Analysis of Components of Current Assets with Reference to The Steel Industry in India

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Abstract :- The profitability and liquidity of the organization, mainly depends upon the Working Capital Management and it includes management of current assets, current liabilities and decision related to financing of the current assets. The management of current assets is a continuous challenging process in financial management. The study of components of current assets with reference to the Steel Industry in India revealed that the proportion of financing of current assets is more from the current liabilities. Huge amount of current assets is blocked in receivables, good liquidity position of the industry and efficient inventory management. The proportion of current assets to total assets, proportion of cash and bank to current assets shows high changes over a period of time. The proportion of receivables to current assets reduces over a period of time leading to improved receivables management. The turnover of total assets, inventory and debtors has improved over a period of time. Hence the Working Capital Management of the Steel Industry in India, improved over a period of time.

Key Words: Liquidity, Current Assets, Steel Industry

1 INTRODUCTION:

Working capital management is a vital area in Financial Management. The profitability and liquidity of the organization depends mainly on the management of working capital. It includes management of current assets and current liabilities in such a way that equilibrium is attained between these two. It also includes the decision related to current assets and financing of these assets. The term "current assets means and includes all the assets which can be converted into cash within an accounting year and includes cash, short term securities, debtors, bill receivables and stock".[1] For the production of goods some current assets are required, but the moment goods are produced they do not

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go immediately in the market and ultimately in the hands of customer who pays for it. To continue this process of production-sales-, some lubricant in the form of current assets is required, and working capital management is management of this lubricant.

According to John Mayer "the excess of the assets of a business over its obligations represents the interest of the owner or owners in the business; this excess accounts call capital. They treat the current division of the balance sheet in a similar manner; call the excess of current assets over current liabilities the working capital."[2]

"The working capital of a business enterprise can be said to be that portion of its total financial resources which is put to a variable operative purpose."[2]

There are two concepts, which are found to be useful; they are Gross and Net working capital. The term Gross Working Capital means firm's investment in total current or circulating assets. Current assets are those assets which can be converted into cash within a period of twelve months and include cash, short term securities, debtors, bills receivables and stock or inventories.

The term Net Working Capital is defined in two different ways:

One is excess of current assets over current liabilities, the term current liabilities are those liabilities which are likely to be paid within a period of twelve months and includes creditors, bills payable, and bank over draft and outstanding expenses.

Further the net working capital can be positive or negative. A positive working capital is excess of current assets over current liabilities and negative is excess of current liabilities over current assets.

2. COMPONENTS OF CURRENT ASSETS:

The components of Current Assets consist of:

i)   Inventory

ii)   Receivables; and

iii) Cash:

Inventory:

Inventory means the value of raw-materials, consumables, spares, work-in-progress and finished goods in which enterprise's working capital fund have been invested. Generally it is the second largest item in any balance sheet after fixed assets and constitutes major element of the total working capital in any business organization. The management of inventories is to be carried out effectively and efficiently and under or over investment in it should be avoided. Slight ignorance in managing it may affect the profitability and liquidity of the business. The turnover of working capital is much more dependent on turnover of inventory.

Receivables:

It takes into account the overall credit, collection policies and evaluation of individual credit analysis of a business. It constitutes three elements i.e. the element of risk; economic value and futurity. Receivables management is also called as credit management as the firm is required to make credit policy, credit standards, credit period, discount offer, collection policy etc. Accounts receivables appears on the assets side of the balance sheet and it can be influenced by firm's aggregate investment in receivables, credit terms and credit standards.

The receivables are major components of current assets having nearly one third portion of the current assets. The main objective of the receivable management is to promote sales and profits until that point is reached where the return on investment in further funding of receivables is less than the cost of funds raised to finance that additional credit (i.e. cost of capital)[3] If the receivables are not increased in tune with sales the amount of working capital requirement is bound to go up.

Cash:

Cash is an omnipresent phenomenon in a business. It is the most liquid assets in the business and liquidity of other assets is measured in terms of their conversion into the cash. For the smooth running of business, proper and effective cash management is essential.

