99	3.09	1.59	0.64	3.87	1.04
Current Asset Structure Ratios								
9	ITCAR	0.08	0.09	0.04	0.05	0.16	0.01	0.12
10	RTCAR	0.50	0.46	0.55	0.52	0.39	0.40	0.55
11	CBBTCAR	0.20	0.23	0.19	0.24	0.19	0.23	0.11
12	PETCAR	0.08	0.08	0.08	0.07	0.07	0.23	0.08
13	LATCAR	0.08	0.08	0.06	0.06	0.15	0.09	0.10
14	MSTCAR	0.06	0.06	0.08	0.06	0.04	0.04	0.05
Current Liabilities Structure Ratios								
15	TCCLR	0.32	0.31	0.34	0.32	0.35	0.31	0.32
16	DACECLR	0.08	0.09	0.09	0.05	0.02	0.12	0.10
17	PCLR	0.22	0.23	0.25	0.24	0.19	0.32	0.15
18	STBBCLR	0.12	0.12	0.10	0.12	0.21	0.05	0.14
19	CFCCLR	0.10	0.12	0.05	0.12	0.07	0.05	0.13
20	OCLCLR	0.16	0.13	0.17	0.15	0.16	0.15	0.16
Liquidity Ratios								
21	CR	2.23	1.85	2.98	2.32	1.80	1.81	1.91
22	QR	2.10	1.73	2.90	2.16	1.57	1.79	1.73
23	ALR	0.70	0.71	0.85	0.84	0.51	0.45	0.33
Current Asset Management Efficiency Ratios and Operating Cycle Variables								
24	TATR	0.82	0.54	1.18	0.97	0.78	0.49	0.62
25	CATR	2.25	2.71	1.93	2.24	2.86	0.79	1.54
26	WCTR	4.43	2.63	5.30	5.30	10.30	2.09	2.84
27	ITR	47.07	21.10	74.71	40.08	16.23	48.46	18.99
28	IHP	10 days	14 days	12 days	14 days	23 days	8 days	28 days
29	RTR	5.76	7.03	3.89	6.25	9.31	2.34	3.54
30	ACP	132 days	121 days	166 days	113 days	69 days	259 days	148 days
31	CBTR	20.86	22.66	15.47	19.68	28.23	6.91	28.13
32	CTR	54.12	16.02	161.97	26.20	12.25	6.23	13.17
33	APP	54 days	54 days	69 days	39 days	41 days	76 days	52 days
34	OC	143 days	140 days	178 days	127 days	92 days	267 days	175 days
35	NTC	89 days	86 days	109 days	88 days	51 days	190 days	123 days

TABLE 8.1 (Continued...)

SUMMARY OF INDUSTRY WISE TRENDS IN WCM, LEV AND PROF RATIOS

Sr. No.	Category & Name of Ratio	Name of the Service Industry						
		Service (All 79 Co.s)	Hotels (25 Co.s)	ITeA (20 Co.s)	Transport (16 Co.s)	Health (7 Co.s)	Comm. (2 Co.s)	Misc. Services (9 Co.s)
Profitability Ratios								
36	OPM	18.66%	24.26%	17.02%	17.33%	7.81%	24.60%	17.08%
37	NPM	10.04%	11.92%	11.57%	9.62%	1.12%	10.99%	8.31%
38	ROTA	11.95%	10.88%	18.10%	11.66%	7.50%	10.88%	9.38%
39	EAT/TA	7.73%	6.25%	13.58%	6.60%	2.62%	6.25%	4.91%
40	RONW	15.14%	15.09%	22.29%	12.39%	7.88%	14.50%	10.77%

Comm. refers to Communication Services Industry.

TABLE 8.2

MAJOR FINDINGS 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 Industry and Health Services Industry
3	CLTAR	Short term debt formed major component of Total Debt.	Non Financial Service Industry ITeA Industry; Transport Services Industry; Communication Services Industry and Miscellaneous Services Industry.
		WORKING CAPITAL POLICY	
4	CATAR	Conservative Current Asset Investment Policy.	Non Financial Service Industry ITeA; Transport Services; Communication Services Industry and Miscellaneous Services Industry.
		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 and Health Services Industry
		ITeA followed by 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.

TABLE 8.2 (Continued...)			
MAJOR FINDINGS OF TREND ANALYSIS			
Sr. No.	**Ratio**	**Description**	**Name of Industry**
8	ITCAR	Inventory had a very low proportion in the current asset structure.	Non Financial Service Industry (8%); Communication Services (2%); IT&A (4%), Transport Services (5%), Hotels and Restaurant (9%), Health Services (12%) and Miscellaneous Services (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	IT&A Industry and Transport Services Industry.
		Tight fisted liquidity position with risk of technical insolvency.	Health Services Industry and Communication Services Industry
CURRENT ASSET MANAGEMENT EFFICIENCY			
12	TATR and CATR	Efficient management of Total Assets and Current Assets.	Non Financial Service Industry as well as Hotels and Restaurant; IT&A Transport Services and Health Services Industry.
13	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.
14	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.
15	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.
16	OC and NTC	Long Operating and Net Trade Cycle indicating greater working capital requirements	Non Financial Service Industry as well as all its constituents.
PROFITABILITY POSITION			
17	OPM,NPM, ROTA, EAT/TA, RONW	The industry is not able to provide stable returns to its investors.	Non Financial Service Industry as well as all its constituent industry groups

8.4.2 Major Findings and Conclusions: Time Trend Analysis

As already discussed the Linear and Quadratic Trend Model is applied to examine the time trends in WCM, LEV and PROF ratios. The summary of the results of time trend analysis is presented in Table 8.3.

