CHAPTER IV
ANALYSIS OF COMPONENTS OF CURRENT ASSETS: BASIC INDICATORS

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4.1 INTRODUCTION

The management of current assets is very vital part of the financial management especially in the field of working capital management. Chapter II discussed in detail the various studies undertaken by various authors in these regard. The present chapter, attempts to provide the overall profile of the sample before presenting a detailed analysis is selected industries *viz* Steel Industry, Cement Industry, Organic Chemicals; and Inorganic Chemicals Industry.

The first two industries are having high capital intensity the latter two industries are having low capital intensity.

Table IV.1 exhibits the Average of Total Assets, Net Fixed Assets and Ratio of Net Fixed Assets to Total Assets for each of the 4 selected industries for group of selected companies.

TABLE IV 1

AVERAGE NET FIXED ASSETS, AVERAGE TOTAL ASSETS & THEIR RATIO

(Rs. in Lacs)

Industry / Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Average Net Fixed Assets	670.28	793.41	109.79	33.39
Average Total Assets	1242.73	1347.07	234.26	56.51
Ratio of Net Fixed Assets/ Total Assets	0.54	0.59	0.47	0.59

From the Table it is clear that the average size of the Total Assets as well as of Net Fixed Assets is high for the Steel and Cement industry and it is on a very low side for the Chemical Industry. Thus sample selected becomes the blend of high capital intensity industry and low capital intensity industry.

As mentioned in the Chapter III companies having their paid up capital more than Rs.1 crore as on March 1999 are selected for the purpose of analysis. TABLE IV.2 presents the details about the size of current assets (average of all companies for all the ten years) and the range for the current assets and the total assets.

TABLE IV 2

AVERAGE OF CURRENT & TOTAL ASSETS

(Rs. in Lacs)

Industry / Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No. of Companies	52	24	39	21
Average Size of Total Assets	1242.73	1347.04	234.26	56.51
Average Size of Current Assets	479.68	388.50	101.97	19.50
Minimum Current Assets	0.68	9.99	1.50	0.83
Maximum Current Assets	12541.77	1676.79	467.44	89.11

The minimum current assets for the Steel Industry are for the Indian Metals & Carbide Ltd. and the maximum is for the Steel Authority of India Ltd. Similarly, for the Cement Industry the minimum current assets is in the Shiva Cements Ltd. and maximum current assets is for the Grasim Industries Ltd. In the case of Organic Chemicals, the minimum current asset is for the Caprolactam Chemicals Ltd. and maximum current assets is for the Jubiliant Organosys Ltd. Similarly, the minimum current asset is for the Inorganic Chemicals is for the Emmessar Biotech & Nutrition Ltd. and maximum current assets is for the Kanoria Chemicals & Inds. Ltd.

4.2 ANALYSIS OF KEY RATIOS

To understand the overall structure of current assets and the components of current assets, following 4 ratios are selected at the outset, which indicate the proportion of Current Assets to Total Assets and proportion of each of the components of Current Assets to current assets. The ratios selected are:.

(i) CURRENT ASSETS TO TOTAL ASSETS

(ii) INVENTORY TO CURRENT ASSETS

(iii) RECEIVABLES TO CURRENT ASSETS; and

(iv) CASH & BANK BALANCE TO CURRENT ASSETS

The above ratios are computed for each company selected for each year. As mentioned in the Chapter on 'Research Methodology', average, standard deviation and co-efficient of variations are computed for each industry. These are derived by taking average of each company for all ten years and then taking average of all companies, standard deviation and co-efficient of variation are derived for average of companies.

Moreover, for each year also the average is derived. This is by taking all companies in a given industry for a particular year, then for each year standard deviation and co-efficient of variation are also derived

4.2.1 Current Assets to Total assets

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 **Current Assets/ Total Assets.** The current assets are those assets, which can be converted into cash within a period of one year and includes cash and bank balance. Total assets include all the fixed assets, investments and the current assets. This ratio is an indicator of the current assets kept by the organization as proportion of the total assets. The current assets also include inventories, receivables and expenses paid in advance. The total assets consist of net fixed assets, investments, current assets, and deferred tax assets, loans & advances and deferred revenues expenditure.

