CHAPTER V
COMPONENTS OF CURRENT ASSETS: A DETAILED ANALYSIS

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In the Chapter IV, the basic ratios related with components of current assets are analyzed. In this chapter, an attempt is made to analyze the ratios in detail that are related with the components of current assets and the overall working capital management. The ratios are from Sr. No. 5 to 25 (i.e. total 21 ratios), as mentioned in Para 3.5.1. Moreover, as the study intends to examine the impact of MCCA and Turnover Ratios on Profitability, this chapter further examines the basic statistics for Profitability Ratios. This ratios are Sr. No. 26 to 29 as mentioned in Para 3.5.1. They are as under

TABLE V 1

Sr. No.	Ratios	Abbreviation
RATIOS USED FOR THE COMPONENTS OF CURRENT ASSETS STRUCTURAL RATIOS		
1	WORKING CAPITAL TO TOTAL ASSETS	(WC/TA)
2	WORKING CAPITAL TO CURRENT ASSETS	(WC/CA)
3	INVENTORY TO WORKING CAPITAL	(INV/WC)
4	RECEIVABLE TO WORKING CAPITAL	(REC/WC)
5	CASH & BANK BALANCE TO WORKING CAPITAL	(CB/WC)
6	INVENTORY TO GROSS FIXED ASSETS	(INV/GFA)
7	TOTAL LIABILITIES TO NET WORTH	(TL/NW)
8	NET FIXED ASSETS TO TOTAL ASSETS	(NFA/TA)
LIQUIDITRY RATIOS		
9	CURRENT RATIO	(CR)
10	QUICK RATIO	(QR)
11	CASH & BANK BALANCE TO CURRENT LIABILITIES	(CB/CL)
TURNOVER RATIOS		
12	SALES TO TOTAL ASSETS	(TATR)
13	SALES TO NET FIXED ASSETS	(NFATR)
14	SALES TO CURRENT ASSETS	(CATR)
15	SALES TO WORKING CAPITAL	(WTR)
16	SALES TO INVENTORY RATIO	(ITR)
17	SALES TO DEBTORS RATIO	(DTR)
18	SALES TO CASH & BANK BALANCE	(CBTR)

19	AVERAGE COLLECTION PERIOD	(ACP)
20	CREDITORS TURNOVER RATIO	(CTR)
21	AVERAGE PAYMENT PERIOD	(APP)
PROFITABILITY RATIOS		
22	PROFIT BEFORE TAX TO TOTAL ASSETS	(PBT/TA)
23	PROFIT AFTER TAX TO TOTAL ASSETS	(PAT/TA)
24	GROSS PROFIT MARGIN	(GPM)
25	NET PROFIT MARGIN	(NPM)

5.1 STRUCTURAL RATIOS.

As mentioned in Table V 1 there are total eight structural ratios selected for analysis, para 5.1.1 to 5.1.8 presents the analysis of these ratios one by one.

5.1 1 Working Capital to Total Assets

This ratio is selected for the purpose of analysis based on the studies carried out by various authors; (Table II 1 Chapter II). The ratio is calculated by **Working Capital/ Total Assets.** The ratio shows the amount of working capital available from total assets of the firm. As total assets include the current assets also..

A To analyze the proportion of working capital to total assets for selected industries on an average this ratio is derived for all the companies for a period of 10 years, then the grand average of all the companies for a given industry is derived. Table V.2 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation.

TABLE V 2

WORKING CAPITAL TO TOTAL ASSETS

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
No. of Companies	52	24	39	21
Average Ratio	0.26	0.13	0.23	0.20
Std. Dev.	0.12	0.08	0.10	0.10
C.V.	378.74	232.58	340.86	329.51

There is wide range of WC/TA for various industries, it ranges from 13% to 26%. The ratio of WC/TA is the lowest for the Cement Industry and the highest for the Steel industry and moderate and remained stable in the remaining two industries the Organic and Inorganic Chemicals Industry.

B To understand the movements in the ratio over a period of time, for each year average ratio is derived. This is computed and is presented in the Table V.3. It is interesting to note that the std. dev. over a period of time is far low as compared to between the companies.

TABLE V 3

WORKING CAPITAL TO TOTAL ASSETS

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	0.27	0.15	0.22	0.25
MAR 00	0.26	0.13	0.20	0.24
MAR 01	0.23	0.14	0.21	0.21
MAR 02	0.20	0.11	0.20	0.19
MAR 03	0.23	0.10	0.19	0.18
MAR 04	0.25	0.10	0.20	0.21
MAR 05	0.29	0.12	0.21	0.21
MAR 06	0.29	0.12	0.27	0.20
MAR 07	0.29	0.15	0.27	0.23
MAR 08	0.29	0.13	0.29	0.11
AVERAGE	0.26	0.13	0.23	0.20
STD. DEV.	0.03	0.02	0.04	0.04

C Table V4 exhibits the time series analysis for the period of 10 years to examine trend over a period of time. For the Steel and Organic Chemicals Industry, it is found that the ratio has increased significantly at 10% and 5% level of significance over a period of 10 years respectively, for Inorganic Chemicals Industry it has declined significantly at 10% level of significance, whereas for the Cement Industry the ratio has remained stable over a period.

TABLE V 4

WORKING CAPITAL TO TOTAL ASSETS

TIME SERIES ANALYSIS

Particulars	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	0.23	0.13	0.18	0.25
X Variable	0.005	-0.0007	0.01	-0.01
t Stat	(1.92)***	(-0.31)	(2.92)**	(-2.15)***
R^2	0.32	0.01	0.52	0.37
** indicates 5% level of significance *** indicates 10% level of significance				

5.1.2 Working Capital to Current Assets:

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II)

The ratio is calculated by, **Working Capital / Current Assets.** The amount of working capital is used sometimes as a measure of the firm's liquidity. The ratio is an indicator of the proportion of current assets not financed through current liabilities. Higher ratio indicates the more availability of working capital fund to meet the firm's obligations and the firm is in sound position as an adequate fund is available for production and also an indication of sales activities and less stocks. This ratio is also helpful in judging the amount of current liabilities which are to meet in one year.

A To analyze the proportion of working capital to current assets for selected industries on an average this ratio is derived for all the companies for a period of 10 years. Table V5 presents on the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation.

TABLE V 5

WORKING CAPITAL TO CURRENT ASSETS

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
No. of Companies	52	24	39	21
Average Ratio	0.32	0.34	0.34	0.38
Std. Dev.	0.35	0.25	0.19	0.34
C.V.	539.80	384.55	414.63	523.99

From the Table it can be inferred that out of total current assets approximately one-third remains in the form of working capital.

B To understand the movements in the ratio over a period of time for each year ratio is derived. This is presented in the Table V6. From the Table it can be inferred that the ratio of WC/TA is moderate in all the four industries. The Std. Dev. under the Inorganic Chemical Industry is the highest and lowest for the Organic Chemicals Industry and moderate in Steel and Cement Industry. For all four industries fluctuations over a period of time are lower as compared to fluctuations between the companies.

TABLE V 6

WORKING CAPITAL TO CURRENT ASSETS

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	0.40	0.49	0.33	0.55
MAR 00	0.34	0.40	0.31	0.55
MAR 01	0.20	0.44	0.34	0.44
MAR 02	0.02	0.32	0.32	0.38
MAR 03	0.28	0.22	0.26	0.39
MAR 04	0.30	0.20	0.27	0.42
MAR 05	0.40	0.26	0.30	0.43
MAR 06	0.40	0.30	0.42	0.38
MAR 07	0.40	0.40	0.41	0.37
MAR 08	0.42	0.37	0.45	-0.09
AVERAGE	0.32	0.34	0.34	0.38
STD. DEV.	0.12	0.09	0.06	0.18

C Table V 7 exhibits the results of time series analysis for the period of 10 years. On analysis it is observed that for the Organic Chemicals Industry the trend is positive and it is significantly at 10% level of significance. This indicates that the proportion of WC/CA has gone up over a period of time. For the Inorganic Chemicals Industry, the trend is negative, but for the Inorganic Chemicals Industry the ratio has been declining significantly at 5% level of significance. This indicates improvement in management of working capital over a period of time.

TABLE V 7

WORKING CAPITAL TO CURRENT ASSETS

TIME SERIES ANALYSIS

Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Intercept	0.22	0.41	0.27	0.62
X Variable	0.02	-0.01	0.01	-0.04
t Stat	(1.24)	(-1.16)	(2.24)***	(-3.10)**
R^2	0.16	0.14	0.38	0.54
** indicates 5% level of significance *** indicates 10% level of significance				

5.1.3 Inventory to Working Capital

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Refer Table II 1 Chapter II). The ratio is calculated as **Inventory/ Working Capital.** "This ratio is computed as a supporting ratio to the Inventory turnover ratio. The ratio of inventory turnover is high it may not be always a good position because this involves an amount of working capital tied up. It has been held that this ratio shows the proportion of Working Capital represented by Inventory"[1].

A To analyze the proportion of inventory out of working capital for selected industries on an average this ratio is derived for all the companies for a period of 10 years and then based on average of each company (for 10 years), grand average for all companies, within given industry is derived.. Table V 8 presents on the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation.

From the Table it can be inferred that the ratio of inventory to working capital is the highest for the Organic Chemicals Industry and moderate in remaining three Industries.

TABLE V 8

INVENTORY TO WORKING CAPITAL

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No.of Companies	52 (49)	24	39	21
Average Ratio	0.40 (0.54)	0.41	0.79	0.46
Std. Dev.	1.57 (1.06)	1.76	1.08	0.83
C.V.	245.42 (275.97)	211.40	263.82	234.63
Note: Three companies from the Steel Industries are omitted for heavy minus figure for the year March 2000, figures in the bracket indicates the ratio after omitting these companies *viz* Maharashtra Elektrosmelt Ltd., Rashtriya Ispat Nigam Ltd. and Steel Complex Ltd.. The average and co-efficient of the Industry has increased				

B To understand the movements in the ratio over a period of time for each year average ratio is derived. This is computed and is presented in the Table V 9.From the table it can be inferred that the ratio of INV/WC is the highest for the Organic Chemicals Industry and moderate for the remaining three Industries. The Std. Dev. under the Cement is the highest. Here it has varied between -0.70 to 1.09. This is a very wide range. For the Inorganic Chemicals Industry it has varied between -0.57 to 0.77 only.

TABLE V 9

INVENTORY TO WORKING CAPITAL

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	0.93(0.56)	0.63	0.89	0.56
MAR 00	-0.56(0.93)	1.09	1.46	0.77
MAR 01	0.14(0.14)	1.07	0.73	0.59
MAR 02	0.14 (0.15)	0.95	0.55	0.74
MAR 03	0.33 (0.34)	-0.70	0.76	0.66
MAR 04	0.44 (0.53)	-0.41	0.29	0.58

TABLE V 9 (Contd.)

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 05	0.28 (0.23)	0.62	0.78	0.66
MAR 06	0.94 (0.94)	0.08	0.68	0.16
MAR 07	0.86 (0.87)	0.72	0.78	-0.57
MAR 08	0.46 (0.71)	0.03	0.98	0.41
AVERAGE	0.40 (0.54)	0.41	0.79	0.46
STD. DEV.	0.45 (0.32)	0.63	0.30	0.40

Note: Three companies from the Steel Industries are omitted for heavy minus figure for the year March 2000, figures in the bracket indicates the ratio after omitting these companies *viz* Maharashtra Elektrosmelt Ltd., Rashtriya Ispat Nigam Ltd. and Steel Complex Ltd.. The average of the Industry has increased and the Std. Dev. has decreased.

C Table V 10 exhibits the time series analysis for the period of 10 years. For the Inorganic Chemicals Industry the ratio has declined significantly at 10% level of significance. This indicates improvement in inventory management over a period of time. For other three Industries the ratio has remained stable over a period of time.