TABLE 8.3

SUMMARY OF TIME TREND ANALYSIS FOR ALL INDUSTRIES

Sr. No.	Category & Name of Ratio	Name of the Service Industry						
		Service (All 79 Co.s)	Hotels (25 Co.s)	IT&A (20 Co.s)	Transport (16 Co.s)	Health (7 Co.s)	Comm. (2 Co.s)	Misc Services (9 Co.s)
Leverage and Working Capital Policy Ratios								
1	LTDTAR	Q(–,+)	Q(+,–)	Q(–,+)	–VE*	Q(–,+)	Q(–,+)	NT
2	TDTAR	Q(–,+)	Q(+,–)	Q(–,+)	–VE*	+VE*	Q(–,+)	Q(+,–)
3	CLTAR	+VE**	+VE**	NT	–VE**	Q(+,–)	Q(–,+)	–VE**
4	CATAR	Q(–,+)	Q(–,+)	–VE*	–VE**	+VE*	–VE*	Q(–,+)
5	CLCAR	Q(+,–)	NT	+VE**	NT	NT	Q(–,+)	Q(–,+)
6	NWCCAR	Q(–,+)	NT	–VE**	NT	NT	Q(+,–)	Q(+,–)
7	WCL	Q(–,+)	NT	–VE*	NT	+VE*	–VE*	+VE*
Current Asset Structure Ratios								
8	ITCAR	–VE*	Q(+,–)	Q(–,+)	–VE*	NT	Q(–,+)	Q(–,+)
9	RTCAR	–VE*	–VE*	Q(–,+)	–VE*	–VE**	NT	–VE*
10	CBBTCAR	NT	NT	NT	+VE*	Q(–,+)	Q(+,–)	+VE**
11	PETCAR	+VE*	+VE*	+VE*	NT	Q(+,–)	+VE*	+VE*
12	LATCAR	Q(+,–)	–VE*	Q(+,–)	NT	Q(+,–)	Q(–,+)	Q(+,–)
13	MSTCAR	Q(+,+)	+VE*	Q(+,–)	+VE*	Q(+,–)	+VE*	+VE*
Current Liabilities Structure Ratios								
14	TCCLR	–VE*	–VE*	–VE*	+VE*	+VE*	–VE*	–VE*
15	DACECLR	Q(+,–)	Q(+,–)	Q(+,–)	+VE*	+VE*	NT	Q(+,–)
16	PCLR	Q(–,+)	Q(–,+)	Q(+,–)	Q(–,+)	Q(–,+)	Q(+,–)	+VE*
17	STBBCLR	NT	NT	Q(–,+)	Q(+,–)	Q(+,–)	NT	Q(–,+)
18	CFCCLR	Q(+,–)	NT	Q(–,+)	Q(+,–)	–VE**	–VE**	Q(+,–)
19	OCLCLR	Q(–,+)	Q(–,+)	Q(–,+)	Q(–,+)	–VE**	+VE*	Q(–,+)
Liquidity Ratios								
20	CR	–VE*	NT	–VE*	+VE**	Q(–,+)	Q(+,–)	NT
21	QR	–VE*	NT	–VE*	+VE*	Q(–,+)	Q(+,–)	+VE**
22	ALR	+VE*	+VE*	NT	+VE*	Q(–,+)	Q(+,–)	Q(–,+)
Current Asset Management Efficiency Ratios and Operating Cycle Variables								
23	TATR	NT	+VE**	–VE*	–VE*	+VE*	Q(–,+)	NT
24	CATR	Q(+,–)	Q(+,–)	NT	Q(+,–)	–VE**	Q(–,+)	NT
25	WCTR	NT	NT	NT	Q(+,–)	NT	N T	N T
26	ITR	+VE*	+VE*	Q(+,–)	+VE*	NT	Q(+,–)	+VE*
27	IHP	Q(–,+)	–VE*	Q(–,+)	Q(–,+)	NT	Q(–,+)	Q(–,+)
28	RTR	+VE*	+VE*	+VE*	+VE*	NT	NT	+VE*
29	ACP	NT	–VE**	NT	Q(–,+)	NT	NT	–VE*
30	CBTR	NT	+VE**	Q(–,+)	–VE*	–VE**	Q(–,+)	NT
31	CTR	NT	Q(+,–)	NT	NT	NT	–VE*	+VE*
32	APP	NT	–VE*	NT	Q(–,+)	+VE**	Q(–,+)	–VE*

TABLE 8.3 (Continued...)								
SUMMARY OF TIME TREND ANALYSIS FOR ALL THE INDUSTRIES								
Sr. No.	Category & Name of Ratio	Name of the Service Industry						
		Service (All 79 Co.s)	Hotels (25 Co.s)	ITeA (20 Co.s)	Transport (16 Co.s)	Health (7 Co.s)	Comm. (2 Co.s)	Misc. Services (9 Co.s)
33	OC	-VE**	-VE*	NT	Q(-,+)	NT	NT	-VE*
34	NTC	-VE*	NT	-VE**	Q(-,+)	Q(-,+)	NT	-VE*
Profitability Ratios								
35	OPM	Q(-,+)	Q(-,+)	Q(-,+)	NT	-VE*	-VE*	+VE**
36	NPM	NT	NT	Q(-,+)	NT	-VE*	Q(+,-)	+VE**
37	ROTA	NT	NT	NT	NT	NT	-VE*	+VE**
38	EAT/TA	NT	NT	NT	NT	NT	-VE*	+VE**
39	RONW	NT	NT	NT	NT	NT	-VE*	+VE**

* Results significant at 1% level of significance ** Results significant at 5% level of significance
NT indicates NO TREND; +VE indicates a positive linear trend; -VE indicates a negative linear trend
Q(+,-) indicates a quadratic trend rising at falling rate
Q(-,+) indicates a quadratic trend falling at rising rate
Comm. refers to Communication Services Industry.

The conclusions drawn from the results of Time Trend Analysis are discussed in the following paras for each group for all the industries.

1. Leverage and Working Capital Policy

It is concluded that there is a **decline in utilization of total debts** by the firms in *Non Financial Service Industry* which is due to decline in utilization of long term debts. Similar conclusion is also drawn for ITeA Industry. However, in case of *Hotels and Restaurant, Miscellaneous Services* and *Health Services Industry* an **increase in utilization of total debts** is found. The reason for the same is attributed to increase in utilization of long term as well as short term debts for Hotels and Restaurant Industry whereas in case of Health Services Industry it is the fall in LTD as well as rise in CL. It is concluded that there is **decline in utilization of long term as well as short term debt** resulting to decline in total debt for financing the total assets in the *Transport Services Industry* as well as *Communication Services Industry.* Further, in case of *ITeA Industry* and *Communication Services Industry* it is concluded that there is **increased preference for and reliance on the owned funds to finance the total assets.**

It is concluded that firms in the *Non Financial Service Industry* **prefer short term funds to long term funds for working capital financing.** Similar conclusion is drawn for *Hotels and Restaurant Industry* and *ITeA Industry.*

It is concluded that the firms in *Non Financial Service Industry* are **pursuing** an **aggressive current asset financing policy** by reducing its NWC and relying more on CL. Similar conclusion is drawn for *Hotels and Restaurant Industry, ITeA Industry* and *Health Services Industry.* However, for firms in *Miscellaneous Services Industry* and

Communication Services Industry, it is concluded that they are **gradually adopting conservative approach of working capital financing.**

It is concluded that the firms in *Non Financial Service Industry* are reducing investments in current assets in an attempt to do away with excess liquidity and **gradually adopting aggressive working capital investment policy**. Similar conclusion is drawn for *Hotels and Restaurant Industry, IT Industry, Transport Services Industry, Communication Services Industry* and *Miscellaneous Services Industry*. However, in case *of Health Services Industry*, it is concluded that the firms in the industry are **gradually adopting a conservative current asset investment policy** through increased investments in current assets.