A Table IV.3 presents 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 IV.3

CURRENT ASSETS TO TOTAL ASSETS

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
No. of Companies	52	24	39	21
Average Ratio	0.39	0.29	0.45	0.42
Std. Dev.	0.10	0.07	0.08	0.09
C.V.	718.90	459.27	718.47	593.69

From the Table it can be observed that the proportion of deferred tax assets and deferred revenues expenditure is very small in total assets 0.08% for Steel Industry, 0.10% for Cement Industry, 0.09% for the Organic Chemicals Industry and 0.07% for the Inorganic Chemicals Industry. This can be found from Table 1 and 2. The major portion consists of current assets and net fixed assets.

B To understand the movements in the ratio over a period of time, for each year the ratio is derived. This is computed and presented in Table IV.4.

TABLE IV 4

CURRENT ASSETS TO TOTAL ASSETS

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	0.31	0.26	0.41	0.43
MAR 00	0.28	0.27	0.41	0.41
MAR 01	0.29	0.28	0.40	0.40
MAR 02	0.27	0.26	0.41	0.38
MAR 03	0.28	0.26	0.42	0.39
MAR 04	0.32	0.27	0.42	0.41
MAR 05	0.45	0.28	0.46	0.45
MAR 06	0.45	0.30	0.48	0.44
MAR 07	0.49	0.34	0.50	0.46
MAR 08	0.50	0.33	0.51	0.45
AVERAGE	0.36	0.29	0.44	0.42
STD. DEV.	0.10	0.03	0.04	0.03

It can be observed from the Table that the ratio of CA/TA is very high for the Organic Chemical Industry. The Std. Dev. under the Steel Industry observed the highest 0.10 and in remaining 3 Industries it is low. This indicates that there are wide fluctuation in CA/TA over a period of time for the Steel Industry

C To examine trend over a period of time in the of CA/TA for selected industries, time series analysis is carried out. The result of regression on time are presented in Table IV 5.

TABLE IV 5

CURRENT ASSETS TO TOTAL ASSETS

TIME SERIES ANALYSIS

Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Intercept	0.22	0.25	0.38	0.39
X Variable (t Stat)	0.03(5.32)*	0.007(3.35)*	0.01(6.05)*	0.006(2.45)**
R^2	0.78	0.58	0.82	0.43

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

It can be observed from the Table that for all 4 industries, the proportion of the current assets to total asset has increased over a period of time. The t statistics shows indicates that this is significant at 1% level of significance for all the industries except the Inorganic Chemicals Industry, where it is significant at 5% level of significance.

4.2.2 Inventory to Current Assets

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 **Inventory/ Current Assets**. This ratio shows the proportion of the inventory into the total current assets and this ratio is an important indication of the inventory management. Higher ratio is an indication of more investment into inventory, slow sales activities less availability of working capital for other activities *etc.*

A To analyze the proportion of inventories to current assets for selected industries this ratio is derived for all the companies for a period of 10 years. Then average of ten years for all companies is derived. Thereafter, grand average is derived. These are presented for all four industries in Table IV 6. The Table also presents 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 IV 6

INVENTORY TO CURRENT ASSETS

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
No. of Companies	52	24	39	21
Average Ratio	0.39	0.41	0.36	0.35
Std. Dev.	0.11	0.09	0.08	0.10
C.V.	430.96	523.83	509.17	429.94

From the Table it can be inferred that the ratio of INV/CA is the highest for the Cement Industry. The ratio is moderate in nearly same in the Organic and Inorganic Chemicals Industry and slight lower in the Steel Industry compared to Cement Industry. On average, about 35% to 41% of current assets are in inventories.

B To understand the movements in the ratio over a period of time, for each year the average ratio is derived for all companies together. This is computed and is presented in the Table IV 7.