3. WORKING CAPITAL MANAGEMENT:

"Much has been rightly made of the long term planning of capital budgets but the cost to industry due to inadequate planning in the use of working capital is immeasurable. Intuitive judgment is frequently used in estimating the current assets which will be required in the course of trading so that the temptation often arises to 'play safe', leading to the wasteful use of resources."[4]

According to Bhalla "Working Capital Management is the process of planning and controlling the level and mix of the current assets of the firm as well as financing these assets."[5] In any organization the working capital management means taking into account the Cash Management, Receivables Management and Inventory Management and financing of these components.

According to Van Horne & Walker "Working capital management is that aspect of financial management which is concerned with the safeguarding and controlling of the firm's current assets and the planning for sufficient funds to pay current bills."[2]

4: LITERATURE REVIEW:

The various studies are undertaken by different researchers on various industries and on various aspects of working capital management.

Agrawal N.K. in the study of ten Industrial groups observed that investment in inventory was 56% of total current assets and 30% of total assets and suggests for

reduction.[6] In the study of Large Public Ltd. Cos. in India Hydrabad R. L. observed that there is higher investment in current assets than fixed assets and suggests for formulating working capital policy and to keep liquid resource on assets side and to employ more long term funds than short term funds for financing of working capital.[7] Prasad R.S. in the study of Paper Industries facing the problems of infrastructure and profitability observed that credit analysis was not followed. This lead to poor receivables turnover and also poor cash management, He further observed that there is an inadequate working capital in all units.[8] In the study of the Capital Intensive Industry Joshi Vijay Prakash observed over investment in the inventory leads to excess working capital and inflation has affected working capital management and in turn to profitability.[2] In the study of Paper Industries of the West Bengal Datta Sukumal observed that the position of the 40% of the firms out of 13 total firms selected for study was precarious and alarming, and suggested to keep constant watch over working capital position to avoid shortages.[9] In the study of National Jute Manufacturers Corporation Ltd.(NJMC) Das P.K. observed that major part of the current assets is blocked up in the inventory and credit management is not effective and suggested to reduce lock up of funds in the current assets.[10] In the study of two cable manufacturing companies Bose S.K observed that concentration of investment of current assets is done only in the raw material and work in progress and the segment of finished goods is not given much significance.[11] In the study of HPMC Dutta Joginder Sing suggested that various inventory control techniques be implemented to reduce investment in the inventory.[12] Based on the literature survey it is observed that the studies have been carried out at companies level and for overall working capital. It was felt by the researchers that firm-based, industry-based analysis may reveal some more information and hence the present study is undertaken for the Steel Industry

5: OBJECTIVES OF THE STUDY:

The present study intends to examine in detail, the components of current assets of the Steel Industry, precisely the objectives of the study are:

(i)   To analysis the average ratios related with components of current assets over a period for companies of the Steel industry and for industry as a whole.

(ii) To analyze the trend, if any, in ratios regarding current assets over a selected period of time.

(iii) To analyze the management of various components of working capital with reference to overall working capital management.

(iv) To suggest the measure for ensuring the effective and efficient utilization of different components of the current assets.

6: SAMPLE SELECTION DATA COLLECTION AND METHODOLOGY OF THE STUDY.

For the purpose of study Steel Industry is selected. The data are collected from the CMIE PROWESS database, CMIE data base contains data for listed as well as non-

listed companies, according to industry group, Steel industry being capital intensive industryt was considered interesting for the study. For the purpose of data collection screening was applied to find large size companies. As defined by RBI. [The RBI Bulletin (Finance of companies) March 2008 Vol LXII. Number 3 pp -480] these are the companies having paid-up capital Rs. 1 Crore and above. Thereafter a further screening was applied to find whether data were available for a period of 10 years starting from year 1998-99(as onf 31-3-1999) to year 2007-8 (as on 31-3-2008). On the whole 52 companies were found satisfying this condition. Hence for the purpose of analysis 52 companies are selected. The list of these 52 companies is given by way of Annexure 1. For the purpose of the study various financial and statistical tools have been applied like Ratio Analysis, Mean, Standard Deviation, Co-efficient of Variation:, and Time Series Analysis

