CHAPTER VI

SUMMARY AND CONCLUSIONS

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INTRODUCTION:

The chapter deals with an overall summary of the study. It presents all the aspects in brief and puts forward few suggestions for future studies.

BACKGROUND OF THE STUDY:

Pharmaceutical industry has occupied one of the most important positions in Indian economy. The foundation of modern Indian pharmaceutical industry was laid in the beginning of the last century when in 1901, a small factory known as Bengal Chemical and Pharmaceutical Works, was established in Calcutta. Though the two World Wars gave fillip to the development of the industry, the progress made under the British rule was insignificant. The country depended largely on the United Kingdom, France and Germany for its requirements of drugs and medicines. The Indian pharmaceutical industry today is a frontliner in India's science-based industries with wide ranging capabilities in the complex field of drug manufacture and technology. It ranks very high in the Third World, in terms of technology, quality and range of medicines manufactured.

The Indian pharmaceutical industry manufactures bulk drugs belonging to several majors therapeutic groups requiring various manufacturing processes. It has developed excellent facilities for

production of all dosage forms like tablets, capsules, liquids, orals, injectables etc. This achievement is strengthened by an assurance with regard to quality of the products. Despite rigid and dual control by the government with respect to pricing of bulk drugs and formulations and the profitability of the producing enterprises, the Indian drugs and pharmaceutical industry has grown significantly, though not sufficiently, since independence.

The Indian market has some unique advantages. India has a fifty-three year old democracy. It has an educated work force and English is widely used. It has a sound legal framework and healthy financial markets. Professional services are easily available. There is already an established international industry and business community. It has a good network of world-class educational institutions and established strengths in information technology. The country is now committed to a free market economy and globalisation. Above all, it has a 70-million middle class market which is continuously growing. For the first time in many years the international pharmaceutical industry is finding great opportunities in India. The process of consolidation which has become a generalised phenomenon in the world of pharmaceutical industry, has started taking place in India. The pharmaceutical industry, with its rich scientific talents and research capabilities, supported by Intellectual Property Protection regime, is well set to make its place as a Sunrise Industry.

Today, India is in a position to meet 80% of the country's requirement of bulk drugs and almost all demands for formulations. The setting up of the Penicillin factory at Pimpri, Pune in the early

1950s and the construction of Indian Drugs and Pharmaceuticals Ltd. (IDPL) plants at Hrishkesh and Hyderabad in the 1960s are important milestones in the history of the pharmaceutical industry in the country. Public sector investment in the pharmaceuticals industry in the initial stages played the role of a catalyst in the development of the industry.

RATIONALE OF THE STUDY:

A reasonable rate of return on investment and a good reputation in the business world can be identified as two meaningful criteria for viewing the efficiency of a business enterprise. In earning a reasonable return, the working capital plays a vital role[20]. It is therefore important on the part of management to pay particular attention to the planning and control of working capital. Working capital may be regarded as the life-line of business; its effective provision can do much to ensure the success of a business, while its inefficient management can lead not only to a decline in profits but also to an ultimate downfall of the concern. A deeper understanding of the importance of working capital management and its satisfactory provision can assist in cost savings and maximising financial return on the minimum capital employed. The rationale of the study is emphasised by the fact that the manner of management of working capital determines the success or failure of the operation of a business. Surveys indicate that the largest portion of a financial manager's time is devoted to day-to-day internal operations of the firm i.e. working capital management.

A number of research studies have been undertaken by many researchers on different industries highlighting the different aspects of working capital management. The studies carried by them includes, study on the working capital management, materials management, problems in inventory management, finance function in relation to materials management, the quality of trade credit, credit control and company finances, management decision for cash and marketable securities, financing working capital, working capital policy, inflation and working capital management, structure of working capital, working capital requirement and availability of bank credit, trade credit and their significance, cash planning and management etc..

It is evident from the above studies and studies in the chapter Review of Literature, that there is a dearth of research attempting to interpret the problems of working capital management in the pharmaceutical industry in Maharashtra State. Not a single doctoral study concerning working capital management has been undertaken in detail, though number of small studies have been carried out in this regard. Moreover, it is believed that a study on the problems of working capital and its efficiency should be limited to specific industries located in homogenous territory. It is likely that working capital problem of a large and small companies would be different. Hence only large companies were selected as sample units.

The present study viz. "Problems of Working Capital Management of Selected Pharmaceutical Companies of Maharashtra State" is based on the aforementioned arguments as well as the review of related literature and research. The present research is

therefore significant and relevant to the study of pharmaceutical companies.