TABLE IV 7

INVENTORY TO CURRENT ASSETS

YEARLY MOVEMENTS

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	0.39	0.42	0.33	0.38
MAR 00	0.39	0.43	0.34	0.37
MAR 01	0.39	0.42	0.36	0.37
MAR 02	0.38	0.44	0.35	0.35
MAR 03	0.39	0.47	0.38	0.36
MAR 04	0.38	0.46	0.39	0.35
MAR 05	0.39	0.44	0.38	0.35
MAR 06	0.39	0.38	0.37	0.32
MAR 07	0.38	0.31	0.36	0.32
MAR 08	0.39	0.33	0.34	0.29
AVERAGE	0.39	0.41	0.36	0.35
STD. DEV	0.004	0.05	0.0189	0.0287

From the Table it can be inferred that the ratio of INV/CA is high in case of Cement Industry over a period of 10 years but it is found to be exceptionally lower for the year 2007. Similarly for Inorganic Chemicals Industry it is found to be lowest in the year 2008. The Std. Dev. under the Cement industry observed the highest 0.0538 and lowest to 0.0041 in the Steel industry in remaining 2 industries it is found to be moderate. Thus, the standard deviation between the companies is higher Table IV 6) as compared to standard deviation between the years (Table IV 7).

C To understand precisely the movements in ratio over a period of time, to fix a trend line regression run is carried out on time. Table IV 8 exhibits the result of the same.

TABLE IV 8

INVENTORY TO CURRENT ASSETS

TIME SERIES ANALYSIS

Particulars	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Intercept	0.38	0.47	0.35	0.40
X Variablet	0.00029	-0.010	0.0020	-0.01
t Stat	0.69	(-2.27)**	(0.94)	(-7.96)*
R Square	0.06	0.39	0.10	0.89

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

From the Table it can be inferred that, For the Steel Industry, the slope observed 0.00029, and t stat observed 0.69, the ratio has remained same in all the 10 years. In the case of Cement industry, the slope is found to be -0.010, and the t stat observed -2.27, indicates significant declining trend at 5% level of significance. In the case of the Organic Chemicals Industry, the ratio has remained constant more or less over a period of time. In case of Inorganic Chemicals Industry, again slope is found to be -0.01, and the t value observed -7.96, indicating declining trend at 1% level of significance.

This necessarily implies that for the Cement and the Inorganic Chemicals Industry over a period of time the proportion of Inventory into Current Assets has reduced, whereas for Steel Industry and the Organic Chemicals Industry the proportion has remained more or less same over a period of time. Thus, it is interesting to note that, whereas the proportion of current assets to total assets has increased over a period of time (Table IV 5) the ratio of inventory to current assets has decreased over a period of time for two industries.

4.2.3 Receivable to Current Assets

Receivable is another important component of current assets. The receivables depend on the over all credit policy, collection policies and evaluation of individual credit analysis of the business. The amount due from the customer is receivables and constitutes the elements of risk, economic value and futurity. The receivables management affects the share- holder's worth. If the credit period is not in line with competitors it may result into reduction of sales and resulting into reduction of share holder's worth. Thus for the industry the proportion of receivables and its collection period are very important.

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 of Receivables to Current Assets is calculated by **Receivables / Current Assets**. The ratio is an important indicator of the proportion of receivables to current assets. This brings in light the overall receivables management of the company/ industry. Lower ratio indicates less amount of current assets is blocked.

A To analyze the proportion of receivables to current assets for selected industries on an average this ratio is derived for all the companies for a period of 10 years. Table IV 9 presents 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 IV 9

RECEIVABLES TO CURRENT ASSETS

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No of Companies	52	24	39	21
Average Ratio	0.52	0.41	0.52	0.53
Std. Dev.	0.10	0.10	0.09	0.11
C.V.	610.88	522.64	709.95	630.62

From the Table IV 9 it can be inferred that the proportion of receivables to current assets ranges between 41% to 53% for selected industries. It is lowest for the Cement Industry. The ratio is nearly same in the remaining three industries the Steel, Organic and Inorganic Chemicals Industry, which indicates that the more than 50% of total current assets are blocked in the receivables.