TABLE V 10

INVENTORY TO WORKING CAPITAL

TIME SERIES ANALYSIS

Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Intercept	0.06 (0.36)	0.86	0.92	0.89
X Variable	0.06(0.03)	-0.08	-0.02	-0.08
t Stat	(1.28)(0.93)	(-1.22)	(-0.69)	(-2.14)***
R^2	0.17	0.16	0.06	0.36

*** indicates 5% level of significance

Note: Three companies from the Steel Industries are omitted for heavy minus figure for the year March 2000, figures in the bracket indicates the ratio after omitting these companies *viz* Maharashtra Elektrosmelt Ltd., Rashtriya Ispat Nigam Ltd. and Steel Complex Ltd.. The companies which are omitted for the purpose of abnormal figure have no much significance for the ratio over a period of time.

5.1.4 Receivables to Working Capital

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Refer Table II 1 Chapter II). This ratio is calculated by **Receivables / Working Capital.** The ratio indicates the portion of receivables in the working capital of the firm. Higher ratio shows huge amount blocked in the debtors and receivables and the collection policies are not up to the mark.

A To analyze the proportion of receivables in the working capital for selected industries the average ratio is derived for all the companies for a period of 10 years and then grand average for all companies is derived. Table V 11 presents on the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation.

TABLE V 11

RECEVIABLES TO WORKING CAPITAL

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No.of Companies	52	24	39	21
Average Ratio	0.71	0.71	1.18	0.60
Std. Dev.	2.00	1.48	1.71	1.76
C.V.	359.49	215.59	368.31	257.60

From the Table it can be observed that the ratio of REC/WC is the highest for the Organic Chemicals Industry and it is more than the amount of working capital. It is 71% of working capital for or the Steel and the Cement industry and the lowest at 60% for the Inorganic Chemicals industry.

B To understand the movements in the ratio over a period of time for each year average ratio is derived. This is computed and is presented in the Table V 12. The Std. Dev. for the Inorganic Chemicals Industry observed the highest and the lowest for the Steel Industry and the moderate for the Cement and the Organic chemicals industry. Thus, it may be noted that whereas between the companies deviation is the highest for the Steel Industry, it is lowest when deviations are examined between years.

TABLE V 12

RECEVIABLES TO WORKING CAPITAL

YEARLY MOVEMENTS

Industry Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	1.36	0.74	1.82	0.75
MAR 00	0.61	1.23	2.15	1.19
MAR 01	0.39	1.53	1.07	0.92
MAR 02	0.17	1.01	0.91	1.47
MAR 03	0.42	0.35	0.94	1.07
MAR 04	0.67	-0.02	0.48	0.92
MAR 05	0.85	0.74	0.92	1.07
MAR 06	1.10	0.26	0.88	-0.14
MAR 07	0.98	0.78	1.01	-1.70
MAR 08	0.54	0.46	1.65	0.44
AVERAGE	0.71	0.71	1.18	0.60
STD. DEV.	0.36	0.47	0.52	0.92

C Table V 13 exhibits the time series analysis for the period of 10 years. For the Inorganic Chemicals Industry it has declined at 10% level of significance. This indicates improvement in receivables management over a period of time. For remaining three industries the ratio has remained stable over a period of 10 years.

TABLE V 13

RECEVIABLES TO WORKING CAPITAL

TIME SERIES ANALYSIS

Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Intercept	0.70	0.34	1.55	1.59
X Variable	0.007	0.01	-0.07	-0.18
t Stat	(0.17)	(0.63)	(-1.19)	(-2.08)***
R^2	0.003	0.05	0.15	0.35
*** indicates 10% level of significance				

5.1.5 Cash & Bank Balance to Working Capital

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Refer Table II 1 Chapter II). The ratio is calculated by **Cash and Bank Balance / Working Capital.** The ratio indicates the proportion of the cash and bank balance in the working capital. Higher ratio is an indicator of high amount lying in the form of cash or in the bank and other investment opportunities are overlooked by the firm. The firm should look after the other opportunities to invest balance so that more return can be generated.

A To analyze the proportion of Cash and Bank Balance to Working Capital for selected industries on an average this ratio is derived for all the companies for a period of 10 years. Table V 14 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and in the form of standard deviation and co-efficient of variation.

TABLE V 14

CASH & BANK BALANCE TO WORKING CAPITAL

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
No .of Companies	52	24	39	21
Average Ratio	0.05	0.24	0.18	0.07
Std. Dev.	0.38	0.99	0.25	0.36
C.V.	122.59	110.56	129.67	106.90

From the Table it can be inferred that the ratio of CB/WC is very high for the Cement Industry and considerably lower for the Steel and Inorganic Chemicals Industry and moderate for Organic Chemicals Industry. This indicates high level of idle cash for the Cement Industry

B To understand the movements in the ratio over a period of time for each year, ratio is derived. This is in the Table V 15. From the table it can be inferred that the ratio of CB/WC is the highest for the Cement Industry, slightly higher for Organic Chemicals and moderate for the Steel and Inorganic Chemicals Industry. The Std. Dev. under the Cement Industry is the highest and the lowest in the Organic chemicals industry and moderate in two industries Steel and Inorganic Chemicals Industry.

TABLE V 15

CASH & BANK BALANCE TO WORKING CAPITAL

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99 0.11	0.15	0.15	0.12	
MAR 00 -0.05	0.22	0.41	0.14	
MAR 01 0.05	0.35	0.15	0.15	
MAR 02	0.02	0.18	0.12	0.13
MAR 03	0.02	-0.35	0.17	0.13
MAR 04	0.09	0.08	0.13	0.10
MAR 05	0.17	0.17	0.11	0.21
MAR 06	0.22	0.25	0.16	-0.32
MAR 07	0.22	1.08	0.16	-0.25
MAR 08	-0.31	0.29	0.22	0.28
AVERAGE	0.05	0.24	0.18	0.07
STD. DEV.	0.16	0.35	0.09	0.20

C Table V 16 exhibits the time series analysis for the period of 10 years and for the purpose of analysis the simple regression analysis is carried out. From the result it can be inferred that the ratio has remained stable over a period of time in all the Industries. This indicates that there is no improvement in the management of Cash & Bank Balance by the selected companies over a period of time.

TABLE V 16

CASH & BANK BALANCE TO WORKING CAPITAL

TIME SERIES ANALYSIS

Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Intercept	0.07	0.002	0.22	0.18
X Variable	-0.003	0.04	-0.01	-0.02
t Stat	(-0.19)	(1.15)	(-0.69)	(-0.96)
R^2	0.0044	0.14	0.06	0.10

5.1.6 Inventory to Gross Fixed Assets:

This is a ratio selected by a single author as indicated in Chapter II Table II 1. The ratio is calculated by **Inventory / Gross fixed assets.** Inventory is a part of current assets and Gross fixed assets includes land and building and other fixed assets before depreciation. In balance sheet the large amount is generally blocked up in the inventory after gross fixed assets. This ratio helps in finding out the percentage of amount blocked up in the inventories out of gross fixed assets.

A To analyze the proportion of Inventory to the Gross Fixed Asset for selected industries on an average this ratio is derived for all the companies for a period of 10 years. Table V 17 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies in the form of standard deviation and co-efficient of variation.

TABLE V 17

INVENTORY TO GROSS FIXED ASSETS.

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No .of Companies	52	24	39	21
Average Ratio	0.46	0.15	0.21	0.30
Std. Dev.	0.24	0.07	0.07	0.24
C.V.	282.01	414.70	391.67	306.88

From the Table it can be inferred that the ratio of INV/GFA is very high for the Steel Industry, lowest for the Cement Industry, and moderate in the Organic and Inorganic Chemicals Industry.

B To understand the movements in the ratio over a period of time for each year, ratio is derived. This is computed and is presented in the Table V 18. From the Table it can be inferred that the ratio of INV/GFA has ranged between 0.34 (2001) to 0.68 (2008) for the Steel Industry, between 0.13 (1999) to 0.22 (2003) for the Cement Industry, between 0.18 (2002) to 0.26 (2007) for the Organic and Chemicals industry and 0.21 (2006) to 0.62 (2008) for the Inorganic Chemicals Industry

TABLE V 18

INVENTORY TO GROSS FIXED ASSETS

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	0.37	0.13	0.19	0.38
MAR 00	0.38	0.13	0.20	0.28
MAR 01	0.34	0.14	0.19	0.26
MAR 02	0.37	0.15	0.18	0.24
MAR 03	0.39	0.22	0.19	0.23
MAR 04	0.41	0.21	0.20	0.23
MAR 05	0.53	0.15	0.24	0.25
MAR 06	0.55	0.13	0.24	0.21
MAR 07	0.55	0.13	0.26	0.28
MAR 08	0.68	0.13	0.25	0.62
AVERAGE	0.46	0.15	0.21	0.30
STD. DEV.	0.11	0.03	0.03	0.12

TABLE V 19

INVENTORY TO GROSS FIXED ASSETS

TIME SERIES ANALYSIS

Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Intercept	0.27	0.15	0.17	0.24
X Variable	0.03	-0.0004	0.01	0.01
t Stat	(6.06)*	(-0.01)	(5.12)*	(0.84)
R^2	0.82	0.0012	0.77	0.08
* indicates 1% level of significance.				

C To understand trend over a period of time regression is run on time. Table V 19 presents the time series analysis for the period of 10 years. For the Steel

Industry and the Organic Chemicals Industry the ratio has increased significantly at 1% level of significance, 82% and 77% of variations are explained by time. This indicates that for the Steel and Organic Chemicals Industry the proportion of inventory to Gross fixed assets has increased over a period of time. For the Cement and Inorganic Chemicals Industry. The ratio has remained stable over a period of time.

5.1.7 Total Liabilities to Net Worth

Again this ratio is selected by a single author as mentioned in Table II 1 Chapter II). In this ratio, the financial concern or stake of all the creditors and the owners of the firm is compared. A ratio of total liabilities to net worth in excess of 100% is usual where liabilities are in excess of net worth. The ratio is calculated **Total liabilities/ Net worth.** "The term net worth indicates the owners of the firm and financial interests are called the owner's equity, the excess of the assets over liabilities. The owner's equity shows an amount invested by them initially; therefore it is called as share capital. It is further divided into two parts (i) paid up share capital and (ii) retained earnings."[1]

A To analyze the proportion of Total Liabilities to Net Worth for selected industries an average ratio is derived for all the companies for a period of 10 years. Then average for each industry is derived. Thereafter, grand average for that industry is also arrived. Table V 20 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation.

TABLE V 20

TOTAL LIABILITES TO NET WORTH

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
No.of Companies	52	24	39	21
Average Ratio	3.19	4.23	1.29	3.41
Std. Dev.	9.86	5.83	4.88	8.80
C.V.	413.86	434.40	510.43	506.77

Steel Industry - Panchmahal Steel Ltd.Cement Industry - Kalyanpur Cements Ltd. and Saurashtra Cement Ltd. Organic Chemicals - Amines & Plasticizers Ltd. and IOL Chemicals & Pharmaceuticals Ltd.: and Inorganic Chemicals - Associated Pigments Ltd.

In the above mentioned ratio the average for the year 2001 and 2003 for the Steel Industry, for the Cement Industry 1999 and 2005 for the Cement Industry. For the Organic Chemicals Industry 2002 and for the Inorganic Chemicals Industry for the year 2000 and 2002 an abnormal average is observed. The reason for the same is explained in the following Table by omitting the following companies in each Industry.

If the companies mentioned above are ignored the various results of the ratio are given in the following Table V 20 A.

TABLE V 20 A

TOTAL LIABILITIES TO NET WORTH

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
No .of Companies	51	22	37	20
Average Ratio	2.39	2.90	2.17	2.90
Std. Dev.	3.45	1.52	1.99	3.79
C.V.	421.72	470.68	539.19	531.48

From the Table it can be inferred that the ratio of TL/NW is high at 2.90, for the Cement Industry and for the Inorganic Chemicals Industry and lowest in the Organic Chemicals Industry and moderate for the Steel Industry.