STATEMENT OF THE PROBLEM:

The present study is titled "Problems of Working Capital Management of Selected Pharmaceutical Companies of Maharashtra State."

In order to clarify the Statement, it is necessary to define important terms used in the Statement of the problem.

The term "Working Capital" refers to the total current assets of the pharmaceutical companies during a particular period of time. Current assets are the assets which can be converted into cash within an accounting year. These are represented mainly by cash balances, accounts receivable, loans and advances and inventories. Inventories includes raw materials, semi finished goods, finished goods, stores and spares in the pharmaceutical companies.

The term "working capital management" implies the determination of the requirements of working capital, financing the requirements, and efficient utilisation of working capital in the pharmaceutical companies.

" A Pharmaceutical Company" means a company having more than 50% of production of bulk drugs and formulation and having its registered office in the Maharashtra State.

A study on the working capital management is mainly related to the adequacy of inventories, receivables, cash and bank balances and working finance in the pharmaceutical companies during the period under study.

OBJECTIVES OF THE STUDY:

The present study proposes to examine the policies prevailing in the management of working capital in the pharmaceutical company in the State of Maharashtra and to examine management performance in this sphere and also to look at possible remedial measures on the basis of which funds tied up in working capital could be used efficiently and effectively.

The specific objectives of the study are as follows:

1) To analyse and evaluate working capital management policies of the selected Pharmaceutical Companies in the Maharashtra State during the period from 1989-90 to 1998-1999.

2) To examine the structure and financing policies of working capital.

3) To evaluate the management of inventory, receivable and cash performances.

4) To suggest, on the basis of the study, a better management of working capital in pharmaceutical companies in the Maharashtra State.

LIMITATIONS OF THE STUDY:

The present research limits itself to the study of working capital management of large drugs and pharmaceutical companies of the Maharashtra State.

In the present study the analysis is mainly based on secondary data given in the annual audited balance sheets, profit and loss accounts and directors' and auditors' reports of the pharmaceutical

companies. The other data used for comparing the results of pharmaceutical companies are taken from various journals and periodicals. The limitations prevailing in the secondary published sources are self-evident in this study. The limitations of the secondary published sources for the purpose of analysis are well known. Despite their weaknesses, they continue to be the only source for comparison of the results of the analysis.

A second limitation is regarding the size of the sample. In the present study, out of 41 companies having their registered office as public limited companies in the State of Maharashtra on or before 1989-90, only 13 pharmaceutical companies are selected on the basis of judgement sampling method. The rest of the companies are not included in the sample either due to non-availability of data or their size being small.

A third limitation of the study is that the selected companies do not follow a uniform accounting year. The accounting year followed by some of them are financial year, some follow calendar year, while some of them follow June-ending accounting year. So, in order to facilitate the analysis, the data has been arranged in a manner that it pertains to the accounts closed during the twelve months ending on 31st March of the concerned year. The present study is carried out taking into consideration these limitations.

A host of studies have been attempted on the working capital management. This is evident from the studies briefly reviewed in the chapter II. But there is a dearth of research attempting to interpret the problems of working capital management in the pharmaceutical

industry in the Maharashtra State. Not a single major study concerning the working capital management has been undertaken in detail, though number of minor studies have been carried out in this regard. Moreover, it was thought that a study on the problems of working capital and its efficiency should be limited to specific industries located in the homogenous territory. It is likely that working capital problem of the large and small companies would be different hence only large companies were selected as sample units.

Based on the above discussion as well as from the review of related literature and research and keeping in mind the significance and relevance of the study to the pharmaceutical companies, the present study viz. "Problems of working capital management of selected pharmaceutical companies of Maharashtra State" is planned.

SAMPLE OF THE STUDY:

For the purpose of an indepth analysis of the working capital of the pharmaceutical companies, a group of thirteen large size pharmaceutical public limited companies with their registered offices in the State of Maharashtra have been selected on the basis of judgement sampling method. The sample is selected from the State of Maharashtra because out of the total number of the pharmaceutical units working all over India, majority of the units is located only in the four States namely Maharashtra, Gujarat, West Bengal and Tamilnadu. Out of these four States, the highest number of units of the industry is concentrated in the State of Maharashtra. So it was

thought fit to select the sample from Maharashtra State, since it is the most representative one.