To understand the overall structure of current assets and the components of current assets, following ratios are selected:

i)   CURRENT ASSETS TO TOTAL ASSETS (CA/TA)

ii)   INVENTORY TO CURRENT RATIO (INV/CA)

iii) RECEIVABLES (DEBTORS) TO CURRENT RATIO (REC/CA)

iv)   CASH & BANK TO CURRENT ASSETS (CB/CA)

v)   WORKING CAPITAL TO TOTAL ASSETS (WC/TA)

vi)   WORKING CAPITAL TO CURRENT ASSETS (WC/CA)

vii) INVENTORY TO WORKING CAPITAL (INV/WC)

viii) RECEIVABLE TO WORKING CAPITAL (REC/WC)

ix)   CASH & BANK TO WORKING CAPITAL (CB/WC)

x)   CURRENT RATIO (CR)

xi)   QUICK RATIO (QR)

xii) SALES TO TOTAL ASSETS (TATR)

xiii) SALES TO CURRENT ASSETS (CATR)

xiv) SALES TO WORKING CAPITAL (WTR)

xv)   SALES TO INVENTORY (ITR)

xvi) SALES TO DEBTORS (DTR)

7: FINDINGS:

The findings are mainly divided in 2 parts. To begin with summary statistics and ratios are derived. They are presented in Table 1 and Table 2. In the second part an attempt is made to examine trend over a period of time in ratios indicating Working Capital Management

A: Table 1 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 1

AVERAGE OF CURRENT & TOTAL ASSETS   (Rs .in Lacs)

No .of Companies	52
Average Size of Total Assets (Rs.)	1242.73
Average Size of Current Assets (Rs.)	479.68
Min C A (Rs.)	0.68
Max.CA.(Rs.)	12541.77

The minimum current assets in the Industry are for the Indian Metals & Carbide Ltd. and the maximum is for the Steel Authority of India Ltd. The summary statistics indicate that it is a higher amount of the assets involve in Steel Industry. The computation of ratios stated in preceding paras lead to following outcome.

i Current Assets to Total assets

The ratio is calculated by dividing the current assets by 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. Table 2 1st row indicates this ratio for 10 years from 1999 to 2008. It can be observed that the proportion of CA/TA was about 31% in the year 1999, which remained more or less same upto 2004. From 2004 this ratio has increased. This went upto 0.50 in 2008, and the average ratio for a given period is 0.39.

TABLE 2

ANALYSIS OF KEY RATIOS:

SR NO.	RATIOS	YEAR 1999	YEAR 2000	YEAR 2001	YEAR 2002	YEAR 2003	YEAR 2004	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	AVE	STD DEV	CO-EFF VAR
1	CA/TA	0.31	0.28	0.29	0.27	0.28	0.32	0.45	0.45	0.49	0.50	0.39	0.10	381.59
2	INV/CA	0.39	0.39	0.39	0.38	0.39	0.38	0.39	0.39	0.38	0.39	0.39	0.004	10386.35
3	REC/CA	0.51	0.53	0.54	0.56	0.54	0.53	0.51	0.49	0.49	0.48	0.52	0.03	1908.12
4	CB/CA	0.06	0.06	0.06	0.04	0.05	0.07	0.08	0.10	0.10	0.10	0.07	0.02	330.85
5	WC/TA	0.26	0.25	0.22	0.20	0.22	0.25	0.28	0.29	0.28	0.28	0.26	0.03	821.05
6	WC/CA	0.40	0.34	0.20	0.02	0.28	0.30	0.40	0.40	0.40	0.42	0.32	0.12	252.96
7	INV/WC	0.93	-0.56	0.14	0.14	0.33	0.44	0.28	0.94	0.86	0.46	0.40	0.45	87.38
		(0.56)	(0.93)	(0.14)	(0.15)	(0.34)	(0.53)	(0.23)	(0.94)	(0.87)	(0.71)	(0.54)	(0.32)	(170.90)