It is concluded that the **working capital leverage** of the *Non Financial Service Industry* is declining at increasing rate which indicates that there is decline in sensitivity of ROTA due to change in level of current asset investment for the *Non Financial Service Industry* over the study period. Further there is a **decline in sensitivity of ROTA** due to change in level of current asset investment of firms in IT Industry and Communication Services Industry whereas **rise in WCL** is found in case of *Health Services Industry* and *Miscellaneous Services Industry*. However, there is **no significant trend in working capital leverage** of the *Hotels and Restaurant Industry* and *Transport Services Industry*.

2. Current Asset Structure

It is concluded that there is **decline in blockage of funds in inventory** over the study period leading to liquidity in asset structure as also improvement in inventory management of the *Non Financial Service Industry* and all its constituent industry groups **except** *Hotels and Restaurant* and *Health Services Industry*. In case of *Hotels and Restaurant Industry*, it is concluded that firms are **investing cautiously and judiciously in inventories**. Further, in case of the *Health Services Industry*, it is concluded that firms **follow** a **uniform policy with respect to investment in inventories**. May be that looking to the industry requirement, holding 16% inventory is the ideal standard in the industry and there may be no need to further curtail it. Hence, the level of inventory has remained stable over a period of time.

It is concluded that there is **decline in blockage of funds in receivables** leading to liquidity in asset structure as also improvement in receivables management over the study period of firms in *Non Financial Service Industry* and all its constituent industry groups **except** *Communication Services Industry* where it is concluded that there is no

significant change in the policy of the industry with respect to investments in receivables.

It is concluded that there is **an increased blockage of funds in Loans & Advances** over the period under study by firms in *Non Financial Service Industry* as well as *IT, Health Services and Miscellaneous Services Industry.* However, **a decline in Loans & Advances** is found for *Hotels and Restaurant* and *Communication Services Industry* indicating improvement in liquidity of current assets structure in these two industries.

It is also concluded that the **decline observed in proportion of current assets to total assets is due to** decline in inventories and receivables for firms of *Non Financial Service Industry* as well as firms in *IT, Transport Services* and *Miscellaneous Services Industry.* However in case of *Hotels and Restaurant Industry* the cause is attributed to decline in RTCAR and LATCAR. Further no significant change in share of Loans and Advances is observed for firms in *Health Services Industry.*

It is concluded that there is **increased blockage of funds in Prepaid Expenses** as a component of current asset of firms in *Non Financial Service Industry* and all its constituent industry groups.

It is concluded that there is **rise in the cash balances** of the firms in *Transport Services Industry, Miscellaneous Services Industry* as well as *Communication Services Industry* which is attributed to declining inventories and receivables for the former two industries whereas inventories and loans and advances for the latter. However, a **fall in cash balances** of firms in *Health Services Industry* is attributed to rise in share of Loans & Advances and Prepaid Expenses.

It is concluded that there is a **rising trend of investing idle excess cash in marketable securities** by firms in *Non Financial Service Industry* and all its constituent industry groups which implies systematic and efficient cash management of the industry.

3. Current Liabilities Structure

Over the study period, it is concluded that there is **reduced reliance on Trade Credit** as a proportion of CL as well as source of financing CA by firms in *Non Financial Service Industry* and all its constituent industry groups except *Health Services Industry.*

Also, it is found that over the study period, **DACE has emerged as a source of financing CA** as evident by increased use of the same by firms in *Non Financial Service Industry* as well as all its constituent industry groups except for *Communication Services Industry.*

The policy of firms in *Non Financial Service Industry* with respect to **STBB as** a proportion of CL as well as source of financing CA has remained stable over a period

of time which is also found for *Hotels and Restaurant Industry* and *Communication Services Industry* whereas in case of *Transport Services Industry* and *Health Services Industry* an increased preference for STBB is found.

Further, **Provisions** as a component of CL is used to create liquidity to finance CA by firms in *IT Industry*, *Miscellaneous Services Industry* and *Communication Services Industry.*

4. Liquidity

It is concluded that there is **an improvement in liquidity management** of the firms in *Non Financial Service Industry* over the study period. Similar conclusion is drawn for IT Industry. However, in case of *Hotels and Restaurant Industry,* it is concluded that over the study period the policy of the industry with respect to the proportion of current assets as well as quick assets to CL has remained same.

Further, there is a **good short term solvency** of the firms in *Non Financial Service Industry* due to increase in proportion of cash assets to current liabilities. Similar conclusion is drawn for *Hotels and Restaurant Industry* whereas in case of *IT Industry* the absolute liquidity position has not undergone significant change.

In case of *Transport Services Industry* as well as *Communication Services Industry,* it is concluded that there is **an increased liquidity as well as better short term solvency of firms** in these industries which is attributed to declining share in inventory as well as receivables and rising share of cash balances as well as marketable securities with PETCAR and LATCAR being constant (as no significant trend is observed in these two ratios). In case of *Miscellaneous Services Industry,* an increased liquidity of current assets is found due to reduction in inventory investment but the absolute liquidity position has deteriorated.

However, in case of *Health Services Industry,* it is concluded that liquidity position of firms in the industry is deteriorating.

5. Current Asset Management Efficiency

It is concluded that over the period under study there is an **improvement in total asset utilization** of firms in *Hotels and Restaurant* and *Health Services Industry.* However, in case of *IT Industry*, *Transport Services Industry* and *Communication Services Industry,* it is concluded that there is **deterioration in the total asset utilization** of firms in the industry over the study period.