For selecting sample, the list of companies in the pharmaceutical industry was drawn from "Bombay Stock Exchange Official Directory". As per this directory, there are 32 bulk drug and formulations producing public limited companies out of which 13 large size pharmaceutical public limited companies with their registered offices in the State of Maharashtra have been selected on the basis of the judgement sampling method for the period of ten years from 1989-90 to 1998-99. This sample works out to 40.62% of total number of public limited companies registered in the State of Maharashtra. On the basis of the paid-up capital and sales, the sample accounts for approximately 49% and 62% respectively. Considering these factors, the size of the sample seems to be quite representative to draw inferences which would reasonably be expected to be applicable to the pharmaceutical industry of Maharashtra State. In this study, the companies engaged primarily in trading, producing exclusively ayurvedic, homeopathic, and unani medicines are excluded. Other companies producing allopathic drugs and pharmaceutical medicines less than 50% of the total production have also been excluded.

For the purpose of this study, only large size public limited companies having tangible assets more than Rs. 5 crores in the year 1989-90 have been selected. The purpose of selecting such companies is that it constitutes a major share of the total assets of all the public limited companies in that year. The study of a small group of companies controlling a major share is thought to be a good

representative of the whole sector and therefore has been chosen for the study.

SOURCES OF DATA AND THEIR COLLECTION:

The study is based on the analysis of data contained in the annual balance sheets, profit and loss accounts and audit reports of 13 pharmaceutical companies in the State of Maharashtra. The data used in the present study are mainly of two types: primary data and secondary data. The primary data is collected through questionnaires correspondence with the management of the selected pharmaceutical companies. The questionnaire is framed keeping in mind the main objectives of the study and to elicit a further required details lacking in the published reports. The secondary data consisting of the annual balance sheets, profit and loss accounts, directors and auditor's reports of the pharmaceutical companies of the State of Maharashtra was collected by visiting the companies personally and also by correspondence to the registered offices of the respective companies. The other relevant data which are not available in the published annual reports and accounts of the sample companies for the purpose of study have been obtained from Bombay Stock Exchange Official Directory and Kothari's Industrial Directory of India.

The data relating to the financial position of 'Pharmaceutical Industry in India' and 'All Industries in India' have been collected mainly from the Reserve Bank of India Bulletin, published by the Reserve Bank of India and CMIE. Other publications and magazines were also used for the purpose of comparison viz., Chartered Secretary, Economic Times, The Chartered Accountant, The

Management Accountant, The Journal of Finance, Finance India, The Indian Journal of Finance and Research and The Indian Economic Journal.

METHODS OF ANALYSIS AND STATISTICAL TECHNIQUES USED IN THE PRESENT STUDY:

The present study is mainly based on the analysis of the problems of working capital management. The approach adopted is basically analytical and descriptive in nature. Before deciding about the broad approach or methods of analysis for the present study, literature on the research methodology and research studies related to the working capital management were reviewed. On the basis of the review and objectives of this study, it was decided to use the ratio analysis technique to analyse the problems of working capital management of the selected pharmaceutical companies of the State of Maharashtra. The ratio analysis technique is followed because it is a universally accepted technique for the analysis of the working capital of the companies. Statistical techniques like average, coefficient of variation, coefficient of correlation, and trend analysis have also been used.

### TECHNIQUES OF ANALYSIS:

Over and above the specific ratios followed, the following techniques of analysis have been employed.

1.   Overall decennial average percentage of inventory, accounts receivable and cash to total current assets have been studied separately.

2. Decennial average percentage of each constituent of inventories such as raw materials. semi finished goods, finished goods and stores & spares, as the proportion to total inventory is analysed separately.

3. Decennial average turnover and holding period of total inventory and its each constituent have been studied separately.

4. Decennial average percentage of each constituent of receivables such as trade debtors, loans and advances and other receivables as the proportion to total receivables is analysed separately.

5. Decennial average turnover and debt collection period of total debtors has been analysed separately.

6. Decennial average percentage of current assets to current liabilities and quick assets to current liabilities are analysed separately.

7. Decennial average turnover of cash and number of days' operational requirement for cash has been studied separately.

8. Gross margin, net margin, earning power, assets turnover ratios has been analysed to test the fund generating capacity of the selected pharmaceutical companies.

9. Decennial average percentage of different sources to finance working capital requirements, such as short-term bank borrowings, funds from operation and long-term funds are analysed separately.

10. Decennial average percentage of each component of current assets and its constituent has been compared with the data of 'Pharmaceutical Industries in India' and 'All Industries in India'.