B To understand the movements in the ratio over a period of time, for each year the average ratio is derived. This is computed and is presented in the Table IV 10

TABLE IV 10

RECEIVABLES TO CURRENT ASSETS

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	0.54	0.44	0.56	0.54
MAR 00	0.53	0.45	0.55	0.55
MAR 01	0.54	0.46	0.53	0.53
MAR 02	0.56	0.42	0.56	0.53
MAR 03	0.54	0.40	0.52	0.51
MAR 04	0.53	0.42	0.50	0.52
MAR 05	0.51	0.43	0.51	0.51
MAR 06	0.49	0.40	0.49	0.54
MAR 07	0.49	0.34	0.51	0.51
MAR 08	0.48	0.36	0.53	0.54
AVERAGE	0.52	0.41	0.52	0.53
STD. DEV.	0.03	0.04	0.02	0.02

From the Table it can be inferred that the ratio of Receivables to Current Assets is low in case of Cement Industry over a period of 10 years and in remaining industries it is more than 50%. This indicates the liberal credit policy. Moreover if one looks to the overall trend then for Steel Industry it has gone upto 0.56 (March 02) from 0.54 (March 99) and then slowly it has reduced to 0.48 (March 2008). Similar trend is observed for Cement and Organic Chemicals Industry. However, for Inorganic Chemicals Industry this kind of clear cut trend is not observed. On examining the variations over a period of time, it can be observed that variations/fluctuations between the years are low (Table IV10) as compared to fluctuations between companies (Table IV 9)

C To understand precisely the movements in ratio over a period of time, regression on time is carried out. Table IV 11 presents the result of the same.

TABLE V 11

RECEIVABLES TO CURRENT ASSETS

TIME SERIES ANALYSIS

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	0.56	0.47	0.55	0.54
X Variablet Stat	-0.007	-0.01	-0.0049	-0.0019
t Stat	(-4.01)*	(-4.18)*	(-2.25)* **	(-1.16)
R^2	0.67	0.69	0.39	0.14

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

For the Steel Industry, the slope of the REC/CA t stat observed -4.01. This indicates the ratio is declining significantly at 1% level of the significance over a period of time. Similar results are observed for the Cement Industry. For Organic Chemicals Industry the ratio has declined significantly at 10% level of significance. In case of Inorganic Chemicals Industry the ratio has remained almost stable over a period of time. Thus the regression on time indicates that whereas the CA/TA has increased significantly over a period of time, REC/CA has declined over a period of time for all industries except the Inorganic Chemicals Industry.

4.2.4 Cash & Bank Balance to Current Assets:

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 **Cash & Bank Balance / Current Assets** The ratio indicates the portion of the cash and bank balance in the total current assets. This ratio is helpful to the financial manager in judging how the cash is available for the purchases and if all the current obligations are met how much fund is available for an alternative investment to earn maximum return in to short term. Higher the ratio more liquid the firm is but the opportunity investment are neglected.

A To analyze the proportion of cash & bank balance to current assets for selected industries on an average this ratio is derived for all the companies for a period of 10 years after deriving average for all companies over a period of time. Table IV 12 presents 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 IV 12

CASH & BANK BALANCE TO CURRENT ASSETS

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
No. of Companies	52	24	39	21
Average Ratio	0.07	0.13	0.08	0.10
Std. Dev.	0.06	0.10	0.05	0.08
C.V.	167.35	177.86	171.70	150.21

On examining the fluctuations over a period of time both standard deviation and co-efficient of variation indicates that they are the highest for the Cement Industry..

B To understand the movements in the ratio over a period of time for each year also, the average ratio is derived. This is computed and is presented in the Table IV 13.