It is concluded that there is **substantial improvement in the management of inventory** of firms in the *Non Financial Service Industry* and the inventory

management has become more efficient over the period under study with increased liquidity of inventories coupled with reduced risk of illiquidity. Similar conclusions are drawn for *Hotels and Restaurant Industry, IT&A Industry, Transport Services Industry, Communication Services Industry* and *Miscellaneous Services Industry.*

It is concluded that there is an **improvement in receivables management** and that the firms in *Non Financial Service Industry* are gradually shifting to a controlled credit and collection policy. Similar conclusions are drawn for *Hotels and Restaurant Industry, IT&A Industry, Transport Services Industry* and *Miscellaneous Services Industry.*

It is concluded that there is **no significant change in utilization of NWC** for operating sales in the *Non Financial Service Industry.* Similar conclusions are drawn for *Hotels and Restaurant Industry, IT&A Industry, Communication Services Industry* and *Miscellaneous Services Industry.* However, in case of *Transport Services Industry,* it is concluded that there is an **improvement in the efficiency with which NWC** is utilized for operating sales.

It is concluded that the **cash management** of firms in the *Hotels and Restaurant Industry* is **efficient and improved** over the study period leading to better utilization of cash resources which is attributed to improved inventory and receivables management that has lead to more liquid asset structure. However, cash management of firms in the *IT&A; Transport Services; Health Services* and *Communication Services Industry* has deteriorated over the study period.

It is concluded that there is **improvement in the efficiency of current asset management** of the firms in *Non Financial Service Industry* which is attributable to improved inventory and receivables management. Similar conclusions are drawn for *Hotels and Restaurant Industry* and *Transport Services Industry.* However, in case of *Health Services Industry* and *Communication Services Industry,* **current asset management efficiency of firms has deteriorated** over the study period.

It is concluded that firms in the *Hotels and Restaurant; Transport Services* and *Miscellaneous Services Industry* are **repaying their bills/creditors more frequently** over the study period. However, in case of *Health Services Industry* and *Communication Services Industry,* it is concluded that firms in the industry have gradually slowed down payment of its dues over the study period leading to increased APP

It is concluded that the **length of OC and NTC** of firms in *Non Financial Service Industry* **has reduced** over the study period which signifies reduced working capital investments as well as quick realization of working capital investments in cash

respectively. Both these further signify improvement in WCME of firms in the industry over the study period. Similar conclusions are drawn for *Transport Services Industry* and *Miscellaneous Services Industry.* However, in case of *Hotels and Restaurant Industry* there is reduction only in the duration of OC whereas in case of *IT&A Industry* and *Health Services Industry,* the duration of NTC only has declined over the study period.

6. Profitability

It is concluded that the profitability position of the *Non Financial Service Industry* has deteriorated for the period under study indicating fall in the operational efficiency. Similar conclusion is also drawn for *Hotels and Restaurant Industry, IT&A Industry* and *Health Services Industry.* However, in case of *Transport Services Industry* it is concluded that there is no significant change (*i.e.,* improvement or deterioration) in its profitability position. Further, it is concluded that there is a significant improvement in the profitability position of firms in the Miscellaneous Services Industry.

8.4.3 Findings and Conclusions: Analysis of Variances

The Analysis of Variances was carried out to examine the differences, if any, Between the industries, Between the Companies and Between the years for the selected 40 WCM, LEV and PROF Ratios. A summary of results for between the industries as well as between the years for these industries is presented in Table 8.4; that of between the companies in Table 8.5 and for between the years in Table 8.6. The conclusions drawn based on the analysis is thus presented in three segments.

I ANALYSIS OF VARIANCES BETWEEN NON FINANCIAL SERVICE INDUSTRIES AS WELL AS BETWEEN YEARS FOR ALL INDUSTRIES

It is concluded that **significant difference exists** between the Non Financial Service Industry groups relating to **utilization of debt financing as well as aggressive/conservative working capital investment and financing policies.** The industries also vary with respect to the **degree of Working Capital Leverage.** Moreover, it is concluded that *Non Financial Service Industries* maintain **different mix of current assets** except for MSTCAR. They also vary with respect to maintaining the **mix of current liabilities** as a source of financing the CA except TCCLR and OCLCLR. It is concluded that the selected industries in *Non Financial Service Sector* significantly differ in their approach towards **liquidity management, asset utilization efficiency, policies for management of inventory, cash and receivables.** It is concluded that the selected *Non Financial Service Industries* of India significantly differ in terms of their **profit earning ability** and manage their operations differently.

TABLE 8.4

SUMMARY OF SINGLE FACTOR ANOVA BETWEEN THE NON FINANCIAL SERVICE INDUSTRIES AND BETWEEN THE YEARS FOR ALL THE INDUSTRIES

Sr. No.	Category & Name of Ratio	Between the Industries	Between the Years for the Industries
Working Capital Policy and Leverage Ratios			
1	LTDTAR	Significant*	Not Significant
2	TDTAR	Significant*	Not Significant
3	CLTAR	Significant*	Not Significant
4	CATAR	Significant*	Not Significant
5	CLCAR	Significant*	Not Significant
6	NWCCAR	Significant*	Not Significant
7	CANFAR	Significant*	Not Significant
8	WCL	Significant*	Not Significant
Current Asset Structure Ratios			
9	ITCAR	Significant*	Not Significant
10	RTCAR	Significant*	Significant**
11	CBBTCAR	Significant*	Not Significant
12	PETCAR	Significant*	Not Significant
13	LATCAR	Significant*	Not Significant
14	MSTCAR	Not Significant	Significant*
Current Liabilities Structure Ratios			
15	TCCLR	Not Significant	Not Significant
16	DACECLR	Significant*	Not Significant
17	PCLR	Significant*	Not Significant
18	STBBCLR	Significant*	Not Significant
19	CFCCLR	Significant*	Not Significant
20	OCLCLR	Not Significant	Not Significant
Liquidity Ratios			
21	CR	Significant*	Not Significant
22	QR	Significant*	Not Significant
23	ALR	Significant*	Not Significant
Current Asset Management Efficiency Ratios and Operating Cycle Variables			
24	TATR	Significant*	Not Significant
25	CATR	Significant*	Not Significant
26	WCTR	Not Significant	Not Significant
27	RTR	Significant*	Not Significant
28	ACP	Significant*	Not Significant
29	CBTR	Significant*	Not Significant
30	CTR	Not Significant	Not Significant
31	APP	Not Significant	Not Significant
Profitability Ratios			
32	OPM	Significant*	Not Significant
33	NPM	Significant*	Not Significant
34	ROTA	Significant*	Not Significant
35	EAT/TA	Significant*	Not Significant
36	RONW	Significant*	Not Significant

* Significant at 1% level of significance

**Significant at 5% level of significance

It is concluded that there exists **no significant variations** in the mean of selected parameters of WCP, LEV, Current Asset Structure (except RTCAR and MSTCAR), Current Liabilities Structure, Liquidity, Efficiency, Profitability as well as Operating Cycle Variables **over the study period.** These results indicate that the policies for managing working capital of the *Non Financial Service Industry groups* have remained consistent over the period under study excepting those related to receivables and investment in marketable securities.