SR NO.	RATIOS	YEAR 1999	YEAR 2000	YEAR 2001	YEAR 2002	YEAR 2003	YEAR 2004	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	AVE	STD DEV	CO-EFF VAR
8	REC/WC	1.36	0.61	0.39	0.17	0.42	0.67	0.85	1.10	0.98	0.54	0.71	0.36	195.14
9	CB/WC	0.11	-0.05	0.05	0.02	0.02	0.09	0.17	0.22	0.22	-0.31	0.05	0.16	34.14
10	CR	3.45	3.90	3.09	2.93	3.11	3.12	3.59	3.11	3.21	3.46	3.30	0.29	1117.89
11	QR	2.36	2.68	1.97	1.87	1.93	1.97	2.29	2.03	2.07	2.24	2.14	0.25	855.20
12	TATR	1.27	1.34	1.41	1.39	1.53	1.66	1.82	1.52	1.54	1.42	1.49	0.16	918.86
13	CATR	2.33	2.56	2.65	2.65	2.98	2.98	3.13	2.62	2.62	2.48	2.70	0.25	1081.18
14	WTR	5.50	0.29	1.88	1.66	2.85	3.06	3.75	6.63	6.22	2.91	3.48	2.07	168.07
15	ITR	6.87	7.31	8.34	8.07	8.91	9.51	9.84	8.66	9.07	8.97	8.56	0.93	918.14
16	DTR	4.51	5.61	5.46	5.34	5.93	6.68	7.92	6.45	6.38	6.26	6.05	0.92	657.29

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 Maharashtra Elektrosmelt Ltd., Rashtriya Ispat Nigam Ltd. and Steel Complex Ltd..

ii. Inventory to current assets:

Inventories are the stock of the product, which is manufactured for the purpose of sales and the components that make up the product. It also includes the raw material, work-in-progress, finished goods, and the inventories of supplies. The management of inventories is to be carried out effectively and efficiently and under or over investment is to be avoided. The ratio computed for 10 years indicate that it has remained more or less stable over a period at about 39%.

iii Receivables to 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. Higher the ratio more blockage of funds in receivables. This ratio has also observed linear fluctuations over a period. It has reached to 56% in the year 2002 and then it went down to 48% in the year 2008.

iv Cash & Bank to 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 investment opportunities are neglected. This ratio was at its minimum of 4% in the year 2002 and has reached to 10% in the year 2006, 2007 and 2008.

v Working Capital to Total Assets:

The ratio shows the amount of working capital available from total assets of the firm. This ratio ranges between 0.20 (2002) to 0.28 (2005). This seems to be in line with rise in the CA/TA, and working capital is the Current Assets - Current Liabilities.

vi Working Capital to Current Assets:

Working capital is the excess of current assets over its current liabilities. The amount of working capital is used as a measure of the firm's liquidity. The ratio is an indicator of the working capital generated out of firm's current assets. 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 pilling up of the stocks. This ratio is also helpful in judging the amount of current liabilities to be met in one year. The ratio has declined from 0.20 (2001) to 0.02 (2002) for the reason that in one of the company Remi Metals Gujarat Ltd. the ratio is in heavy minus.

Next three ratios are for proportion of each components of the current assets to working capital.

vii Inventory to Working Capital:

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. The ratio ranges between - 0.56 (2000) for the reason of heavy minus figures, when omitted from the study than ratio observed 0.93 in the year 2000.

viii Receivables to Working Capital:

The ratio indicates the portion of receivables in the total 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. The ratio observed 0.17 (2002) for the reason that in one company Mahindra Steel Service Centre Ltd. heavy minus figure is observed. On an average the ratio is found to be 0.71.

ix Cash & Bank to Working Capital:

The ratio indicates the proportion of the cash and bank balance in the working capital of an enterprise. 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. Similarly due to high minus figure for Rashtriya Ispat Nigam Ltd. the ratio observed -0.05 (2000) and -0.31(2008) for high minus figure in the Steel Complex Ltd. The highest ratio found to be 0.22 (2006) & (2007) for high ratio for the Steel Authority Of India.

x Current Ratio:

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 as the standard. It is observed for a given industry that the CR is quite high. This has ranged between 2.93 (2002) to 3.90 (2000). This indicates good working capital position for the industry as a whole.

xi Quick Ratio:

The quick ratio or an acid-test ratio is a specific measure of firm's liquidity. This ratio shows relationship between quick or liquid assets and current liabilities. The quick assets are all current assets excluding the inventories. This ratio is also used as supplementary to current ratio. 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. A glance to the Table 2 indicates that the QR is also at a substantially sound level. It has ranged between 1.87 (2002) to 2.68 (2000). Thus on an average one can say that the companies selected for the Steel industry pass the acid-test.