B To understand the movements in the ratio over a period of time for each year, ratio is derived. This is computed and is presented in the Table V 21. The Std. Dev. under the Steel Industry is the highest and lowest for the Organic Chemicals industry and moderate for the Cement and Inorganic Chemicals Industry. By omitting the companies mentioned previously for each Industry, the results differ and they are presented in Table V 21A.

TABLE V 21

TOTAL LIABILITIES TO NET WORTH

YEARLY MOVEMENTS

Industry / **Year**	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
MAR 99	4.33	9.43	2.68	8.20
MAR 00	5.37	3.58	2.67	14.68
MAR 01	20.10	1.64	1.90	5.12
MAR 02	2.30	2.71	-6.81	-5.26
MAR 03	-4.34	3.28	1.62	1.00

Year \ Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 04	0.08	3.68	1.93	6.22
MAR 05	1.52	11.22	2.52	0.24
MAR 06	-0.90	1.80	1.05	2.19
MAR 07	1.73	1.28	2.65	1.89
MAR 08	1.67	3.68	2.64	-0.16
AVERAGE	3.19	4.23	1.29	3.41
STD. DEV.	6.53	3.36	2.90	5.46

TABLE V 21 A

TOTAL LIABILITES TO NET WORTH

YEARLY MOVEMENTS

Year \ Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	3.81	2.63	2.88	3.04
MAR 00	4.42	2.86	2.96	2.49
MAR 01	2.18	1.73	2.16	6.05
MAR 02	3.13	2.76	2.40	2.73
MAR 03	2.79	3.22	1.31	2.28
MAR 04	0.54	3.48	1.67	7.28
MAR 05	1.70	4.61	2.35	1.96
MAR 06	2.16	2.51	0.85	1.75
MAR 07	1.55	2.52	2.53	1.75
MAR 08	1.62	2.69	2.56	-0.35
AVERAGE	2.39	2.90	2.17	2.90
STD. DEV.	1.16	0.76	0.69	2.21

From the Table it can be inferred that the ratio of TL/NW is the lowest for the Organic chemicals Industry and the highest for the Cement industry and Inorganic Chemicals Industry and moderate for the Steel Industry. The Std. Dev. under the Inorganic Chemicals Industry is the highest and lowest for the Organic Chemicals industry and moderate for the Steel and Cement Industry.

C Table V 22 exhibits the time series analysis for the period of 10 years and for the purpose of analysis the simple regression analysis is carried out. From the Table it can be observed that only in the one industry the Inorganic Chemicals, the ratio is significantly declined. In the remaining three Industries the ratio has remained stable.

TABLE V 22

TOTAL LIABILITIES TO NET WORTH

TIME SERIES ANALYSIS

Particulars	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	8.26	5.60	0.50	8.67
X Variable	-0.92	-0.25	0.14	-0.96
t Stat	(-1.34)	(-0.65)	(-0.63)	(-2.20)***
R^2	0.18	0.05	0.02	0.28
*** indicates 10% level of significance				

TABLE V 22 A

TOTAL LIABILITES TO NET WORTH

TIME SERIES ANALYSIS

Particulars	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	3.94	2.64	2.57	4.71
X Variable	-0.28	0.05	-0.07	-0.33
t Stat	(-3.05)**	0.54	(-0.98)	(-1.44)
R^2	0.54	0.04	0.11	0.21
** indicates 5% level of significance				

On omitting the companies having abnormal figure (as mentioned in the previous para) a different scenario emerges. The outcome is presented in Table V. While comparing the Table V 22 and Table V 22A, it can be observed that if the companies are omitted looking to their abnormality, the ratio of TL/NW declined significantly for the Steel Industry, and if the Companies are not omitted than the ratio declines significantly for the Inorganic Chemicals Industry, and the ratio remains stable for the Cement and Organic Chemicals Industry in both the conditions. This decline indicates improvement in overall financial management of industry.

5.1.8 Net Fixed Assets to Total Assets

Again this ratio is selected by a single author for analysis Table II 1 Chapter II). This ratio is calculated by **Net Fixed Assets / Total Assets.** This ratio is an indication of total net fixed assets after charging depreciation to the total assets. The total assets also includes investment and current assets. The ratio is helpful in analyzing the balance sheets. The net fixed assets are the assets which are in books after charging depreciation, by this ratio one can judge the amount of depreciation charged to total assets.

A To analyze the proportion of Net Fixed Assets out of Total Assets for selected industries on an average this ratio is derived for all the companies for a period of 10 years. Thereafter, the average for all ten years for a given industry is derived. Thereafter, a grand average for the industry is derived. Table V 23 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation. From the Table it can be inferred that the ratio of NFA/TA is highest for the Cement Industry and lowest for the Organic Chemicals Industry and moderate for the Steel and Inorganic Chemicals.

TABLE V 23

NET FIXED ASSETS TO TOTAL ASSETS

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
No .of Companies	52	24	39	21
Average Ratio	0.54	0.62	0.47	0.59
Std. Dev.	0.09	0.07	0.08	0.08
C.V.	545.89	1036.02	800.12	838.47

B To understand the movements in the ratio over a period of time for each year, ratio is derived. This is computed and is presented in the Table V 24. From the table it can be observed that the ratio has varied between 0.67 to (2000) to 0.41 (2008) for the Steel Industry, for the Cement Industry 0.67 (1999) to 0.57 (2007), for Organic Chemicals Industry, it varied between 0.52 (1999) to 0.41 (2008), and 0.57 (2003) to 0.52 (2007) for Inorganic Chemicals Industry The Std. Dev. for the Steel industry is the highest and lowest for the Organic Chemicals Industry and moderate for the Cement and the Inorganic chemicals industry.

TABLE V 24

NET FIXED ASSETS TO TOTAL ASSETS

YEARY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	0.63	0.67	0.52	0.55
MAR 00	0.67	0.65	0.50	0.56
MAR 01	0.65	0.64	0.51	0.56
MAR 02	0.66	0.64	0.50	0.56
MAR 03	0.64	0.62	0.50	0.57
MAR 04	0.60	0.62	0.49	0.57
MAR 05	0.47	0.61	0.45	0.52
MAR 06	0.47	0.59	0.44	0.54
MAR 07	0.43	0.57	0.41	0.52
MAR 08	0.41	0.58	0.41	0.54
AVERAGE	0.54	0.62	0.47	0.55
STD. DEV.	0.09	0.07	0.04	0.08

C Table V 25 exhibits the time series analysis for the period of 10 years and for the purpose of analysis the simple regression analysis is carried out. From the Table it can be observed that the proportion of net fixed assets to total assets declined in all the industry significantly over a period of time. This goes in line with the ratio of CA/TA ratio computed in Chapter IV, where CA/TA ratio has increased significantly over a period of time. As the CA/TA increases, NFA/TA is bound to go down.

TABLE V 25

NET FIXED ASSETS TO TOTAL ASSETS

TIME SERIES ANALYSIS

Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Intercept	0.73	0.67	0.54	0.57
X Variable	-0.03	-0.001	-0.01	-0.004
t Stat	(-6.10)*	(-12.05)*	(-7.65)*	(-2.03)***
R^2	0.82	0.94	0.88	0.34
* indicates 1% level of significance. *** indicates 10% level of significance				

5.2 LIQUIDITY RATIOS

As mentioned in Table V 1, there are important liquidity ratios selected for the purpose of analysis *viz* Current Ratio, Quick Ratio and Cash and Bank to Current Liabilities. Para 5.2.1, 5.2.2 and 5.2.3 presents the analysis of these ratios.

5.2.1 Current Ratio

This is a very popular ratio amongst researchers as well as practitioners on account of the important information that it conveys for working capital management. This is indicated in (Table II 1 Chapter II). The current ratio is calculated by dividing **Current Assets / Current Liabilities.** Current assets are those assets, which can be converted into cash within a year. This includes marketable securities, debtors, stock, prepaid expenses, cash, loan and advances, current investments. Current liabilities include the liabilities which are expected to be matured within one year. It includes loans both secured and unsecured and provisions, creditors, bills payable, accrued expenses, bank overdraft, tax liabilities. This ratio indicates the degree to which the firm will be in a position to meet its current obligations. The ratio of 2:1 is considered to be the ideal for many years, this two for one current ratio is even today the businessmen are legion who believe this single ratio to be the one infallible guide to balance sheet interpretation.

A To analyze the proportion of Current Assets to Current Liabilities for selected industries on an average this ratio is derived for all the companies for a period of 10 years, after deriving average over 10 years for each company, grand average for all selected companies in given industry is derived. Table V 26 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation.

TABLE V 26

CURRENT RATIO

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
No .of Companies	52	24	39	21
Average Ratio	3.30	2.23	2.66	2.37
Std. Dev.	1.51	0.73	0.97	0.89
C.V.	366.83	379.90	366.11	419.40

From the Table it can be inferred that the CR is the highest for the Steel Industry and lowest for the Cement Industry and in remaining two industries the Organic Chemicals and Inorganic Chemicals Industry it is moderate. The proportions of variation are found to be the highest for Inorganic Chemicals Industry as indicated by Co-efficient of Variation.

B To understand the movements in the ratio over a period of time for each year, ratio is derived. This is computed and is presented in the Table VI 27. Here it is observed that for the Steel Industry it is almost unchanged over a period of time. It was 3.45 (1999) and 3.46 (2008) and it has ranged between 2.93 (2002) to 3.90 (2000). For the Cement Industry it varied between 2.66 (1999) to 1.83 (2008) indicating a declining trend. For the Organic Chemicals Industry it ranged between 2.40 (2002) to 2.97 (2006). For Inorganic Chemicals Industry it ranged between 2.87 (2000) to 1.90 (2008) again indicating a declining trend. The Std. Dev. under the Inorganic chemicals industry is the highest and lowest for the Organic chemicals industry and moderate for the Steel and Cement industries.

TABLE V 27

CURRENT RATIO

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	3.45	2.66	2.78	2.82
MAR 00	3.90	2.42	2.61	2.87
MAR 01	3.09	2.48	2.54	2.57
MAR 02	2.93	2.35	2.40	2.23
MAR 03	3.11	2.16	2.56	2.04
MAR 04	3.12	2.20	2.65	2.26
MAR 05	3.59	2.19	2.51	2.27
MAR 06	3.11	1.97	2.97	2.15
MAR 07	3.21	2.04	2.61	2.62
MAR 08	3.46	1.83	2.93	1.90
AVERAGE	3.30	2.23	2.66	2.37
STD. DEV.	0.29	0.25	0.19	0.33

C Table V 28 exhibits the time series analysis for the period of 10 years and for the purpose of analysis the simple regression analysis is carried out. From the Table it can be observed that for the Steel and Organic Chemicals Industry the ratio has remained stable over a period of time. For the Cement and Inorganic Chemicals Industry it has declined significantly over a period of time. Looking to industry average (Table V 26) and yearly average (Table V 27), it is clear that CR has not fallen to a dangerous level and hence, this negative trend is an indication of improvement in Working Capital Management.

TABLE V 28

CURRENT RATIO

TIME SERIES ANALYSIS

Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Intercept	3.38	2.67	2.52	2.76
X Variable	-0.02	-0.08	0.02	-0.07
t Stat	(-0.47)	(-9.34)*	(1.24)	(-2.46)**
R^2	0.03	0.92	0.16	0.43

* indicates 1% level of significance.
** indicates 5% level of significance

5.2.2 Quick Ratio

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II) The quick ratio in other words acid-test ratio is more specific measure of firm's liquidity. This ratio shows relationship between quick or liquid assets and current liabilities. It is calculated as **Quick Assets / Current Liabilities** The quick assets are all current assets excluding the inventories. Quick assets are those assets which can be converted into cash quickly. The ratio of 1:1 is considered to be the base of sound liquid position. The current ratio measures the firm's ability to meet its current obligations, but the term current ratio included stock also. The interpretation of ratio is to be done carefully because a firm having high current ratio may not be always more liquid because it might contain the high proportion of stock, may be finished or semi-finished or a firm may be more liquid if current ratio contains more liquid assets like cash and debtors. It gave added prestige to receivables as a realistic asset and less to inventory. This was a natural conclusion as the inventory in all except those retail stores that transact business solely on cash bases must first be converted by sales into receivables into cash. The ratio concerns with liquid assets only. The current ratio and quick ratio are helpful in comparison of two firm or industry.