From the Table, it can be inferred that the ratio of Cash & Bank Balance to Current Assets, is the lowest for Steel Industry over a period of 10 years and in Cement Industry it is the highest. If we look to the overall trend then for Cement Industry it has gone to 0.26 (March 07) from 0.08 (March 01), for Inorganic Chemicals Industry the ratio remained stable to 0.10 for 5 years.

TABLE IV 13

CASH & BANK BALANCE TO CURRENT ASSETS

YEARLY MOVEMENTS

Year \ Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	0.06	0.10	0.07	0.07
MAR 00	0.06	0.09	0.07	0.07
MAR 01	0.06	0.08	0.08	0.09
MAR 02	0.04	0.11	0.06	0.10
MAR 03	0.05	0.11	0.08	0.10
MAR 04	0.07	0.09	0.08	0.10
MAR 05	0.08	0.10	0.07	0.10
MAR 06	0.10	0.18	0.10	0.10
MAR 07	0.10	0.26	0.09	0.14
MAR 08	0.10	0.21	0.09	0.10
AVERAGE	0.07	0.13	0.08	0.10
STD. DEV	0.02	0.06	0.01	0.02

C To understand precisely the movements in ratio over a period of time, regression is carried out on time. Table IV 15 exhibits the result of the same

TABLE IV 14

CASH & BANK BALANCE TO CURRENT ASSETS

TIME SERIES ANALYSIS

Industry	Steel	Cement	Organic Chemicals	Inorganic Chemicals
Intercept	0.04	0.04	0.06	0.07
X Variablet	0.006	0.02	0.0028	0.01
t Stat	(4.35)*	(3.76)*	(3.26)*	(3.62)*
R^2	0.70	0.64	0.57	0.62
* indicates 1% level of significance.				

From the Table it can be observed that for all 4 industries, the value of R^2 is found to be quite high ranging from 0.57 to 0.70. In all the case the rate of increase is found to be significant at 1% level of significance.

Thus, on the whole it can be said that the ratio of CA/TA has increased over a period of time, INV/CA and REC/CA has reduced over a period of time and CB/CA has increased over a period of time. Hence, it can be commented that whereas the inventory and receivables management has improved over a period of time, the proportion of idle cash has gone up.

4.3 OPERATING CYCLE

The time gap of sales to realization of sales into cash is termed as operating cycle. The operating cycle consists three main activities.

(i) Purchasing resources.

(ii) Production; and

(iii) Distributions.

These activities are not in certainty, as purchases takes place before cash receipts and sales are also not certain as it cannot be judge with complete accuracy. In order to maintain this gap the requirement of investment in current assets is required e.g. cash balance to make creditors' payment and investment in inventories to fulfill the customer's demand, also investment in accounts receivables as firm may extend credit terms to its customers.

A To analyze the operating cycle for selected industries on an average this cycle is derived for all the companies for a period of 10 years. Table IV 15 presents average of operating cycle for all 4 industries along with the details about its level of fluctuations in the operating cycle between the companies and over a period of time in the form of standard deviation.

TABLE IV 15

OPERATING CYCLE

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
No. of Companies	52	24	39	21 (20)
Average Operating Cycle	184.74	129.88	137.31	132.10 (96.59)
Std. Dev.	141.87	136.32	45.84	131.59 (58.01)
Note: In the Inorganic Chemicals Industry one company is omitted SRHHL Industries Ltd. for the reason of abnormal figure in the Year 2006. If the company omitted the average declines, the Std. Dev. also falls. Figures in the bracket indicates ratio after omitting the company.				

The operating cycle as said earlier is the time gap between the sale realizations of cash from the debtors. Table IV 15 exhibits the average of the operating cycle. From the Table it can be observed that the average of the Steel Industry is the highest and the lowest average is for the Cement Industry and for the Organic Chemicals Industry and Inorganic Chemicals Industry the average is moderate. It can be summarized that the requirement of the working capital would be more in the Steel Industry. The similar observation can be made for deviation that the deviation for the Steel Industry is the highest and the lowest for the Organic Chemicals Industry. In the remaining Cement and the Inorganic Chemicals, the deviation remained moderate.