To examine the efficiency with which assets are used following turnover ratios are also derived.

xii Sales to Total Assets:

This ratio indicates the efficiency with which total assets are used. The higher ratio the greater the soundness of the firm, as total assets are optimally used to generate sales. The ratio indicates the sales generated per rupee of investment in total assets. This ratio is found between 1.27 (1999) to 1.82 (2005). This indicates that the assets are used more than once to generate sales.

xiii Sales to 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. High ratio indicates high efficiency of the current assets. This ratio was found to range between 2.33 (1999) to 3.13 (2008).

xiv Sales to 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. The ratio shows heavy fluctuation in year (2000) for the reason of 3 companies mentioned in Note to Table 2. The ratio ranges between 0.29 (2000) to 6.63 (2006).

xv Sales to 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 receivable 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. Inour study it is observed that the ratio ranges between 6.87 (1999) to 9.84 (2005). This shows high level of efficiency of the inventory.

xvi Debtors Turnover

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. The DTR has ranged between 4.51 (1999) to 9.92 (2005). This again indicates the efficient utilization of receivables.

Taking an over view of ratios computed following important points emerges.

1. CA/TA and WC/TA taken together supports that the fixed assets based is high in case of the Steel Industry being the high capital intensive industry.

2. WC/CA indicates that only 32% of current assets are blocked to working capital, implying thereby 68% of current assets is financed by current liabilities.

3. REC/WC and REC/CA taken together indicates that very high amount of working capital and current assets respectively are blocked in to receivables.

4. The CR and QR are found high as compared to the general accepted standard, indicating thereby good liquidity position of companies in the Steel Industry.

5. On examining the assets through turnover ratios it is found to be highest for ITR, indicating thereby efficient inventory management.

B TREND PROJECTIOS:

To examine whether these ratios have changed significantly over a period of time or not, Time Series Analysis is carried out. For this purpose the simple regression is run for the respective ratio on time following the equation $y = a + bx$, where x is the time unit 1,2.....10 and y the dependent variable, the ratio in which we intend to examine a trend. The results of the regression are presented in Table 3.

TABLE 3

TIME SERIES ANALYSIS

SR NO.	RATIOS	R^2	INTERCEPT	SLOPE	t stat
1	CA/TA	0.78	0.22	0.03	5.32[*]
2	INV/CA	0.06	0.38	0.0002	0.69
3	REC/CA	0.67	0.56	-0.007	-4.01[*]
4	CB/CA	0.70	.0.04	0.006	4.35[*]
5	WC/TA	0.32	0.23	0.005	1.92[**]
6	WC/CA	0.16	0.22	0.02	1.24
7	INV/WC	0.17	0.06 (0.36)	0.06 (0.03)	1.28(0.93)
8	REC/WC	0.003	0.70	0.007	0.17
9	CB/WC	0.004	0.07	-0.003	-0.19
10	CR	0.03	3.38	-0.002	-0.47
11	QR	0.07	2.26	-0.002	-0.80
12	TATR	0.28	1.33	0.03	1.78[**]
13	CATR	0.05	2.60	0.02	0.64
14	WTR	0.18	1.86	0.29	1.34
15	ITR	0.58	7.27	0.23	3.33[*]
16	DTR	0.47	4.92	0.21	2.68[*]

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

NOTE: Three companies omitted are for heavy minus figure for the year March 2000, figures in the bracket indicates the ratio after omitting these companies Maharashtra Elektrosmelt Ltd., Rashtriya Ispat Nigam Ltd. and Steel Complex Ltd..

It is interesting to note that CA/TA and CB/CA have increased at 1% level of significance over a period of time as high as 78% and 70% of changes in CA/TA and

CB/CA are explained by change in time. REC/CA ratio has declined over a period of time at 1% level of significance. Thus the amount remaining blocked in receivables as a proportion of current assets has reduced over a period of time. This indicates improvement in management of receivables over a period of time. While examining the trend for the ratio of WC/TA it is found to increase over a period of time. Amongst the activities ratios also it is observed that the TATR, ITR and DTR has improved over a period of time, indicating therby improvement in efficiency of these ratios. On the whole, it can be said that the Working Capital Management of Steel Industry has improved over a period of time.