A To analyze the proportion of Quick Assets to Current Liabilities for selected industries on an average this ratio is derived for all the companies for a period of 10 years. Table V 29 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation.

TABLE V 29

QUICK RATIO

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No .of Companies	52	24	39	21
Average Ratio	2.14	1.29	1.70	1.55
Std. Dev.	1.14	0.53	0.70	0.63
C.V.	289.30	313.21	325.18	334.72

From the table it can be inferred that the QR is the highest for the Steel Industry and lowest for the Cement Industry and in remaining two industries the Organic Chemicals and Inorganic Chemicals Industry it is moderate. The level of QR is quite acceptable except the Steel Industry, where it seems to be little high.

B To understand the movements in the ratio over a period of time for each year, ratio is derived. This is computed and is presented in the Table V 30. From the table it can be observed that for the Steel industry it was 2.36 (1999) and 2.24 (2008) indicating that there was almost no change over a period of time. For the Cement Industry it varied from 1.57 (1999) to 1.21 (2008), for the Organic Chemicals Industry it ranged from 1.89 (1999) to 1.94 (2008) and for the Inorganic Chemicals Industry 1.69 (1999) to 1.34 (2008). Thus for all the 4 industries almost there is no change.

TABLE V 30

QUICK RATIO YEALY MOVEMENTS

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	2.36	1.57	1.89	1.69
MAR 00	2.68	1.35	1.70	1.81
MAR 01	1.97	1.36	1.61	1.71
MAR 02	1.87	1.22	1.55	1.41
MAR 03	1.93	1.17	1.59	1.32
MAR 04	1.97	1.13	1.60	1.48
MAR 05	2.29	1.26	1.54	1.48
MAR 06	2.03	1.27	1.94	1.45
MAR 07	2.07	1.41	1.69	1.81
MAR 08	2.24	1.21	1.94	1.34
AVERAGE	2.14	1.29	1.70	1.55
STD. DEV.	0.25	0.13	0.16	0.19

C Table V 31 presents the time serried analysis for Quick Ratio. No significant trend is observed for any industry, indicating thereby the stable behaviour of this ratio for all industries.

TABLE V 31

QUICK RATIO

TIME SERIES ANALYSIS

Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Intercept	2.26	1.40	1.64	1.69
X Variable	-0.02	-0.02	0.01	-0.02
t Stat	(-0.80)	(-1.45)	(0.65)	(-1.23)
R^2	0.07	0.21	0.05	0.16

5.2.3 Cash & Bank Balance To Current Liabilities

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II). It is also termed as Super Quick Ratio, it includes only cash and bank balance and short-term marketable securities. These are the most liquid assets of the firm. It is defined as

Cash and Bank Balance + Current investment / Current liabilities. The debtors are excluded from liquid assets for the calculation. It is one of the strictest measures of the firm's liquidity.

A To analyze the proportion of Cash & Bank to Current Liabilities for selected industries on an average this ratio is derived for all the companies for a period of 10 years. After deriving average for each company, a grand average for all companies in a given industry is derived. Table V 32 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies in the form of standard deviation and co-efficient of variation

TABLE V 32

CASH & BANK BALANCE TO CURRENT LIABILITIES

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No .of Companies	52	24	39	21
Average Ratio	0.24	0.27	0.24	0.28
Std. Dev.	0.25	0.23	0.21	0.30
C.V.	146.33	152.10	156.84	134.93

From the Table it can be inferred that the ratio of CB/CL is almost same for all the four industries. There are no wide variations in this ratio between the industries.

B To understand the movements in the ratio over a period of time for each year also ratio is derived. This is computed and is presented in the Table V 33. . It is important to note that for the Steel Industry it ranged between 0.11 (2002) to 0.37 (2007), whereas for the Cement Industry it ranged between 0.17 (2004) to 0.56 (2007). This 0.56 is a very higher proportion. It indicates good repayment capacity, but at the same time it indicates idle funds. For the Organic Chemicals Industry it ranged between 0.15 (2002) to 0.38 (2008), for the Inorganic Chemicals Industry it has fluctuated substantially from 0.17 (1999) to 0.50 (2007). The standard deviation between the years is quite low, as compared to between the companies.

TABLE V 33

CASH & BANK BALANCE TO CURRENT LIABILITES

YEALY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	0.25	0.28	0.18	0.17
MAR 00	0.26	0.18	0.19	0.32
MAR 01	0.16	0.19	0.21	0.47
MAR 02	0.11	0.19	0.15	0.24
MAR 03	0.12	0.19	0.20	0.20
MAR 04	0.17	0.17	0.24	0.21
MAR 05	0.28	0.21	0.22	0.28
MAR 06	0.36	0.39	0.33	0.22
MAR 07	0.37	0.56	0.26	0.50
MAR 08	0.26	0.38	0.38	0.19
AVERAGE	0.24	0.27	0.24	0.28
STD. DEV.	0.09	0.13	0.07	0.12

C To examine the trend in ratio over a period of time, regression on time is carried. Here it is observed that for the Cement Industry and the Organic Chemicals Industry the ratio has increased significantly over a period of time. This indicates idle funds: Hence, this management of Cash & Bank to Current Liabilities is required to be improved.

TABLE V 34

CASH & BANK BALANCE TO CURRENT LIABILITIES

TIME SERIES ANALYSIS

Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Intercept	0.16	0.12	0.13	0.27
X Variable	0.01	0.03	0.02	0.0021
t Stat	(1.53)	(2.42)**	(4.01)*	(0.15)
R^2	0.23	0.42	0.67	0.0029
* indicates 1% level of significance ** indicates 5% level of significance				

5.3 TURNOVER RATIOS

To examine the efficiency with which various assets are used, various turnover ratios are selected for the purpose of analysis. The turnover ratios selected are Total Assets, Net Fixed Assets, Current Assets, Working Capital, Inventory, Debtors, Cash and Bank, Average Collection Period, Creditors and Average Payment Period. The following paragraphs discusses analysis of these ratios for selected companies, within selected industries over a given time frame.

5.3.1 Sales to Total Assets

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II). This ratio is calculated by **Sales / Total Assets.** This ratio indicates the efficiency with which the total assets are used. The higher ratio the greater the soundness of the firm, as total assets are optimally used for sales. The ratio indicates the sales generated per rupee of investment in total assets.

A To analyze the proportion of Sales generated out of Total Assets for selected industries on an average this ratio is derived for all the companies for a period of 10 years. Table V 35 presents the summary statistics of grand average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation

TABLE V 35

SALES TO TOTAL ASSETS

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No .of Companies	52	24	39	21
Average Ratio	1.49	0.72	1.04	0.95
Std. Dev.	0.45	0.19	0.27	0.25
C.V.	351.17	351.17	484.25	506.13

From the table it can be inferred that the ratio of TATR is the highest for the Steel Industry and lowest for the Cement Industry and moderate for the Organic and Inorganic Chemicals Industry. It is interesting to note that incase of the Steel Industry, sales generated are approximately one and half times of investment in the assets.

B To understand the movements in the ratio over a period of time for each year, ratio is derived. This is computed and is presented in the Table VI 36. From the table it can be observed that for the Steel industry it has moved from 1.27 (1999) to 1.82 (2005) and then reduced to 1.42 (2008). For the Cement Industry it moved from 0.62 (2001) to 0.86 (2007). This shows that the ratio has steadily increased over a period of time. For the Organic Chemicals Industry also from 0.961 (2000) it went upto 1.18 (2008) and for Inorganic Chemicals Industry it went up from 0.81 (2000) to 1.20 (2008).

TABLE V 36

SALES TO TOTAL ASSETS YEALY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	1.27	0.65	0.93	0.87
MAR 00	1.34	0.66	0.91	0.81
MAR 01	1.41	0.62	0.93	0.89
MAR 02	1.39	0.63	0.95	0.90
MAR 03	1.53	0.66	1.07	0.88
MAR 04	1.66	0.69	1.06	0.95
MAR 05	1.82	0.82	1.14	0.96
MAR 06	1.52	0.86	1.16	0.99
MAR 07	1.54	0.86	1.11	1.02
MAR 08	1.42	0.79	1.18	1.20
AVERAGE	1.49	0.72	1.04	0.95
STD. DEV.	0.16	0.10	0.11	0.11

C To examine a trend over a period of time in this ratio the simple regression analysis is carried out. The regression analysis indicates that the utilization of total assets has significantly improved over a period of time for three industries except the Steel Industry. It can be interpreted that for the Steel Industry, already the utilization of assets is of good level and the same is maintained over a period of time.

TABLE V 37

SALES TO TOTAL ASSETS

TIME SERIES MPVEMENTS

Particulars	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	1.33	0.58	0.86	0.77
X Variable	0.03	0.03	0.03	0.03
t Stat	(1.78)	(4.45)*	(7.48)*	(5.23)*
R^2	0.28	0.71	0.88	0.77
* indicates 1% level of significance				

5.3.2 Sales to Net Fixed Assets

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II). This ratio is calculated by **Sales / Net Fixed Assets.** This ratio is an indicator of the extent to which the investments in fixed assets contribute towards the sales, higher ratio is an indication of the efficient use of the net fixed assets by the firm to generate the sales which in turn leads to profit and wealth maximization.

A To analyze the proportion of Sales generated out of Net Fixed Assets for selected industries on an average this ratio is derived for all the companies for a period of 10 years. Then after deriving average for each company, grand average for the industry is derived. Table V 38 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies in the form of standard deviation and co-efficient of variation.

From the table it can be inferred that the ratio of NFATR is the highest for the Steel Industry and lowest for the Cement Industry and moderate for the Organic and Inorganic Chemicals Industry. Thus, even though Steel and the Cement industries both are observed to be the capital intensive industries, in case of the Steel Industry, sales generated is more number of times of the fixed assets, as compared to the Cement Industry.

TABLE V 38

SALES TO NET FIXED ASSETS

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No .of Companies	52	24	39	21
Average Ratio	8.35	1.24	2.92	4.31
Std. Dev.	6.19	0.42	1.03	6.69
C.V.	255.38	336.65	380.27	343.92

B To understand the movements in the ratio over a period of time for each year, this ratio is derived. This is computed and is presented in the Table V 39. From the table it can be inferred that the ratio went on increasing from 4.07 (1999) to 17.52 (2008) for the Steel industry and from 3.24 (1999) to 20.23 (2008) for the Inorganic Chemicals Industry. To examine the effect of inflation, if any, the WPI for all commodities as well as Non-food items were also verified. But it could be inferred that this increase in turnover ratio is not attributable to inflation only.

TABLE V 39

SALES TO NET FIXED ASSETS

YEALY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	4.07	1.06	2.44	3.24
MAR 00	4.51	1.05	2.39	1.87
MAR 01	4.63	1.02	2.35	2.01
MAR 02	4.50	1.02	2.57	2.43
MAR 03	5.39	1.11	2.88	2.15
MAR 04	6.26	1.18	2.76	2.28
MAR 05	11.67	1.40	3.31	2.62
MAR 06	10.97	1.50	3.34	2.86
MAR 07	14.01	1.58	3.51	3.37
MAR 08	17.52	1.52	3.69	20.23
AVERAGE	8.35	1.24	2.92	4.31
STD. DEV.	4.82	0.23	0.50	5.62

C Table V 40 exhibits the time series analysis for the period of 10 years and for the purpose of analysis the simple regression analysis is carried out. The regression analysis indicates that the utilization of net fixed assets has significantly improved over a period of time for all the 4 selected industries.