B To analyze the movement of the operating cycle over a period of 10 years is calculated taking all average of all companies for respective year and presented in Table IV 16.

TABLE IV 16

OPERATING CYCLE

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	158.75	65.49	193.18	138.79
MAR 00	191.44	128.58	154.99	148.85
MAR 01	271.05	156.78	133.20	129.75
MAR 02	218.26	146.34	136.15	89.07
MAR 03	279.30	138.58	120.15	81.97
MAR 04	280.36	169.71	126.07	81.68
MAR 05	161.43	165.23	120.90	83.59
MAR 06	100.56	142.44	124.56	345.95 (101.79)
MAR 07	92.64	101.51	131.75	120.78
MAR 08	93.64	84.16	132.19	100.58
AVERAGE	184.74	129.88	137.31	132.10 (96.59)
STD. DEV.	75.86	35.13	22.01	79.19 (32.56)

Note: In the Inorganic Chemicals Industry one company is omitted SRHHL Industries Ltd. for the reason of abnormal figure in the Year 2006. If the company omitted the average declines, the Std. Dev. also falls. Figures in the bracket indicates ratio after omitting the company.

To understand the movement of the operating cycle the calculation for each year is carried out and presented in the Table IV 16. From the Table it can be inferred that the average of the Steel Industry is very high compared to other three Industries, the lowest for the Cement Industry and moderate for Organic Chemicals Industry and Inorganic Chemicals Industry

The average of the operating cycle declined for the Steel Industry from 280.36 (Mar 2004) to 92.64 (Mar 2007), which is an indication of that operating cycle has reduced marginally over a period of 10 years.

For the Cement Industry the operating cycle has remained more or less same for all the 10 year, except sharp increase in the first two years from 65.49 (March 99) to 128.58 (March 2000) .

For Organic Chemicals Industry the average of operating cycle declined in the first two years substantially from 193.18 (Mar 99) to 154.99 (Mar 2000) to reduced to 132.19 (Mar 08) which is an indication of over all efficient management of working capital in the Industry.

For the Inorganic Chemicals Industry the declining trend observed from Mar 2000 and remained very moderate for the period from Mar 2002 to Mar 2005 and in the subsequent year the sudden rise is observed to 345.95. In one of the companies S R H H L Industries Ltd. due to abnormal figure for the year 2006 (5229.17) the highest average is observed If the Company is omitted from the observation then the average of the year 2006 comes to 101.79 days.

C To understand precisely the movements in operating cycle over a period of time, to fix a trend, line regression is carried out. Table IV 17 exhibits the result of the same. the dependent variable taken is operating cycle and time is used as the explanatory variable. The value is taken as b_0 as the value of the intercept term.

TABLE IV 17

OPERATING CYCLE

TIME SERIES ANALYSIS

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	261.39	130.06	163.80	114.64 (130.91)
X Variable	-1.93	-0.003	-4.82	3.18 (-4.22)
t Stat	(-1.89)**	(-0.008)	(-2.50)**	(0.35) (-1.67)
R^2	0.31	7.63E-06	0.44	0.01 (0.26)
** indicates 5% level of significance				
Note: In the Inorganic Chemicals Industry one company is omitted SRHHL Industries Ltd. for the reason of abnormal figure in the Year 2006. If the company omitted there is no change in operating cycle. Figures in the bracket indicates ratio after omitting the company.				

From the Table it can be inferred that the operating cycle for the Steel and Organic Chemicals Industry declined over a period time indicating improvement in working capital management over a period of time. For the Cement and Inorganic Chemicals Industry, the operating cycle has remained stable over a period of time.

4.4 CASH CONVERSION CYCLE

The cash conversion cycle as mentioned in chapter I is the time interval between the production and sale during which working capital finance must be done to carry out business activities.