II ANALYSIS OF VARIANCES BETWEEN COMPANIES

1. Leverage, Working Capital Policy and Working Capital Leverage

It is concluded that there exists significant difference between the companies of *Non Financial Service Industry* with respect to use of debt financing and working capital policy. Similar conclusions are drawn for *Hotels and Restaurant Industry, IT Industry, Transport Services Industry, Health Services Industry and Miscellaneous Services Industry.*

It is also concluded that the differences between companies of *Non Financial Service Industry* are greater with respect to use of long term debt to finance the total assets as compared to the total debt position. Similar conclusions are drawn for firms in *Hotels and Restaurant Industry, Transport Services Industry and Health Services Industry.* However, in case of *IT Industry* and *Miscellaneous Services Industry* differences are greater with respect to the total debt position as compared to use of long term debt to finance the total assets which is due to higher differences in use of Current Liabilities to finance the total assets.

TABLE 8.5

SUMMARY OF SINGLE FACTOR ANOVA BETWEEN THE COMPANIES OF ALL THE INDUSTRIES

Sr. No.	Category and Name of Ratio	Name of the Service Industry					
		Service (All 79 Co.s)	Hotels (25 Co.s)	IT (20 Co.s)	Transport (16 Co.s)	Health (7 Co.s)	Misc Services (9 Co.s)
Working Capital Policy and Leverage Ratios							
1	LTDTAR	S*	S*	S*	S*	S*	S*
2	TDTAR	S*	S*	S*	S*	S*	S*
3	CLTAR	S*	S*	S*	S*	S*	S*
4	CATAR	S*	S*	S*	S*	S*	S*
5	CLCAR	S*	S*	S*	S*	S*	S*
6	NWCCAR	S*	S*	S*	S*	S*	S*
7	CANFAR	S*	S*	S*	S*	S*	S*
8	WCL	S*	S*	S*	S*	S*	S*

TABLE 8.5 (Continued...)

SUMMARY OF SINGLE FACTOR ANOVA
BETWEEN THE COMPANIES OF ALL THE INDUSTRIES

Sr. No.	Category and Name of Ratio	Name of the Service Industry					
		Service (All 79 Co.s)	Hotels (25 Co.s)	IT (20 Co.s)	Transport (16 Co.s)	Health (7 Co.s)	Misc Services (9 Co.s)
Current Asset Structure Ratios							
9	ITCAR	S*	S*	S*	S*	S*	S*
10	RTCAR	S*	S*	S*	S*	S*	S*
11	CBBTCAR	S*	S*	S*	S*	S*	S*
12	PETCAR	S*	S*	S*	S*	S*	S*
13	LATCAR	S*	S*	S*	S*	S*	S*
14	MSTCAR	S*	S*	S*	S*	S*	S*
Current Liabilities Structure Ratios							
15	TCCLR	S*	S*	S*	S*	S*	S*
16	DACECLR	S*	S*	S*	S*	S*	S*
17	PCLR	S*	S*	S*	S*	S*	S*
18	STBBCLR	S*	S*	S*	S*	S*	S*
19	CFCCLR	S*	S*	S*	S*	S*	S*
20	OCLCLR	S*	S*	S*	S*	S*	S*
Liquidity Ratios							
21	CR	S*	S*	S*	S*	S*	S*
22	QR	S*	S*	S*	S*	S*	S*
23	ALR	S*	S*	S*	S*	S*	S*
Current Asset Management Efficiency Ratios and Operating Cycle Variables							
24	TATR	S*	S*	S*	S*	S*	S*
25	CATR	S*	S*	S*	S*	S*	S*
26	WCTR	NS	S*	NS	S*	NS	NS
27	ITR	NC$	NC$	NC$	NC$	S*	NC$
28	IHP	NC$	NC$	NC$	NC$	S*	NC$
29	RTR	S*	S*	S*	S*	S*	S*
30	ACP	S*	S*	NS	S*	S*	S*
31	CBTR	S*	S*	S*	S*	S*	S*
32	CTR	NS	S*	NS	S*	NS	S*
33	APP	NS	S*	NS	S*	NS	S*
34	OC	NC$	NC$	NC$	NC$	S*	NC$
35	NTC	NC$	NC$	NC$	NC$	S*	NC$
Profitability Ratios							
36	OPM	S*	S*	S*	S*	S*	S*
37	NPM	S*	S*	S*	S*	S*	S*
38	ROTA	S*	S*	S*	S*	S*	S*
39	EAT/TA	S*	S*	S*	S*	S*	S*
40	RONW	NS	NS	NS	S*	NS	NS

* Indicating significant results at 1% level of significance

** Indicating significant results at 5% level of significance

NS indicate results being NOT SIGNIFICANT.

NC$ refers to NOT COMPUTED. Some of the companies have NIL inventory in some years and hence it was not possible to examine the variances in ITR and IHP and resultantly variances in OC and NTC could not be examined for between the companies as well as between the years. Hence, for the 4 industries, 4 ratios *viz,* ITR, IHP, OC and NTC are excluded from analysis. Therefore, it could not be taken for the Non Financial Service Industry, *i.e.,* 79 companies taken as a whole.

It is concluded that firms in *Non Financial Service Industry* pursue **different in the current asset investment policy**. Similar conclusions are drawn for firms of *Hotels and Restaurant Industry, IT-ITeS Industry, Transport Services Industry and Miscellaneous Services Industry.*

It is concluded that firms in *Non Financial Service Industry* **differ in use of current liabilities and net working capital for financing** their current assets. Similar conclusions are drawn for firms of *Hotels and Restaurant Industry, ITeS Industry, Transport Services Industry, Miscellaneous Services Industry and Health Services Industry.* It is concluded that firms in *Non Financial Service Industry* pursue different aggressive/conservative working capital investment and financing policies. Similar conclusions are drawn for firms of its 5 constituent industry groups *viz, Hotels and Restaurant Industry, IT-ITeS Industry, Transport Services Industry, Miscellaneous Services Industry and Health Services Industry.*

It is concluded that the companies of *Non Financial Service Industry* significantly vary with respect to degree of Working Capital Leverage which is on account of diverse current asset investment policy pursued by firms. Similar conclusions are drawn for its ***five*** constituent industry groups.