MAJOR FINDINGS:

INVENTORY:
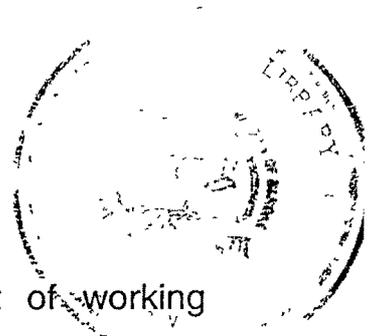
(1) Inventory forms the second largest component of working capital. It was on average 45.80% of total working capital of the selected pharmaceutical units in the State of Maharashtra during the period from 1989-90 to 1998-99.

(2) The composition of inventory consists of raw materials, semi finished goods, finished goods and stores and spares. None of these components had excess accumulation during the period under study.

(3) The percentage of total inventory to total current assets showed a declining trend from 54.09% in 1989-90 to 36.04% in 1998-99. This indicates that the lower shares of working capital funds were tied up in inventories and sample units had managed well their inventory over the period under study. It may be noted that the decline in the selected units was in no way different from a situation that prevailed in 'Pharmaceutical Industry in India' and 'All Industries in India'.

(4) The coefficient of correlation to study the relationship of inventory to total output and total sales reveals that inventory was equally related to both total sales and total output.

(5) The size of inventory should be adequate in relation to its requirement in the business. The adequacy of inventory can be

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judged by studying inventory turnover ratio. The inventory turnover ratio is an indicator of liquidity of inventory also. The increasing trend of inventory turnover ratio from 3.47 times in 1989-90 to 4.95 times in 1998-99 indicates efficient and sound management of inventory. A high turnover ratio indicated that the sample units had conducted more business with proportionately fewer amounts of inventories.

(6)   The absolute amount of inventory increased significantly with corresponding increase in sales. The rate of increase in sales was faster than that of inventory. This reveals that management had exercised strict control over inventories, so as to improve their liquidity and profitability.

(7)   The structure of aggregate inventory indicates that the percentage of finished goods to total inventory was the highest i.e. 48.24%, followed by raw materials 34.54% and semi finished goods 15.06%. The percentage of stores and spares was very meagre i.e. 2.16%. Out of the different components of the inventory, only finished goods had showed an increasing trend while all others had a declining trend during the latter period of study as compared to former.

(8)   The overall average holding period of raw materials was 72 days. This was lower than the 83-days norm suggested by the Tandon Committee. Only 23% of the sample units had overstocked the raw materials inventory as per standard norm during the period under study.

(9) Semi finished goods inventory had on an average 17 days of holding period and it had declined from 21 days in 1989-90 to 14 days in 1998-99. The overall average holding period of semi-finished goods were lower as compared to Tandon Committee norm of 23 days. 92% of the sample units had semi finished goods inventory less than the standard norm in this regard. This indicated that there was no accumulation of semi finished goods inventory.

(10) Finished goods holding period had a fluctuating trend during the period under study. The overall average holding period of the sample units was 43 days which was almost same as per norm of 45 days laid down by the Tandon Committee in this regard. There was no excess investment of working capital fund in finished goods inventory.

(11) The stores and spares inventory had showed a fluctuating trend during the period under study. The high coefficient of variation clearly indicates that the management had not followed uniform policy in this regard. However, its percentage to total inventory was meagre.

(12) Overall average holding period of stores and spares was 194 days. It was lower as compared to 'Pharmaceutical Industry in India' and 'All Industries in India'. The holding period was also lower as compared to standard norm of 12 months suggested by the 'Nakara Committee'. Only one unit had exceeded the norm.

RECEIVABLES:

(1)   Receivables form the largest component of working capital and constitute a very substantial portion of the current assets. It varied between 43.03% in 1989-90 and 50.08% in 1998-99. The overall average percentage of receivables to current assets was 46.15% during the period under study.

(2)   On analysing the growth rate of sales and average receivables, the growth rate of sales was higher than that of receivables between 1990-91 to 1994-95. Thereafter the trend was reversed during later period of study. The higher growth rate of receivables than sales highlighted the liberal policy followed by the managements.

(3)   The total receivables of the sample units comprise of sundry debtors, loans and advances and other receivables. The percentage of total sundry debtors was the highest at 53.76% followed by other receivables 40.16% and loans and advances by 6.08%. This indicated that the loans and advances had not blocked a high proportion of working capital.

(4)   Receivables turnover ratio indicates the efficiency of receivable management. It was on average 12.06 times and varied between 13.69 times and 10.26 times during the period under study. It was higher than the average ratio of 'Pharmaceutical Industries in India' and 'All Industries in India'.