A To analyze the Cash Conversion Cycle for selected industries on an average this cycle is derived for all the companies for a period of 10 years. Table IV 18 presents average of cash conversion cycle for all 4 industries along with the details about its level of fluctuations in the cash conversion cycle between the companies and over a period of time in the form of standard deviation.

TABLE IV 18

CASH CONVERSION CYCLE

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
No. of Companies	52	24	39	21 (20)
Average Cash Conversion Cycle	111.00	82.05	116.06	47.76 (19.96)
Std. Dev.	149.83	71.62	47.13	114.85 (70.74)

Note : In the Inorganic Chemicals Industry one company is omitted SRHHL Industries Ltd. for the reason of abnormal figure in the Year 2006. If the company omitted the average declines, the Std. Dev. also falls. Figures in the bracket indicates ratio after omitting the company.

From the Table it can be observed that the average of the Organic Chemicals Industry is the highest and the lowest average for the Inorganic Chemicals Industry and moderate for the Steel Industry and Cement Industry. It can be summarized that the requirement of the working capital would be more in the Organic Chemicals Industry. The gap between the operating cycle and the cash conversion cycle incdicates the credit period availed by the companies on purchases of raw material. This seems tobe substantially high for the Inorganic Chemical Industry. However, the std. dev. for the Organic Chemicals Industry is the lowest and the highest for the Steel Industry. The deviation remained moderate in remaining two industries *viz* the Cement Industry and the Inorganic Chemicals Industry.

B To analyze the movement of the cash conversion cycle over a period of 10 years is calculated taking all average of all companies for respective year and presented in Table IV 19

TABLE IV 19

CASH CONVERSION CYCLE

YEARLY MOVEMENTS

Industry / Year	Steel	Cement	Organic Chemicals	Inorganic Chemicals
MAR 99	87.24	-12.39	170.21	74.09
MAR 00	102.67	79.88	132.83	81.41
MAR 01	189.98	107.57	109.49	70.23
MAR 02	132.10	96.11	112.76	21.79
MAR 03	181.71	82.97	100.10	18.06
MAR 04	169.52	121.17	107.36	-15.14
MAR 05	107.43	127.94	102.19	-2.21
MAR 06	50.07	106.53	105.56	163.71 (14.89)
MAR 07	46.78	66.54	110.06	36.65
MAR 08	42.44	44.17	110.03	29.02
AVERAGE	111.00	82.05	116.06	47.76 (19.96)
STD. DEV.	56.07	41.75	21.01	51.92 (41.08)

Note: In the Inorganic Chemicals Industry one company is omitted SRHHL Industries Ltd. for the reason of abnormal figure in the Year 2006. If the company omitted the average declines, the Std. Dev. also falls. Figures in the bracket indicates ratio after omitting the company.

From the Table it can be inferred that the average of the Organic Chemicals Industry is the highest compared to other three Industries, the lowest for the Inorganic Chemicals Industry and moderate for the Steel and Cement Industry.

The average of the cash conversion cycle declined for the Steel Industry from 181.71 (Mar 2003) to 42.44 (Mar 2008), which is an indication of that financing for working capital requirement has reduced over a period of 10 years.

For the Cement Industry the cash conversion cycle has remained more or less same for all the 10 year, except sharp increase in the first three years from -12.39 (March 99) to 107.57 (March 2001).

For Organic Chemicals Industry the average of cash conversion cycle declined in the first three years substantially from 170.21 (Mar 99) to 109.49 (Mar 2001) and further to 102.19 (Mar 05) and remained more or less stable in last two years 110.06 and 110.03 (March 07 and 08) which is an indication of over all efficient management of working capital in the Industry.

For the Inorganic Chemicals Industry the declining trend observed from Mar 2000 and remained very moderate for the period from (Mar 2002) to (Mar 2005) and in the subsequent year the sudden rise is observed to 163.71. In one of the companies S R H H L Industries Ltd. due to abnormal figure for the year 2006 (3140.02) the highest average is observed If the Company is omitted from the observation then the average of the year 2006 comes to 14.89 days.