2. Current Asset Structure

It is concluded that there exists significant difference between the companies of *Non Financial Service Industry* with respect to current asset component mix. Similar conclusions are drawn for firms of all the 5 constituent industry groups.

3. Current Liabilities Structure

It is concluded that companies of *Non Financial Service Industry* differ significantly with respect to means of current liabilities structure ratios and maintain different mix of current liabilities as a source of financing the current assets. Similar conclusions are drawn for firms of all the 5 constituent industry groups.

4. Liquidity Management

It is concluded that the companies of *Non Financial Service Industry* differ significantly in liquidity management. Similar conclusions are drawn for firms of all the 5 constituent industry groups.

5. Current Asset Management Efficiency

It is concluded that companies of *Non Financial Service Industry* **differ** in management of **current assets and total assets utilization efficiency** and **distinctively manage their cash.** Similar conclusions are drawn for firms of all the 5 constituent industry groups.

It is concluded that firms in *Non Financial Service Industry* follow **similar approach in managing their net working capital.** Similar conclusions are drawn for firms of *ITeS, Miscellaneous Services and Health Services Industry.* However, firms in *Hotels and Restaurant* and *Transport Services Industry* manage NWC distinctively.

It is concluded that firms in *Non Financial Service Industry* **pursue different credit and collection policy.** Similar conclusions are drawn for firms in *Hotels and Restaurant; Transport Services; Health Services* and *Miscellaneous Services Industry.*

It is concluded that firms in *Non Financial Service Industry* follow **similar approach for managing their payables.** Similar conclusions are drawn for firms of *ITeS and Health Services Industry.* However, firms in *Hotels and Restaurant, Transport Services* and *Miscellaneous Services Industry* follow different approaches in managing their payables.

6. Profitability

It is concluded the companies of *Non Financial Service Industry* differ in terms of their profitability position and operational efficiency. Similar conclusions are drawn for firms of all the 5 constituent industry groups. Further, no significant variations are observed in RONW for all the industries except Transport Services Industry.

III ANALYSIS OF VARIANCES BETWEEN YEARS

The results of Single Factor ANOVA for between the years of firms in Non Financial Service Industry is summarized and presented in Table 8.6.

TABLE 8.6

SUMMARY OF SINGLE FACTOR ANOVA BETWEEN THE YEARS FOR ALL THE INDUSTRIES

Sr. No.	Category & Name of Ratio	Name of the Service Industry					
		Service (All 79 Co.s)	Hotels (25 Co.s)	ITeS (20 Co.s)	Transport (16 Co.s)	Health (7 Co.s)	Misc. Services (9 Co.s)
Working Capital Policy and Leverage Ratios							
1	LTDTAR	NS	NS	NS	NS	NS	NS
2	TDTAR	NS	NS	NS	NS	S**	NS
3	CLTAR	NS	NS	NS	NS	S*	NS
4	CATAR	NS	NS	NS	NS	NS	NS
5	CLCAR	NS	NS	NS	NS	NS	NS
6	NWCCAR	NS	NS	NS	NS	NS	NS
7	CANFAR	NS	NS	NS	NS	NS	NS
8	WCL	NS	NS	NS	NS	NS	NS
Current Asset Structure Ratios							
9	ITCAR	S**	NS	S*	NS	NS	NS
10	RTCAR	S*	NS	S**	NS	NS	NS
11	CBBTCAR	NS	NS	NS	S**	NS	NS
12	PETCAR	S*	S*	S**	NS	NS	NS
13	LATCAR	NS	NS	S**	NS	NS	NS
14	MSTCAR	S*	NS	S*	NS	NS	NS

TABLE 8.6 (Continued...)

SUMMARY OF SINGLE FACTOR ANOVA BETWEEN THE YEARS FOR ALL THE INDUSTRIES

Sr. No.	Category & Name of Ratio	Name of the Service Industry					
		Service (All 79 Co.s)	Hotels (25 Co.s)	IT&A (20 Co.s)	Transport (16 Co.s)	Health (7 Co.s)	Misc. Services (9 Co.s)
Current Liabilities Structure Ratios							
15	TCCLR	NS	NS	NS	NS	NS	NS
16	DACECLR	S*	NS	S*	NS	NS	NS
17	PCLR	NS	NS	NS	NS	NS	NS
18	STBBCLR	NS	NS	NS	NS	NS	S*
19	CFCCLR	NS	NS	NS	NS	NS	NS
20	OCLCLR	NS	NS	NS	NS	NS	NS
Liquidity Ratios							
21	CR	NS	NS	S**	NS	NS	NS
22	QR	NS	NS	S**	NS	NS	NS
23	ALR	NS	NS	NS	S*	S**	S*
Current Asset Management Efficiency Ratios and Operating Cycle Variables							
24	TATR	NS	NS	NS	NS	NS	NS
25	CATR	NS	NS	NS	NS	NS	NS
26	WCTR	NS	NS	NS	NS	NS	NS
27	ITR	NC$	NC$	NC$	NC$	NS	NC$
28	IHP	NC$	NC$	NC$	NC$	NS	NC$
29	RTR	NS	NS	NS	NS	NS	NS
30	ACP	NS	NS	NS	NS	NS	NS
31	CBTR	NS	NS	NS	NS	NS	NS
32	CTR	NS	NS	NS	NS	NS	NS
33	APP	NS	NS	NS	NS	NS	NS
34	OC	NC$	NC$	NC$	NC$	NS	NC$
35	NTC	NC$	NC$	NC$	NC$	NS	NC$
Profitability Ratios							
36	OPM	S*	NS	NS	NS	NS	S*
37	NPM	S*	NS	NS	NS	NS	S*
38	ROTA	S*	S*	NS	NS	NS	S*
39	EAT/TA	S*	S*	NS	NS	NS	S*
40	RONW	NS	NS	NS	NS	NS	NS

* Significant results at 1% level of significance ** Significant results at 5% level of significance

NS indicate results being NOT SIGNIFICANT.