TABLE V 40

SALES TO NET FIXED ASSETS

TIME SERIES ANALYSIS

Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Intercept	0.30	0.85	0.86	0.77
X Variable	1.46	0.07	0.03	0.03
t Stat	(6.66)*	(6.72)*	(7.48)*	(5.23)*
R^2	0.85	0.85	0.88	0.77
* indicates 1% level of significance.				

5.3.3 Sales to Current Assets

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II). This ratio is calculated by Sales / Current Assets. This ratio is an indicator of how efficiently the current assets are used. This ratio is influenced by inventory and debtors turnover ratio, higher the ratio better the utilization of current assets of the firm.

A To analyze the proportion of Sales generated out of Current Assets for selected industries on an average this ratio is derived for all the companies for a period of 10 years. Table V 41 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation.

TABLE V 41

SALES TO CURRENT ASSETS

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No. of Companies	52	24	39	21
Average Ratio	2.70	2.94	2.43	2.44
Std. Dev.	0.83	0.75	0.62	0.65
C.V.	461.31	461.31	484.38	449.70

The ratio of CATR is computed and presented in the Table V 41. From the table it can be inferred that the ratio of CATR is the highest for the Cement Industry and moderate for the Organic and Inorganic Chemicals Industry and slight low in the compared to Cement industry for the Steel industry. It is important to note here that the NFATR is high as compared to CATR, except the Cement Industry.

B To understand the movements in the ratio over a period of time for each year, ratio is derived. This is computed and is presented in the Table V 42. From the table it can be inferred that for the Steel Industry the ratio ranged between 2.33 (1999) to 3.13 (2005), for the Cement Industry between 2.52 (2001) to 3.65 (2005), from 2.22 (1999) to 2.63 (2003) for the Organic Chemicals Industry and between 2.15 (1999) to 2.90 (2008) for the Inorganic Chemicals Industry.

TABLE V 42

SALES TO CURRENT ASSETS

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	2.33	2.77	2.22	2.15
MAR 00	2.56	2.78	2.22	2.18
MAR 01	2.65	2.52	2.47	2.43
MAR 02	2.65	2.78	2.33	2.62
MAR 03	2.98	3.07	2.63	2.56
MAR 04	2.98	3.10	2.56	2.52
MAR 05	3.13	3.65	2.56	2.43
MAR 06	2.62	3.21	2.56	2.38
MAR 07	2.62	2.85	2.30	2.26
MAR 08	2.48	2.64	2.48	2.90
AVERAGE	2.70	2.94	2.43	2.44
STD. DEV.	0.25	0.33	0.15	0.22

C Table V 43 exhibits the time series analysis for the period of 10 years and for the purpose of analysis, the simple regression analysis is carried out. It can be observed from the Table that for all the industries, the ratio has remained more or less stable over a period of time.

TABLE V 43

SALES TO CURRENT ASSETS

TIME SERIES ANALYSIS

Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Intercept	2.60	2.76	2.30	2.33
X Variable	0.02	0.03	0.02	0.04
t Stat	(0.64)	(0.89)	(1.57)	(1.76)
R^2	0.05	0.09	0.24	0.28

5.3.4 Sales to Working Capital

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II). This ratio is calculated by **Sales / Working Capital.** The amount of working capital should be sufficient for a particular level of sales activity in order to maintain a healthy financial position in the firm. A higher ratio shows higher trading and lower ratio shows lower trading.

A To analyze the proportion of Sales generated by Working Capital for selected industries an average this ratio is derived for all the companies for a period of 10 years. Table V 44 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation

TABLE V 44

SALES TO WORKING CAPITAL

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No. of Companies	52	24	39	21
Average Ratio	3.48	2.51	5.48	4.13 (4.76)
Std. Dev.	7.51	15.88	9.05	6.01 (4.73)
C.V.	287.33	178.62	263.17	229.02 (241.61)
Note: The figures in the brackets indicates computation after omitting one company Fishcher Chemic Ltd, on account of heavy minus figure for the year 2007 in the Inorganic Chemicals Industry				

From the table it can be inferred that the ratio of WTR is the highest for the Organic Chemicals Industry and the lowest for the Cement Industry and moderate for the Steel and Inorganic Chemicals Industry. The marginal changes are observed after omitting the company mention in the note

B To understand the movements in the ratio over a period of time for each year, ratio is derived. This is computed and presented, in Table V 45. From the table it can be inferred that the WTR has fluctuated widely between years for the Steel Industry from 0.29 (2000) to 6.63 (2006), for the Cement Industry from -10.22 (2003) to 6.81 (2007), for the Organic Chemicals Industry from 1.71 (2004) to 10.18 (2008) and from 0.04 (2007) to 7.67 (2002) for the Inorganic Chemicals Industry. The average of the year (2004) is very low due to heavy minus ratio for one company (-83.25 in the Fishcher Chemic Ltd.), the average of the Inorganic Chemicals Industry increases marginally and the Std. Dev. is found to be the lowest. The Std. Dev. under the Cement industry is the highest due to one company (Binani Cement Ltd.) and lowest for the Steel industry and moderate for the Organic and Inorganic Chemicals Industry.

TABLE V 45

SALES TO WORKING CAPITAL

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	5.50	3.80	5.37	3.65
MAR 00	0.29	6.25	9.87	4.49
MAR 01	1.88	6.76	5.27	5.45
MAR 02	1.66	5.94	3.60	7.67
MAR 03	2.85	-10.22	4.81	5.71
MAR 04	3.06	-1.95	1.71	4.96
MAR 05	3.75	5.64	4.14	5.32
MAR 06	6.63	1.60	4.50	2.32
MAR 07	6.22	6.81	5.32	0.04
MAR 08	2.91	0.52	10.18	1.73 (4.20)
AVERAGE	3.48	2.51	5.48	4.13 (4.76)
STD. DEV.	2.07	5.38	2.63	2.24 (1.67)

Note: The figures in the brackets indicates computation after omitting one company Fishcher Chemic Ltd, on account of heavy minus figure for the year 2007 in the Inorganic Chemicals Industry

C On regression analysis based on time as presented in Table V 46, it is observed that ratio has remained more or less stable over a period of time, except that for the Inorganic Chemicals Industry it has declined at 10% level of significance. If the company mentioned in the note is omitted from the computation then the trend remains stable.

TABLE V 46

SALES TO WORKING CAPITAL

TIME SERIES ANALYSIS

Particulars	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	1.86	3.98	5.27.	6.53 (9.95)
X Variable	0.29	-0.27	0.04	-0.44 (-0.77)
t Stat	(1.34)	(-0.43)	(0.12)	(-2.07)*** (-1.32)
R^2	0.18	0.02	0.0018	0.35 (0.18)
*** indicates 10% level of significance				
Note: The figures in the brackets indicates computation after omitting one company Fishcher Chemic Ltd, on account of heavy minus figure for the year 2007 in the Inorganic Chemicals Industry				

5.3.5 Sales to Inventory:

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II). The ratio is calculated by **Sales / Inventory.** For the calculation of the ratio the sales for a given year is divided by the average inventory. This ratio shows how rapidly the inventory is turning into receivables through sales. A high inventory turnover is treated as good indication of effective inventory management and low ratio indicates the excessive inventory and finance is tied up in inventory it may also be termed as inefficient sales activities. A high ratio may also indicate the stock out position. The relationship between net sales and inventory is between two variables, two items that often change considerably from one year to another. If both items increase in the same proportion, the ratio remains unchanged.

A To analyze the proportion of Sales generated out of Inventory for selected industries on an average this ratio is derived for all the companies for a period of 10 years. Table V 47 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation.

TABLE V 47

SALES TO INVENTORY

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No. of Companies	52	24	39	21
Average Ratio	8.56	8.10	8.28	8.66
Std. Dev.	3.88	2.62	3.25	3.66
C.V.	300.55	395.71	394.54	295.33

From the table it can be inferred that the sales is more than 8 times of inventory for all the industries..

B To understand the movements in the ratio over a period of time for each year also ratio is derived. This is computed and presented in the Table V 48. The Std. Dev. for the Cement industry is the highest and slight higher for the Inorganic Chemicals industry compared to remaining Steel and Organic chemicals industry.

TABLE V 48

SALES TO INVENTORYYEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	6.87	6.90	7.59	7.13
MAR 00	7.31	6.67	7.15	6.89
MAR 01	8.34	6.49	8.01	8.50
MAR 02	8.07	7.00	8.14	8.62
MAR 03	8.91	7.35	8.70	8.85
MAR 04	9.51	7.65	8.31	9.25
MAR 05	9.84	8.52	7.85	8.47
MAR 06	8.66	9.39	9.99	8.22
MAR 07	9.07	10.97	7.85	8.53
MAR 08	8.97	10.02	9.23	12.11
AVERAGE	8.56	8.10	8.28	8.66
STD. DEV.	0.93	1.56	0.83	1.42

C Table V 49 exhibits the time series analysis. It is observed that the ratio has significantly increased over a period of time for all the industries. For the Steel Industry and Inorganic Chemicals Industry the rise is found to be significant at 5% level of significance, for Organic Chemicals Industry it is found to be significant at 10% level of significance and for the Cement Industry the rise is found to be significant at 1% level of significance. This indicates that the utilization of inventories has improved over a period of time.

TABLE V 49

SALES TO INVENTORY TIME SERIES ANALYSIS

Particulars	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	7.27	5.52	7.34	6.83
X Variable	0.23	0.47	0.17	0.33
t Stat	(3.33)**	(6.37)*	(2.27)***	(2.86)**
R^2	0.58	0.84	0.39	0.51

* indicates 1% level of significance
** indicates 5% level of significance
*** indicates 10% level of significance

5.3.6 Debtors Turnover Ratio

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II). This ratio is calculated by **Sales / Average Debtors.** This ratio indicates how efficiently the sales activities are undertaken. Higher ratio indicates more sales by cash or the less credit period or efficient collection policies.

A To analyze the proportion of Sales generated out of Debtors/ Receivables for selected industries on an average this ratio is derived for all the companies for a period of 10 years. After deriving average for each company over a period of ten years, grand average for the company is derived. Table VI 50 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation

TABLE V 50

DEBTORS TURNOVER

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No.of Companies	52	24	39	21
Average Ratio	6.05	8.91	5.20	5.01
Std. Dev.	2.25	3.40	1.89	1.56
C.V.	345.29	340.16	445.47	480.28

From the table it can be inferred that DTR is the highest for the Cement Industry and lowest for the Inorganic Chemicals Industry

B To understand the movements in the ratio over a period of time for each year ratio is derived. This is computed and is presented in the Table V 51. From the table it can be inferred that the DTR has ranged between years, for the Steel Industry from 4.51 (1999) to 7.92 (2005), for the Cement Industry from 6.60 (2001) to 10.74 (2007), for the Organic Chemicals Industry from 4.18 (1999) to 6.30 (2004) and from 4.24 (1999) to 6.10 (2008). For Inorganic Chemical Industry.

TABLE V 51

DEBTORS TURNOVER

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	4.51	7.79	4.18	4.24
MAR 00	5.61	7.29	4.46	4.28
MAR 01	5.46	6.60	5.16	4.94
MAR 02	5.34	7.32	4.49	5.33
MAR 03	5.93	8.60	5.59	5.30
MAR 04	6.68	9.41	6.30	5.07
MAR 05	7.92	10.56	5.54	5.21
MAR 06	6.45	10.42	6.09	4.48
MAR 07	6.38	10.74	5.03	5.12
MAR 08	6.26	10.33	5.21	6.10
AVERAGE	6.05	8.91	5.20	5.01
STD. DEV.	0.92	1.58	0.70	0.56

C Table V 52 exhibits the time series analysis. On analysis it is observed that the ratio has significantly increased over a period of time for all the industries. For both the chemicals industry the Organic and Inorganic Chemicals Industry it is found to be significant at 10% level of significance and for the Steel Industry it is significant at 5% level of significance and for the Cement Industry the rise in the ratio is found to be significant at 1% level of significance. This indicates improvement in the utilization of debtors over a period of time.