Reference:

1. Pandey I.M., 1991,Financial Management- Vikas New Delhi- p. 325

2. Joshi Vijay Prakash, 1995 *Working Capital Management under Inflation*, Anmol Publications Pvt. Ltd. New Delhi

3. Dr.Maheshwari S.N.,1997 *Management Accounting and Financial* Control, Sultan Chand & Sons, p D.266

4. Howard Leslie R., 1971 *Working Capital. Its Management and Control*, 1st ed. Macdonald and Evans Ltd., London, 171, p.1

5. Bhalla V.K. 1997 Modern *Working Capital Management-* Anmol Publications Pvt. Ltd. New Delhi p 1.

6. Agrawal N.K., Sept.77 Inventory Control in Indian Industries - *The Charted Accountant* Vol. XXVI No.3 p.119.

7. Hyderabad R.L. Sep 99, *Evaluation of Working Capital Investment and Financing Policies of Large Public Ltd. Co. in India, Finance India*, Vol. XIII No.3 pp. 837

8. Prasad R. Sivaram, June 2000 and March 2001 *Working Capital Management in Paper Industry Finance India* Vol. XIV No.2 pp. 577.

9. Datta Sukamal, Nov 95 *Working Capital Management through Financial Statements Analysis of Paper Industries in West Bengal- Management Accountant*, Vol.30 No.11 p 826.

10. Das P.K., Dec 93 *Working Capital Management in the Public Sector Undertaking in India, a case study, Management Accountant*, Vol.28 No.12 p 887

11. Bose S.K., Sept 71 *Management of Working Capital, Management Accountant* Vol. 6 No.9 71 p 513

12. Dutta Joginder Singh, June 2001 *Working Capital Management of Horticulture Industry in Himachal Pradesh, A case study of HPMC, Finance India* Vol. Xxx No.2 pp. 644

13. Gupta S.P. 1997 *Statistical Methods-* Sultan Chand & Sons Twenty eighth Ed.pp E.7.2

14. Kothari C. R. ed. 2001 *Research methodology methods techniques* Wishwa Prakashan 4835/24 Ansari Road, Dariyagunj, New Delhi - 110002 P. 301.

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Annexure 1

LIST OF COMPANIES SELECTED FOR STUDY:

1	A K C Steel Inds. Ltd.	27	Mahindra Ugine Steel Co. Ltd.
2	A M L Steel Ltd.	28	Maithan Alloys Ltd.
3	Aarti Steels Ltd.	29	Marmagoa Steel Ltd.
4	Aditya Ispat Ltd.	30	Metalman Industries Ltd.
5	Ahmedabad Steelcraft Ltd.	31	Modern Steels Ltd.
6	Avon Ispat & Power Ltd.	32	Monnet Ispat & Energy Ltd.
7	Baheti Metal & Ferro Alloys Ltd.	33	Mukand Ltd.
8	Bellary Steels & Alloys Ltd.	34	National General Inds. Ltd.
9	Bhagwandas Metals Ltd.	35	National Steel & Agro Inds. Ltd.
10	Bhushan Steel Ltd.	36	Nava Bharat Ventures Ltd.
11	Bhuwalka Steel Inds. Ltd.	37	Orient Steel & Inds. Ltd.
12	Castron Technologies Ltd.	38	Panchmahal Steel Ltd.
13	Electrotherm (India) Ltd.	39	Rashtriya Ispat Nigam Ltd.
14	Ferro Alloys Corpn. Ltd.	40	Rathi Bars Ltd.
15	Gangotri Iron & Steel Co. Ltd.	41	Rathi Steel & Power Ltd.
16	Garg Furnace Ltd.	42	Real Strips Ltd.
17	India Steel Works Ltd.	43	Remi Metals Gujarat Ltd.
18	Indian Metals & Carbide Ltd.	44	Ruchi Strips & Alloys Ltd.
19	Indian Metals & Ferro Alloys Ltd.	45	S K Foils Ltd.
20	Ispat Industries Ltd.	46	Shah Alloys Ltd.
21	Jai Corp Ltd.	47	Sharda Ispat Ltd.
22	Kalyani Steels Ltd.	48	Shivalik Bimetal Controls Ltd.
23	Kanishk Steel Inds. Ltd.	49	Southern Ispat & Energy Ltd.
24	Lloyds Steel Inds. Ltd.	50	Steel Authority Of India Ltd.
25	Maharashtra Elektrosmelt Ltd.	51	Steel Complex Ltd.
26	Mahindra Steel Service Centre Ltd.	52	Stelco Strips Ltd.