NC$ refers to NOT COMPUTED. Some of the companies have NIL inventory in some years and hence it was not possible to examine the variances in ITR and IHP and resultantly variances in OC and NTC for between the companies as well as between the years. Hence, for the 4 industries, 4 ratios *viz,* ITR, IHP, OC and NTC are excluded from analysis. Therefore, it could not be taken for the Non Financial Service Industry, *i.e.,* 79 companies taken as a whole.

A. Non Financial Service Industry

It is concluded that there are changes in the composition of CA structure of *Non Financial Service Industry* over the study period which is mainly caused due to changes in receivables, inventories, prepaid expenses and marketable securities of which highest

variation is for MSTCAR. In addition, DACE as a proportion to CL have varied over the study period. Further, there have been significant changes in the profitability and operational efficiency of firms over the study period. Further for remaining 27 ratios no significant variations between the years are observed.

B. Hotels and Restaurant Industry

It is concluded that Hotels and Restaurant industry is unable to maintain its profitability consistently and operational efficiency (except ROTA and EAT/TA) over the study period. Also PETCAR has varied over the study period. However the remaining 33 ratios have not shown significant variations over the study period.

C. IT&A Industry

It is concluded that there were no significant variations in the means of selected parameters of WCP, LEV, CL Structure except DACECLR, Profitability, CAME Ratios and Operating Cycle Variables over the study period. However, variations are observed for CA Structure Ratios except CBBTCAR and Liquidity ratios except ALR.

D. Transport Services Industry

It is concluded that there have been significant changes in CBBTCAR in the Transport Services Industry over the study period which has affected the liquidity ratio ALR. For remaining 34 ratios no significant variations are observed between years.

E. Health Services Industry

It is concluded that there have been significant changes in CLTAR as a source of total asset financing in the Health Services Industry over the study period, which has lead to significant variations in total debt position as represented by TDTAR. Significant changes are also observed in ALR. For the remaining 37 ratios no significant variations is observed.

F. Miscellaneous Services Industry

It is concluded that there have been significant changes in STBBCLR as a source of current asset financing in the Miscellaneous Services Industry over the study period. Also variations are observed in ALR of the study period. Further, the industry was unable to maintain its profitability (except RONW) consistently. In the remaining 30 ratios no significant variations were observed.

8.4.4 Findings and Conclusions: Impact of Sales on Working Capital

The impact of Sales on Net working Capital is examined through simple linear regression. ***Sales had a positive impact on NWC*** of the firms in *Non Financial Service Industry* as well as its three constituent major industry groups. It was concluded that the working capital requirements of the companies in the Service Industry in terms of net

working capital are highly affected by the level of sales. This result supports the premise, "there is a direct relationship between a firm's growth and its working capital needs. As sales grow, the firm needs to invest more in inventories and debtors" Pandey[11]. Thus, Sales is found to be an important determinant of working capital and supports the findings of Mallick & Sur [12].

8.4.5 Findings and Conclusions: Impact of WCL on ROTA

The impact of WCL on ROTA is also examined through simple linear regression and it was found that WCL affects the ROTA of firms in *Non Financial Service Industry* as well as *Hotels and Restaurant* and *IT&A Industry* indicating that ROTA is sensitive to changes in the current assets investment. However, in case of *Transport Services Industry* it was found that ROTA is not sensitive to change in current asset investment policy of the firms. Further it is concluded that firms in *Non Financial Service Industry* as well as *Hotels and Restaurant and IT&A Industry* are affected by the working capital risk whereas *vice-versa* is the case for Transport Services Industry.

8.4.6 Findings and Conclusions: Impact of WCM, LEV and Size on PROF

In order to examine the impact of WCM, Size and LEV on PROF, simple linear regression is applied to know the impact of individual indicators on measures of PROF. Further, stepwise linear regression technique is applied to find out the best fit model which accounts for highest variation in profitability. The findings and conclusions as derived from the Stepwise Regression for each measure of profitability are presented. The summary of industry wise results is presented in Table 8.5.

A. Impact of Size, LEV, WCP, Liquidity and WCME on Profitability of Non Financial Service Industry (All 79 companies)

- It is concluded that Firm Size measured in terms of LnS positively influences ROTA, EAT/TA and RONW whereas LnTA influences NPM indicating that firm size is an important determinant of profitability of these firms except OPM.
- It is concluded that Leverage measured in terms of TDTAR has a negative impact on ROTA and EAT/TA.
- It is concluded that there is a negative impact of conservative working capital financing policy, *i.e.*, NWCCAR on EAT/TA and by following an aggressive approach to current asset financing the managers of firms in Non Financial Service Industry can improve their post tax returns on total assets.
- It is concluded that RTCAR and LATCAR has a negative impact on NPM and ROTA respectively and that by reducing blockage of funds in receivables and Loans & advances, firms can improve their profitability. It is also concluded that

CBBTCAR has positive influence on OPM, ALR on NPM as well as EAT/TA indicating positive impact of liquidity on profitability.

- It is also concluded that there is a positive influence of efficiency represented by CTR on ROTA and EAT/TA indicating that the firms in the industry can increase their profitability by ensuring timely settlement of their dues.
- It is concluded that TATR has a positive impact on EAT/TA. Further, IHP has a negative impact on NPM and RONW indicating that managers of firms in Non Financial Service Industry can create shareholder value and increase operational profitability by reducing the length of IHP. Further NTC has a negative influence on ROTA indicating that through overall efficiency of WCM the NTC can be reduced which would lead to rise in ROTA.

B. Impact of Size, LEV, WCP, WCME and Liquidity on Profitability of Hotels and Restaurant Industry (25 Companies)

- It is concluded that ALR positively influences OPM and NPM indicating the positive influence of liquidity on profitability. Further a negative impact of RTCAR on NPM, ROTA and EAT/TA indicates that increased investments in receivables which is an indicator of liberal credit policy results to decline in profitability.
- It is also concluded that there is a negative influence of efficiency represented by CTR on OPM and the firms in the industry can increase their profitability by slowing the payments and lengthening their payment period
- It is concluded that inventory management in the Hotels and Restaurant Industry is efficient and leads to improvement in ROTA and EAT/TA.
- Aggressive working capital financing policy is observed to positively influence the RONW and it is concluded that managers of firms in Hotels and Restaurant Industry can increase their profitability by utilizing more of short term funds as compared to long term funds to finance the current assets.