TABLE V 52

DEBTORS TURNOVER

TIME SERIES ANALYSIS

Particulars	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	4.92	6.35	4.48	4.35
X Variable	0.21	0.46	0.13	0.12
t Stat	(2.68)**	(5.53)*	(1.98)***	(2.39)***
R^2	0.47	0.79	0.33	0.42

* indicates 1% level of significance
** indicates 5% level of significance
*** indicates 10% level of significance

5.3.7 Sales to Cash & Bank Balance

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II). This ratio is calculated by **Sales / Cash & Bank Balance**. This ratio indicates the sales activities by cash. Higher the ratio more active the cash is.

A To analyze the how many times the sales is of Cash & Bank Balance for selected industries an average, this ratio is derived for all the companies for a period of 10 years. Then the average for each selected industry is derived. Table V 53 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation.

From the Table it can be inferred that the CBTR is the highest for the Steel Industry and slight less compared to Steel industry for the Organic and Inorganic chemicals industry and the lowest for the Cement industry.

TABLE V 53

SALES TO CASH & BANK BALANCE

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No. of Companies	52	24	39	21
Average Ratio	112.60	54.95	91.86	105.77
Std. Dev.	103.30	40.28	75.94	88.86
C.V.	154.04	197.91	183.79	145.60

B To understand the movements in the ratio over a period of time for each year, ratio is derived. This is computed and is presented in the Table V 54. From the table it can be inferred that, the CBTR has ranged from 89.41 (1999) to 133.02 (2001) for the Steel industry, from 16.88 (2007) to 79.84 (2005) for the Cement Industry, for the Organic Chemicals Industry it varied from 69.72 (2001) to 112.65 (2006) and from 74.64 (2003) to 160.46 (2005) for the Inorganic Chemicals Industry

The Std. Dev. under the Inorganic Chemicals Industry is the highest and more or less equal and moderate for the remaining three industries *viz* Steel, Cement and Organic Chemicals Industry.

TABLE V 54

SALES TO CASH & BANK BALANCE

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	89.41	74.07	95.36	107.52
MAR 00	91.92	67.77	88.95	78.26
MAR 01	133.02	63.11	69.72	104.86
MAR 02	114.35	59.91	79.79	79.95
MAR 03	124.34	54.14	97.44	74.64
MAR 04	126.99	61.22	70.16	117.56
MAR 05	127.80	79.84	84.58	160.46
MAR 06	127.62	37.10	112.65	143.48
MAR 07	93.54	16.88	105.66	104.82
MAR 08	96.99	35.47	114.28	86.18
AVERAGE	112.60	54.95	91.86	105.77
STD. DEV.	17.62	19.52	16.11	28.54

C Table V 55 exhibits the time series analysis for the period of 10 years and for the purpose of analysis the simple regression analysis is carried out. From the above it can be observed that for the Cement Industry the CBTR has gone down over a period of time at 5% level of significance and for Organic Chemicals Industry it has gone up at 10% level of significance. Whereas for Steel and Inorganic Chemicals Industry no significance difference is found over a period of time.

TABLE V 55

SALES TO CASH & BANK BALANCE

TIME SERIES ANALYSIS

Particulars	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	109.41	80.51	75.56	90.06
X Variable	0.58	-4.65	2.96	2.86
t Stat	(0.28)	(-2.94)**	(1.90)***	(0.90)
R^2	0.01	0.52	0.31	0.09
** indicates 5% level of significance *** indicates 10% level of significance				

6.3.8 Average Collection Period

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II). This ratio is calculated by dividing **No of Days in Year i.e.(365)/ Debtors Turnover.** This ratio is an indication of the credit policy followed by the firm and also brings out the quality of the debtors more clearly. This is the time period which generally allowed by the firm or the waiting period after making the sales before collection from the customer. This ratio is interrelated and sales taken is credit or total sales and debtors are taken average debtors or closing balance of the debtors depending upon the availability of the data. The shorter the period the better the quality of the debtors as it implies that prompt period of payment by the debtors, if the ratio is more than it implies too liberal or inefficient credit and collection policy.

A To analyze the average payment received in the year from debtors for selected industries an average this ratio is derived for all the companies for a period of 10 years. Table V 56 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation.

TABLE V 56

AVERAGE COLLECTION PERIOD

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No. of Companies	52	24	39	21
Average Ratio	162.42	82.41	90.17	125.86
Std. Dev.	122.04	35.71	34.87	105.04
C.V.	351.43	335.05	446.89	495.77

From the table it can be inferred that the ACP ratio is the highest for the Steel Industry. For the Cement industry it is the lowest.

B To understand the movements in the ratio over a period of time for each year, ratio is derived. This is computed and is presented in the Table V 57. From the table it can be inferred that, the ACP ratio has ranged between 72.52 (2007) to 260.53 (2003) for the Steel industry, form 69.16 (1999) to 102.49 (2006) for the Cement Industry, for the Organic Chemicals Industry it varied from 136.24 (1999) to 73.95 (2005) and from 104.71 (1999) to 110.41 (2008) for the Inorganic Chemicals Industry The Std. Dev for the Steel and Inorganic Chemicals industry is very high and the lowest for the Cement industry and moderate for the Organic Chemicals Industry.

TABLE V 57

AVERAGE COLLECTIO PERIOD YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	135.33	69.16	136.24	104.71
MAR 00	175.30	85.44	105.45	115.20
MAR 01	247.98	101.20	88.54	105.36
MAR 02	194.06	93.60	89.17	87.38
MAR 03	260.53	71.93	79.89	80.80
MAR 04	242.61	72.78	79.14	97.77
MAR 05	139.17	90.78	73.95	92.36
MAR 06	81.52	102.49	76.47	334.59
MAR 07	72.52	74.38	85.76	130.00
MAR 08	75.18	62.34	87.04	110.41
AVERAGE	162.42	82.41	90.16	125.86
STD. DEV.	73.07	14.17	18.46	74.70

C Table V 58 exhibits the time series analysis for the period of 10 years and for the purpose of analysis the simple regression analysis is carried out. Among the four industries selected for the study the ratio has declining trend For the Steel Industry, the ratio has declined significantly at 10% level of significance and for the Organic Chemicals Industry it has declined significantly at 5%.level of significance.

TABLE V 58

AVERAGE COLLECTION PERIOD

TIME SERIES ANALYSIS

Particulars	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	238.28	87.07	113.08	81.42
X Variable	-13.79	-0.85	-4.17	8.08
t Stat	(-1.97)***	(-0.52)	(-2.65)**	(0.98)
R^2	0.33	0.03	0.47	0.11
** indicates 5% level of significance *** indicates 10% level of significance.				

5.3.9 Creditors Turnover Ratio

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II). This ratio is calculated by dividing **Purchases / Average Creditors.** This ratio is an indication of the number of times an average the creditors' turnover each year; lower the ratio the more efficient management of the creditors or liberal credit terms by the creditors.

A To analyze the average creditors and credit policy of the creditors in the year for selected industries on an average this ratio is derived for all the companies for a period of 10 years. Table V 59 presents on the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation

TABLE V 59

CREDITORS TURNOVER

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No. of Companies	52	24 (23)	39 (38)	21
Average Ratio	12.74	6.99 (2.55)	8.09 (6.94)	4.30
Std. Dev.	9.07	8.24 (1.32)	4.02 (3.00)	1.79
C.V.	230.52	274.08 (283.16)	357.52 (363.75)	310.73
Note: The reason for high standard deviation as well as high average for the year March 2002 and 2003 due to high figure of creditors in one company Shri Keshav Cements & Infra Ltd. under the Cement Industry and for the year March 2004 for the Organic Chemicals Industry for one company Jupiter Bioscience Ltd. and SRHHL Industry Ltd. on account of abnormal figures in the year 2006, 2007 and 2008. If the same companies are omitted from the calculations the results are exhibited in the brackets. The average for the Cement Industry reduces by approximately 65% and 15% for Organic Chemicals Industry and no variation in Inorganic Chemical Industry.				

From the table it can be inferred that the CTR is the highest for the Steel Industry and the lowest for the Inorganic chemicals industry. For the Cement industry and Organic chemicals industry it is moderate. The figures in the bracket indicate the average after omitted companies under the Cement and Organic Chemicals Industry.

B To understand the movements in the ratio over a period of time for each year also ratio is derived. This is computed and presented, in the Table V 60. From the table it can be inferred that the creditors turnover ratio is the highest for the Steel industry, and the lowest for the Inorganic chemicals industry and for the Cement and Organic chemicals industry it is moderate. The variation in Average and Std. Dev. is very high for the Cement Industry when companies are omitted from the calculations. For Organic Chemicals the average and Std. Dev. has no much variation.

TABLE V 60

CREDITORS TURNOVER YEARLY MOVEMENTS

Industry / Year	Steel	Cement Chemicals	Organic Chemicals	Inorganic
MAR 99	16.88	2.26 (1.35)	5.99 (5.75)	3.74 (3.72)
MAR 00	20.22	3.62 (2.12)	5.95 (5.33)	3.64 (3.63)
MAR 01	10.65	3.87 (2.13)	7.32 (5.22)	3.67 (3.63)
MAR 02	10.14	24.75 (2.09)	7.17 (5.46)	3.92 (3.87)
MAR 03	10.89	12.14 (2.11)	9.47 (7.37)	3.90 (3.72)
MAR 04	12.35	5.35 (2.36)	11.07 (7.66)	4.64 (4.49)
MAR 05	13.54	5.75 (3.41)	9.29 (8.70)	4.89 (4.77)
MAR 06	11.00	4.63 (3.61)	8.63 (8.42)	4.25 (4.46)
MAR 07	10.51	4.20 (3.50)	8.00 (7.72)	5.06 (5.31)
MAR 08	11.18	3.29 (2.78)	8.06 (7.76)	5.31 (5.57)
AVERAGE	12.74	6.99 (2.55)	8.09 (6.94)	4.30 (4.32)
STD. DEV.	3.32	6.81 (0.75)	1.60 (1.35)	0.62 (0.72)

Note: The reason for high standard deviation as well as high average for the year March 2002 and 2003 due to high figure of creditors in one company Shri Keshav Cements & Infra Ltd. under the Cement Industry and for the year March 2004 for the Organic Chemicals Industry for one company Jupiter Bioscience Ltd. and SRHHL Industry Ltd. on account of abnormal figures in the year 2006, 2007 and 2008. If the same companies are omitted from the calculations the results are exhibited in the brackets. The average for the Cement Industry reduces by approximately 65% and 15% for Organic Chemicals Industry and no variation in Inorganic Chemical Industry.

C Table V 61 exhibits the time series analysis for the period of 10 years. It is observed from the Table that the ratio has declined significantly at 10% level

of significance over a period of time for the Steel Industry, for the Cement Industry it has remained stable. For the Inorganic Chemicals it has increased at 1% level of significance.

For the Cement Industry on omission of a company with abnormal figures, it is found that the ratio has increased significantly over a period of time. Similar results are observed for the Organic Chemicals Industry. it has increased significantly at 1% level of significance. Thus, it can be inferred that whereas the Creditors Turnover Ratio has declined over a period of time for the Steel Industry, it has increased for other industries. Thus, one may conclude that with reference to purchases, efficiency has improved for the Industries except Steel.

TABLE V 61

CREDITORS TURNOVER

TIME SERIES ANALYSIS

Particulars	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	16.27	8.55 (1.41)	6.51 (4.91)	3.28 (11.34)
X Variable	-0.64	-0.28 (0.21)	0.29 (0.37)	0.19 (3.89)
t Stat	(-2.04)***	(-0.36) (4.28)*	(1.84) (4.15)*	(5.84)* (6.70)*
R^2	0.33	0.02	0.30 (0.68)	0.81 (0.85)

* indicates 1% level of significance.
*** indicates 10% level of significance.