C To understand precisely the movements in cash conversion cycle over a period of time, to fix a trend, line regression is carried out. Table IV 20 exhibits the result of the same, the dependent variable taken is cash conversion cycle and time is used as the explanatory variable. The value is taken as b0 as the value of the intercept term.

TABLE IV 20

CASH CONVERSION CYCLE

TIME SERIES ANALYSIS

Industry	**Steel**	**Cement**	**Organic Chemicals**	**Inorganic Chemicals**
Intercept	8.600	4.077	16.383	5.851 (6.770)
X Variable	-0.028	0.017	-0.094	-0.007 (-0.064)
t Stat	(-1.709)	(0.697)	(-2.424)**	(-0.359) (-4.837)*
R^2	0.267	0.057	0.423	0.016 (0.745)
* indicates 1% level of significance ** indicates 5% level of significance				

From the Table it can be inferred that the cash conversion cycle for the Organic Chemicals Industry declined over a period time indicating improvement in working capital management over a period of time. For the Steel and Cement Industry the cash conversion cycle has remained stable over a period of time. For Inorganic Chemical Industry on exclusion company SRHHL Industries Ltd. which has abnormal behaviour, it is found that the ratio has declined significantly over a period of time at 1% level of significance indicating improvement in managing working capital.

4.5 CONCLUSIONS

From the above discussions it can be concluded that:

1. The Steel and the Cement industries are capital intensive industries.
2. On an average the current assets are ranging from 29% to 45% of the total assets.
3. The proportion of current assets to total assets is the highest for Organic Chemicals Industry and the lowest for the Cement Industry
4. The regression run shows that the proportion of the current assets to total assets has increased in all the 4 industries over a period of time.
5. The proportion of the inventory to current assets ranges from the 35% to 41% and the highest proportion is for the Cement Industry and deviation is also found to be the highest.
6. The proportion of inventory to current assets has reduced for the Cement Industry and the Inorganic Chemicals Industry over a period of time. For the Steel and Organic Chemicals Industry, it has remained stable over a period of time.
7. The proportion of receivables to current assets ranges from 41% to 53% and the proportion is very high for the Steel, Organic Chemicals Industry and Inorganic Chemicals Industry, which is an indication of the liberal credit policy.
8. The proportion of the receivables to current assets has reduced over a period of time for the Steel, Cement and the Organic Chemicals Industry, indicating improvement in management of receivables over a period of time.
9. The proportion of the cash & bank to current assets ranges from 7% to 13%, the proportion is very high for the Cement Industry which is an indication that alternative investment opportunities are not used. Similar position observed for the Inorganic Chemicals Industry. For the Steel and Organic Chemicals Industry it is found to be moderate, an indication of efficient cash management.
10. The proportion of cash and bank into the current assets has increased substantially for all the 4 industries over a period of time. This indicates poor cash management.

11. Operating cycle time ranges from 130 days (approx) to 185 days (approx). This is substantially a long period of operations. The time taken for conversion of sales into cash, found to be the highest for the Steel Industry, an indication higher requirement of working capital, the lowest cycle period for the Cement Industry, indicates that the sales are converted into cash are faster or cash sales.

12. The time series analysis shows that the operating cycle time has reduced over a period of time , for the Steel and Organic Chemicals Industry indicating improvement in management of inventory and receivables over a period of time.

13. The cash conversion cycle ranges from 48 days (approx) to 116 days (approx). This is moderate period of operations.

14. The time series analysis shows that the time period of cash conversion cycle has reduced over a period of time for the Steel, Organic Chemicals Industry and Inorganic Chemicals Industry, indicating improvement in management of creditors over a period of time.

Reference

1) Mahato K.N.- Financing Working Capital – A case study Approach- *Management Accountant*- Vol.20 No.10 Oct 85 p 557.

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