C. Impact of Size, LEV, WCP, WCME and Liquidity on Profitability of ITes Industry (20 Companies)

- It is concluded that Size measured in terms of LnS has a positive impact on NPM, ROTA, EAT/TA and RONW. Thus firms with large size in are more profitable.
- It is concluded that TDTAR has a negative impact on EAT/TA and that firms in IT$_{es}$ Industry should reduce their debt component to earn higher profitability.
- It is concluded that CBTR has a negative influence on OPM, NPM which indicates that the firms in IT$_{es}$ Industry should maintain reasonable level of cash balances in order to maintain a profitable position.

- It is concluded that there is a negative impact of ITCAR on NPM and so firms in IT&A Industry can increase their profitability and operational profitability by efficiently managing their inventories through reduced investment in inventories.
- It is concluded that ACP has a negative influence on OPM whereas RTR has a positive influence on NPM and RONW indicating that through shorter collection period and prompt collection efforts the firms in IT&A Industry can improve their profits and create shareholder value. Further it is concluded that efficient receivables management positively influences profitability.
- It is concluded that there is negative impact of WCTR on ROTA and EAT/TA indicating that increased use of working capital to fund the current assets is not good for the profitability of the business. Thus, the IT&A Industry should take measures to utilize more of short term funds to support their sales and finance their current assets. This result is confirmed by a negative impact of conservative working capital financing policy on profitability.

D. Impact of Size, LEV, WCP, WCME and Liquidity on Profitability of Transport Services Industry (16 companies)

- It is concluded that LnTA has a positive impact on OPM, NPM whereas LnS has a positive impact on ROTA indicating that larger firms in Transport Services Industry are reaping the benefit of economies of scale resulting to positive impact on profitability.
- It is concluded that there is a positive impact of efficient receivables management (RTR) on ROTA, EAT/TA and so firms in Transport Services Industry can increase their profitability through prompt collection efforts.
- It is concluded that there is a negative impact of aggressive working capital financing policy (CLTAR, CLCAR) on OPM, NPM and EAT/TA and thus firms in Transport Services Industry should utilize more of working capital to fund their current assets. Further, a negative impact of conservative working capital investment policy (CANFAR) is also observed on EAT/TA of the firms in Transport Services Industry. Thus firms in Transport Services Industry can increase profitability by reducing their investments in current assets and maintaining lower level of current assets in the total asset structure as also by funding major part of its current assets through working capital, *i.e.,* long term funds.
- Managers of firms in Transport Services Industry can create shareholder value by reducing NTC.

TABLE 8.7	
SUMMARY OF INDUTRY WISE RESULTS OF STEPWISE REGRESSION	
Dependent Variable: OPM	
Name of Industry	Significant Explanatory Variables
Non Financial Service Industry	CBBTCAR, (TATR)
Hotels & Restaurant Industry	ALR, (CTR)
IT&A Industry	LTDTAR, (ACP), (CBTR)
Transport Services Industry	LnTA, (CLTAR)
Dependent Variable: NPM	
Name of Industry	Significant Explanatory Variables
Non Financial Service Industry	ALR, LnTA, (IHP), (RTCAR)
Hotels & Restaurant Industry	ALR, (RTCAR)
IT&A Industry	LnS, (ITCAR), (CBTR), RTR
Transport Services Industry	LnTA, (CLTAR)
Dependent Variable: ROTA	
Name of Industry	Significant Explanatory Variables
Non Financial Service Industry	LnS, (TDTAR), CTR, (NTC), (LATCAR)
Hotels & Restaurant Industry	(IHP), (RTCAR)
IT&A Industry	LnS, (WCTR)
Transport Services Industry	LnS, RTR
Dependent Variable: EAT/TA	
Name of Industry	Significant Explanatory Variables
Non Financial Service Industry	LnS, (TDTAR), CTR, TATR, ALR, (NWCCAR)
Hotels & Restaurant Industry	(IHP), (RTCAR)
IT&A Industry	LnS, (TDTAR), (WCTR)
Transport Services Industry	RTR, (CLCAR), (CANFAR)
Dependent Variable: RONW	
Name of Industry	Significant Explanatory Variables
Non Financial Service Industry	(IHP), LnS
Hotels & Restaurant Industry	CLCAR
IT&A Industry	LnS, RTR, (CLCAR)
Transport Services Industry	(NTC)
Brackets indicate negative impact and other than bracket have positive impact	

8.5 Suggestions based on Findings

- The receivables management of all the *Non Financial Service Industry* and especially *Communication Services Industry* needs attention and improvement which can be done by analyzing the reasons for such a high backlog of receivables and restricting the credit policy. If restricting credit policy affects the sales then speedy and efficient collection policy is suggested. This would lead not only to the

liquidity of the current asset structure but also result to increase in cash balances leading to lower requirements of working capital thereby squeezing the operating cycle and in turn the net trade cycle of the concerns.

- Further firm size has a positive impact on profit measured in one form or the other excepting Hotels and Restaurant Industry. Hence, it is suggested that firms in Non Financial Service Industry, and Transport Services Industry should focus on enhancing sales and or base of total assets for improving their earnings. Firms in IT&A Industry are suggested to focus on sales growth for better earnings.
- Further, all the industries are suggested to focus on receivables management either by reducing its proportion in current asset structure or by enhancing the efficiency through prompt collection efforts and restricted credit policy.
- Further firms in Transport Services Industry and IT&A Industry are suggested to rely more on long term funds as compared to CL for financing their CA for improving earnings.

8.6 Limitations of the Study

Profitability of a firm is affected by various macro economic factors like GDP Growth rate, Inflation, Efficiency of Financial Markets, Fiscal Policies with respect to Taxation, Exchange Rates, Legal and Regulatory Environment, Demand of the product or services, Competition in the market *etc.* The impact of these factors was considered to be constant while examining the impact of WCM on Profitability of the selected sample which can be considered to be a limitation of this study.

8.7 Scope for Further Research

- A study examining the impact of macro-economic variable in terms of GDP growth can also be included while analyzing the impact of WCM on Profitability to understand its influence on profitability.
- The measures of risk related to WCM can be reviewed and taken to examine the impact of WCM risk on profitability of the firms.
- Further, a comparative analysis of WCM of Indian Non Financial Service Industry with the Non Financial Service Industry of any other world economy, for *e.g.,* China, Brazil, United States, United Kingdom or France *etc.* can be made to understand the country wise differences, if any, with respect to WCM.
- Specific studies examining the impact of Cash Holdings of a firm on Corporate Value can also be undertaken.

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