Note: The reason for high standard deviation as well as high average for the year March 2002 and 2003 due to high figure of creditors in one company Shri Keshav Cements & Infra Ltd. under the Cement Industry and for the year March 2004 for the Organic Chemicals Industry for one company Jupiter Bioscience Ltd. and SRHHL Industry Ltd. on account of abnormal figures in the year 2006, 2007 and 2008. If the same companies are omitted from the calculations the results are exhibited in the brackets.

5.3.10. Average Payment Period

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter VI). This ratio is calculated by dividing **No. of days in Year (365) / Creditors Turnover.** This ratio is an indication of the credit policy granted to the firm and also brings out the quality of the creditors more clearly. This is the time period which generally allowed by the creditors or the waiting period

after purchases but before payment to the creditors. This ratio is interrelated and purchases are taken credit or total purchases and creditors are taken average creditors or closing balance of the creditors depending upon the availability of the data. The shorter the period the firm is required to make payment promptly. If the ratio is higher it implies higher credit period available to the firm and short term alternative investment opportunities may be followed by the firm.

A To analyze the average payment period for selected industries on an average this ratio is derived for all the companies for a period of 10 years. Table V 62 presents on the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation

TABLE V 62

AVERAGE PAYMENT PERIOD

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
No. of Companies	52	24 (23)	39 (38)	21 (20)
Average Ratio	168.27	240.19 (250.20)	102.05 (104.41)	211.10 (153.96)
Std. Dev.	173.61	129.81 (135.13)	61.37 (62.77)	284.97 (93.73)
C.V.	224.56	254.43 (259.62)	338.09 (343.00)	291.03 (303.93)

Note: The reason for high standard deviation as well as high average for the year March 2002 and 2003 due to high figure of creditors in one company Shri Keshav Cements & Infra Ltd. under the Cement Industry and for the year March 2004 for the Organic Chemicals Industry for one company Jupiter Bioscience Ltd. and under Inorganic Chemical Industry the S R H H L Industries Ltd. if the same companies are omitted from the calculations the results are exhibited in the brackets.

From the table it can be inferred that the APP ratio is the highest for the Cement Industry and the lowest for the Organic chemicals industry.

B To understand the movements in the ratio over a period of time for each year, ratio is derived. This is computed and is presented in the Table V 63. From the table it can be inferred that for the Steel Industry it was as high as 345 days for the year 2004, for the Cement Industry it was 389 days for year 1999, it was 146 days for the Organic Chemicals Industry and very high 774 days for the Inorganic Chemicals Industry, on account of this the Std. Dev. under the Inorganic chemicals industry is very high.

TABLE V 63

AVERAGE PAYMENT PERIOD

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	119.97	389.60	146.74	126.99
MAR 00	178.76	243.43	102.04	131.87
MAR 01	183.19	244.42	91.61	161.66
MAR 02	167.48	273.64 (285.51)	99.32	193.55
MAR 03	172.23	269.34 (280.99)	86.47	120.31
MAR 04	345.27	288.04	90.39 (92.71)	170.09
MAR 05	109.71	170.52	124.71	159.60
MAR 06	109.76	164.07	115.58	774.30 (160.51)
MAR 07	126.12	161.01	80.24	155.74
MAR 08	170.21	197.88	83.37	116.90
AVERAGE	168.27	240.19 (250.20)	102.05 (104.41)	211.10 (153.96)
STD. DEV.	68.83	70.96 (74.12)	21.12 (21.58)	199.39 (25.61)

Note: The reason for high standard deviation as well as high average for the year March 2002 and 2003 due to high figure of creditors in one company Shri Keshav Cements & Infra Ltd. under the Cement Industry and for the year March 2004 for the Organic Chemicals Industry for one company Jupiter Bioscience Ltd. and under Inorganic Chemical Industry S R H H L Industries Ltd. if the same companies are omitted from the calculations the results are exhibited in the brackets

C Table V 64 exhibits the time series analysis for the period of 10 years. It is observed that the ratio has declined significantly at 1% level of significance over a period of time for the Cement Industry. For other three industries it has remained stable. For the Cement, Organic Chemicals and Inorganic Chemicals Industry, on omission of companies with abnormal figures, it is found that the ratio has

remained significant at 1% level for the Cement Industry and remained unchanged for other two industries. Thus, it can be inferred that whereas the CTR has declined over a period of time for the Steel Industry (Table V 61), the APP ratio remained stable over a period of time.

TABLE V 64

AVERAGE PAYMENT PERIOD

TIME SERIES ANALYSIS

Particulars	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	177.72	340.02 (13.42)	119.48 (12.22)	108.19 (4.98)
X Variable	-1.72	-18.15 (-0.03)	-3.17 (-0.06)	18.71 (0.02)
t Stat	(-0.21)	(-3.46)* (-3.47)*	(-1.44) (-1.46)	(0.84) (0.65)
R^2	0.06	0.60 (0.60)	0.21 (0.21)	0.08 (0.01)
* indicates 1% level of significance.				
Note: The reason for high standard deviation as well as high average for the year March 2002 and 2003 due to high figure of creditors in one company Shri Keshav Cements & Infra Ltd. under the Cement Industry and for the year March 2004 for the Organic Chemicals Industry for one company Jupiter Bioscience Ltd. and under Inorganic Chemical Industry S R H H L Industries Ltd. if the same companies are omitted from the calculations the results are exhibited in the brackets				

5.4 PROFITABILITY RATIOS

As mentioned in the Chapter on 'Research Methodology', this study intends to examine the impact of MCCA and Turnover Ratios on Profitability. For this purpose the preliminary analysis of various measures of Profitability is carried out in this part.

5.4.1 Profit Before Tax (PBT) to Total Assets

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II). This ratio is calculated by **Profit before Tax / Total Assets**. This ratio is a measure of business performance, which is not affected by tax or interest. It focuses on operating performance. The Profit Before Tax indicates the earning before tax of all the sources of finance and total assets indicates total financing.

A To analyze the Profit Before Tax out of Total Assets for selected industries an average this ratio is derived for all the companies for a period of 10 years. Table V 65 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies of time in the form of standard deviation and co-efficient of variation.

TABLE V 65

PROFIT BEFORE TAX TO TOTAL ASSETS

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No. of Companies	52	24	39	21
Average Ratio	0.02	0.04	0.04	0.02
Std. Dev.	0.08	0.08	0.08	0.09
C.V.	85.49	72.20	93.91	60.53

From the table it can be inferred that the PBT/TA ratio is found to be at 4% for the Cement and Organic Chemicals Industry and at 2% for the Steel and Inorganic Chemicals Industry. This ratio seems to be quire low for all industries.

B To understand the movements in the ratio over a period of time for each year, ratio is derived. This is computed and is presented in Table V 66.

TABLE V 66

PROFIT BEFORE TAX TO TOTAL ASSETS

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	-0.01	0.01	0.01	0.02
MAR 00	-0.01	0.00	0.03	0.00
MAR 01	-0.02	-0.01	0.03	-0.01
MAR 02	-0.01	0.01	0.00	0.03
MAR 03	0.02	-0.01	0.02	0.02
MAR 04	0.03	0.00	0.05	0.03
MAR 05	0.07	0.06	0.05	0.04
MAR 06	0.05	0.04	0.08	0.04
MAR 07	0.04	0.15	0.06	0.05
MAR 08	0.07	0.16	0.08	-0.02
AVERAGE	0.02	0.04	0.04	0.02
STD. DEV.	0.03	0.06	0.03	0.02

From the Table it can be inferred that, for the Steel Industry it varied between -0.02 (2001) to 0.07 (2008), for the Cement Industry it varied between -0.01 (2001) to 0.16 (2008), for the Organic Chemicals Industry the ratio is found stable over a period of time and it ranged between 0.01 (1999) to 0.08 (2008), it improved steadily over a period of time from 0.01 (1999) to 0.08 (2008). For Inorganic Chemicals Industry it varied between -0.02 (2008) to 0.05 (2007).

C Table V 67 exhibits the time series analysis for the period of 10 years. The ratio for three industries, the Steel, Cement and Organic Chemicals Industry has increased significantly over a period of time at 1% level of significance. For the Inorganic Chemicals Industry the ratio has remained stable.

TABLE V 67

PROFIT BEFORE TAX TO TOTAL ASSETS

TIME SERIES ANALYSIS

Particulars	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	-0.03	-0.05	-0.0012	0.01
X Variable	0.01	0.02	0.01	0.0020
t Stat	(5.55)*	(3.82)*	(4.42)*	(0.75)
R^2	0.79	0.65	0.71	0.07
* indicates 1% level of significance.				

5.4.2 Profit After Tax (PAT) to Total Assets (Return on Assets Ratio)

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II). The ratio is calculated by **Profit After Tax / Total Assets.** This ratio is a useful measure of the profitability of all financial resources invested and useful incase of multi-divisional firm.

A To analyze the Return on Assets for selected industries on an average this ratio is derived for all the companies for a period of 10 years. Table V 68 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation.

TABLE V 68

PROFIT AFTER TAX TO TOTAL ASSETS

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No. of Companies	52	24	39	21
Average Ratio	0.01	0.03	0.03	0.01
Std. Dev.	0.07	0.07	0.08	0.08
C.V.	84.30	71.22	87.76	55.78

From the table it can be inferred that the ROA ratio is at 1% for the Steel and Inorganic Chemicals industry and at 3% for the Cement Industry and Organic chemicals industry. Again this is at very low level of profitability.

B To understand the movements in the ratio over a period of time for each year, ratio is derived. This is computed and is presented in Table V 69. From the table it can be inferred that over a period of time, it has ranged between -0.02 (1999) to 0.05 (2005) for the Steel Industry, -0.01 (2000) to 0.12 (2008) for the Cement Industry, between -0.01 (2002) to 0.07 (2006) for the Organic Chemicals Industry and between -0.04 (2008) to 0.03 (2007) for the Inorganic Chemicals Industry.

TABLE V 69

PROFIT AFTER TAX TO TOTAL ASSETS

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	-0.02	0.005	0.00	0.01
MAR 00	-0.01	-0.001	0.02	-0.01
MAR 01	-0.02	-0.01	0.02	-0.02
MAR 02	-0.02	0.002	-0.01	0.02
MAR 03	0.02	-0.01	0.01	0.01
MAR 04	0.02	-0.01	0.03	0.01
MAR 05	0.05	0.05	0.04	0.02
MAR 06	0.03	0.03	0.07	0.03
MAR 07	0.03	0.10	0.04	0.03
MAR 08	0.04	0.12	0.06	-0.04
AVERAGE	0.01	0.03	0.03	0.01
STD. DEV.	0.03	0.05	0.02	0.02

C Table V 70 exhibits the time series analysis for the period of 10 years. The ratio has significantly increased for the Steel, Cement and Organic Chemicals industry at the 1%.level of significance and remained stable over a period of time for the Inorganic Chemicals Industry

TABLE V 70

PROFIT AFTER TAX TO TOTAL ASSETS

TIME SERIES ANALYSIS

Particulars	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	-0.03	-0.04	-0.01	0.01
X Variable	0.008	0.01	0.01	0.0002
t Stat	(5.15)*	(3.60)*	(3.56)*	(0.09)
R^2	0.77	0.62	0.61	0.0010
* indicates 1% level of significance.				

5.4.3 Gross Profit Margin

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II). The ratio is calculated by Gross Profit / Sales. This ratio is the first profitability ratio in relation to sales and it reflects the efficiency of production of each unit of the product and also an indication of the average spread between the cost of goods sold and the sales revenue. The higher ratio indicates low production cost and also an indication of good management of either higher sales price and low cost of goods sold.

A To analyze the gross profit generated out of sales for selected industries on an average this ratio is derived for all the companies for a period of 10 years. Table V 71 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation.

TABLE V 71

GROSS PROFIT MARGIN

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
No. of Companies	52	24	39	21
Average Ratio	0.05	0.14	0.41	0.10
Std. Dev.	0.09	0.07	0.08	0.10
C.V.	142.14	255.43	1396.70	161.12

From the Table it can be inferred that the gross profit margin ratio is the lowest for the Steel industry and highest for the Organic Chemicals Industry. for the remaining 2 industries the ratio is found to be moderate.

B To understand the movements in the ratio over a period of time for each year, this ratio is derived. This is computed and is presented in the Table V 72. From the Table it can be inferred that the GPM ratio ranges between -0.01 (2001) to 0.09 (2005), for the Steel Industry, for the Cement Industry it ranged between 0.11 to 0.23, for Organic Chemicals Industry it ranges between 0.37 (1999) to 0.43 (2005) and for Inorganic Chemicals Industry it ranges between 0.06 to 0.15.

TABLE V 72

GROSS PROFIT MARGIN

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	0.05	0.12	0.37	0.15
MAR 00	0.05	0.11	0.43	0.13
MAR 01	-0.01	0.12	0.42	0.09
MAR 02	0.02	0.13	0.42	0.10
MAR 03	0.03	0.12	0.42	0.07
MAR 04	0.06	0.11	0.38	0.06
MAR 05	0.09	0.11	0.43	0.07
MAR 06	0.05	0.12	0.41	0.09
MAR 07	0.07	0.21	0.40	0.10
MAR 08	0.08	0.23	0.40	0.12
AVERAGE	0.05	0.14	0.41	0.10
Std. Dev.	0.03	0.04	0.02	0.03

TABLE V 73

GROSS PROFIT MARGIN

TIME SERIES ANALYSIS

Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Intercept	0.01	0.09	0.40	0.12
X Variable	0.006	0.009	0.0007	-0.0036
t Stat	(2.177)**	(2.50)**	(0.29)	(-1.26)
R^2	0.37	0.44	0.01	0.16
** indicates 5% level of significance				

Table V 73 exhibits the time series analysis for the period of 10 years. The Gross profit for the Steel and the Cement industry increased significantly over a period time at 5% level of significance and remained stable for both the Organic Chemicals Industry and Inorganic Chemicals Industry

5.4.4 Net Profit Margin

This ratio is selected for the purpose of analysis based on the studies carried out by various authors (Table II 1 Chapter II). The ratio is calculated by **Net Profit (PAT)/ Total Income.** The net profit is derived after operating expenses and income tax are subtracted from the gross profit. The ratio establishes the relationship between net profit and total income and also an indication of efficient administration and selling techniques. This is an overall ratio in judging the turning of each rupee of income into the net profit. Higher the ratio higher is the efficiency of firm and satisfactory return on owner's equity.

A To analyze the net profit generated out of sales for selected industries an average of this ratio is derived for all the companies for a period of 10 years. Table V 74 presents the summary statistics of average ratio for all 4 industries along with the details about its level of fluctuations in the ratios between the companies and over a period of time in the form of standard deviation and co-efficient of variation.

TABLE V 74

NET PROFIT MARGIN

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No. of Companies	52 (51)	24	39	21
Average Ratio	-0.40 (-0.04)	0.02	-0.01	-0.02
Std. Dev.	0.71 (0.11)	0.08	0.12	0.10
C.V.	84.90 (87.74)	74.30	99.39	46.53
Note: Figures into the brackets indicates average derived after omitting one company in the Steel Industry Remi Metals Gujarat Ltd.				

From the table it can be inferred that the NPM ratio is negative for the Steel industry, Organic Chemicals Industry and Inorganic Chemicals Industry. The ratio is found to be positive for the Cement Industry. However when the company is omitted for the purpose of calculation that NPM ratio becomes very low for the Steel Industry.

B To understand the movements in the ratio over a period of time for each year also ratio is derived. This is computed and is presented in the Table V 75. From the table it can be inferred that the NPM ratio is in minus for the Steel industry, Organic Chemicals Industry and Inorganic Chemicals Industry. The ratio is found to be positive for the Cement industry.

TABLE V 75

NET PROFIT MARGIN

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	-0.12	-0.002	-0.18	-0.02
MAR 00	-0.60	-0.002	-0.01	-0.04
MAR 01	-1.50 (-0.03)	-0.02	0.00	-0.05
MAR 02	-1.51 (-0.06)	-0.001	-0.04	0.00
MAR 03	-0.01	-0.02	-0.04	-0.03
MAR 04	-0.11	-0.03	-0.03	-0.11
MAR 05	-0.04	0.02	0.04	-0.01
MAR 06	-0.04	0.03	0.06	0.01
MAR 07	-0.04	0.12	0.04	0.03
MAR 08	-0.01	0.14	0.05	-0.03
AVERAGE	-0.40 (-0.04)	0.02	-0.01	-0.02
STD. DEV.	0.61 (0.01)	0.06	0.07	0.04

Note: Figures into the brackets indicates average derived after omitting one company in the Steel Industry Remi Metals Gujarat Ltd.

It is observed that after omitting the company the NPM for the year 2001 and 2002 becomes very low, it reduced heavily and the average also goes down. The Std. Dev. for the Steel Industry declines on omission one company Remi Metals Gujarat Ltd. and is observed to be 0.01.

C Table V 76 exhibits the time series analysis for the period of 10 years. The ratio has significantly increased at the 1% level of significance for the Cement and the Organic Chemicals Industry, and for remaining industries the ratio remain stable over a period of times. For the Steel Industry, after omission the company mentioned in Note, there is no significant change in the variation over a period of time.

TABLE V 76

NET PROFIT MARGIN

TIME SERIES ANALYSIS

Particulars	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	-0.95 (-0.041)	-0.06	-0.11	-0.04
X Variable	0.11 (0.001)	0.02	0.02	0.0035
t Stat	1.63 (0.68)	(3.31)*	(3.50)*	(0.83)
R^2	0.25 (0.054)	0.58	0.61	0.08
* indicates 1% level of significance.				
Note: Figures into the brackets indicates average derived after omitting one company in the Steel Industry Remi Metals Gujarat Ltd.				

5.5 CONCLUSIONS

Thus, in this Chapter an attempt is made to analyze the level of fluctuations in the ratios between the companies, over period of time, the movements in the ratio over period time, and time series analysis. Which is exhibited in Tabular form in Table V 77.

TABLE V 77

TIME TRENDS OBSERVED FOR RATIOS

Sr. No.	Ratio	Trend observed over a period of time			
		Steel	Cement	Organic Chemicals	Inorganic Chemicals
Structural Ratios					
1	WC/TA	+VE***	NS	+VE**	-VE***
2	WC/CA	NS	NS	+VE***	-VE***
3	INV/WC	NS	NS	NS	-VE***
4	REC/WC	NS	NS	NS	-VE***
5	CB/WC	NS	NS	NS	NS
6	INV/GFA	+VE*	NS	+VE*	NS
7	TL/NW	NS	NS	NS	-VE***
8	NFA/TA	-VE*	-VE*	-VE*	-VE***
Liquidity Ratios					
9	CR	NS	-VE*	NS	-VE**
10	QR	NS	NS	NS	NS
11	CB/CL	NS	+VE**	+VE*	NS
Turnover Ratio					
12	TATR	NS	+VE*	+VE*	+VE*
13	NFATR	+VE*	+VE*	+VE*	+VE*
14	CATR	NS	NS	NS	NS
15	WTR	NS	NS	NS	-VE***
16	ITR	+VE**	+VE*	+VE***	+VE**
17	DTR	+VE**	+VE*	+VE***	+VE***
18	CBTR	NS	-VE**	+VE***	NS
19	ACP	-VE***	NS	-VE**	NS
20	CTR	-VE***	NS	NS	+VE*
21	APP	NS	-VE*	NS	NS

TABLE V 77 (Contd.)

Sr. No.	Ratio	Trend observed over a period of time			
		Steel	Cement	Organic Chemicals	Inorganic Chemicals
Profitability Ratio					
22	PBT/TA	+VE*	+VE*	+VE*	NS
23	PAT/TA	+VE*	+VE*	+VE*	NS
24	GPM	+VE**	+VE**	NS	NS
25	NPM	NS	+VE*	+VE*	NS
NS Not Significant * Significant at 1% level of significance ** Significant at 5% level of significance *** 10% level of significance					

From the above discussion following results have been observed.

1. Out of eight structural ratios the ratio WC/TA has increased significantly over a period of time for the Steel and Organic Chemicals Industry, indicating financing of working capital has increased in these industries over a period of time. The ratio declined significantly for the Inorganic Chemicals Industry, an indication of that the financing of working capital has reduced from the total assets.
2. The ratio of WC/CA has increased over a period time significantly for the Organic Chemicals Industry, an indication of improvement of working capital management. The ratio has declined significantly for the Inorganic Chemicals Industry, the liquidity position has declined for the Inorganic Chemicals Industry.
3. There are four ratios *viz* INV/WC, REC/WC, CB/WC and TL/NW found to be insignificant for three industries viz Steel, Cement and Organic Chemicals Industry.
4. The ratio of INV/WC and REC/WC declined significantly for the Inorganic Chemicals Industry, indicating improvement in inventory and receivables management over a period of time.
5. The proportion of Inventory into the Gross Fixed Assets has increased significantly for the Steel Industry and the Organic Chemicals Industry, the variables are explained at 82% and 77% over a period of time
6. The proportion of Net Fixed Assets to Total Assets observed to be more than or equal to 50% for all the industries. However, the ratio of NFA/TA has declined significantly for all the industries over a period of time. This goes in line with the ratio of CA/TA computed in Chapter IV, where CA/TA ratio has increased significantly over a period of time, as CA/TA increased, NFA?TA is bound to go down.
7. Out of three Liquidity Ratios viz CR, QR and CB/CL, the CR has declined significantly for the Cement Industry and Inorganic Chemicals Industry. However

looking to the industry average and yearly average (Table V 26 and V 27), it is clear that CR has not fallen to a dangerous level. Hence, this negative trend is an indication of improvement in working capital management.

8. For Quick Ratio no significant trend is observed indicating the stable behaviour of this ratio for all four industries. The ratio of CB/CL has increased significantly over a period of time for the Cement and Organic Chemicals Industry. This indicates the idle funds and management of CB/CL is required to be improved.

9. On examination of fluctuations and trend over a period of time for all ten turnover ratios, it is observed that the ratio of NFATR, ITR and DTR increased significantly for all four industries. This indicates that utilization of net fixed assets, inventory and debtors have improved over a period of time. The ratio of TATR has improved significantly over a period of time, indicating thereby improvement in utilization of total assets except the Steel Industry.

10. The ratio of CATR and WTR remained stable over a period of time for all four industries except the Inorganic Chemicals Industry, in which WTR has declined significantly.

11. The CBTR has incresed sifnificantly over a period of time for the Organic Chemicals Industry and declined significantly over a period of time for the Cement Industry.

12. The CTR has increased significantly over a period of time for the Inorganic Chemicals Industry and for the Steel Industry declined significantly over a period of time.

13. The ratio of ACP and APP declined significantly over a period of time except the Inorganic Chemicals Industry.

14. For all the selected Profitability Ratios, the two ratios *viz* PBT/TA and PAT/TA increased significantly over a period of time for the Steel, Cement and Organic Chemicals Industry, indicating that the focuses on operating performance has improved, but a very low level of profitability.

15. The GPM increased significantly over a period of time for the Steel and Cement Industry, and the NPM increased significantly over a period of time for the Cement and Organic Chemicals Industry. This indicates low production cost and improvement in net profit, efficiency of the industry and satisfactory return on owner's equity.

16. For all the selected profitability ratio movement over a period of time has remained insignificant for the Inorganic Chemicals Industry, indicating stable behaviour of the ratio.

Reference

1. Joshi Vijay Prakash (1995) *Working Capital Management under Inflation* Anmol Publications Pvt. Ltd. New Delhi.

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