(5)   The average collection period measures the quality of account receivables, since it shows the rapidity or slowness with which money is collected from them. The average debt collection period was 39 days. As compared to the standard norm of 45 days for receivables laid down by the Tandon committee it indicated that the selected sample units had kept receivables below the standard norm. 54% of the sample units had maintained the receivables for less than 45 days. The analysis of the debt collection period reveals a marginal declining trend. A shorter collection period implies stringent collection policy. It also reduces the chances of bad debts.

(6)   For the purpose of aging of accounts receivable, the age of account receivables had been classified into 'under six months' and 'more than six months'. The proportion of 'debtors under six months' to total debtors was on average consistently high at 92.08%, while 'more than six months' was only 7.92%. The higher proportion of debtors 'under six months' indicated stringent collection policy followed by the management. Consistent high percentage of 'debtors under six months' had helped to improve the liquidity position of the sample units.

(7)   Size of loans and advances and its percentage to total receivables had marked more or less upward trend throughout the period. It had increased from 3.29% in 1989-90 to 12.96% in 1998-99. This indicated that the efforts should be made to speed up the recovery of loans and advances.

(8) Size of other receivables and its percentage to total receivables was consistently kept at a very high level. It varied between 35.59% and 42.32% during the period under study. As a matter of principle there should be minimum investment in this segment of receivables, because it is the least productive component among all the current assets.

(9) The overall average percentage of bad debts to total sales was 0.14%. It was lower as compared to 'Pharmaceutical Industry in India' and "All Industries in India'. The overall average percentage of ,bad debts to total debtors' reveals more or less increasing trend. It was 0.59% in 1989-90 increased to 2.26% in 1998-99. The main reason for the marginal increase in the percentage of bad debts was the liberal credit policy followed by the managements.

CASH:

(1) Cash occupies the third place in order of importance among the different components of working capital. The overall average percentage of cash to current assets was 8.05% during the period under study. It showed an invariable increasing trend throughout the period under study except in 1996-97. It varied between 2.87% in 1989-90 and 13.88% in 1998-99. There is no standard norm for this ratio. However, in a well-financed concern it should not be less than roughly 5% to 10%. By this standard the average ratio of sample units of 8.05% indicated that they had sound liquidity position.

(2) Cash to sales ratio is an important tool to control the level of cash in a concern. This ratio shows a rising trend throughout the period under study. It was on average 4.02% during 1989-90 to 1998-99. The increase in sales compared with increase in cash balance indicated that the sample units had sufficient cash in order to maintain proper liquidity in a business.

(3) The cash in number of days' of operational requirement was computed to examine the operational adequacy of cash. The cash in number of days' operational requirement showed an upward trend throughout the period under study. Operationally the size of cash in sample units was only for 6 days to finance normal expenditure during 1989-90, increased significantly to 54 days in 1998-99. There is no standard norm prescribed for the operational adequacy of cash. However, a business should keep its cash balance below the requirement of one month's normal expenditure. The analysis reveals that the sample units had maintained reasonable level of cash during 1989-90 to 1994-95 and thereafter they had kept very high cash balance than the suggested norm.

(4) There are two important ratios of measuring the liquidity of a concern namely current ratio and quick ratio. The average current ratio of the sample units 1.85:1.00 was less than the generally accepted norm of 2:1. Though to some extent it indicated inadequacy of current funds in the business but it may also be considered to be a comparatively better management of current assets. For a proper analysis of liquidity of current assets, quick ratio was also computed. The quick ratio of the

sample units' 1.04:1.00 was marginally higher than the standard norm of 1:1. This indicated that the sample units had satisfactory liquidity position.

(5) The cash to current liabilities ratio registered an increasing trend throughout the period under study. It was below 10% during the initial four years under the study, while it was more than 20% during the remaining six years under the study. The overall average percentage of cash to current liabilities 17.01% as compared to suggested norm of 25% by the experts indicated that the selected units had maintained sufficient cash to meet current liabilities particularly during the latter period of study.

(6) Overall consolidated cash flow Statement of the sample units reveals that funds from the operation was the single-most important source of cash. It had been also observed that the sample units had generated sufficient cash inflows to meet their cash outflows during the period under study. As compared to the cash inflows, the outflows were always less during the period under study. There was positive net cash flow during all the years under study.

(7) The overall average net cash flow to current liabilities of the sample units was 99.73%, and had showed more or less an upward trend during the period under study. It indicated that the selected units had a very healthy liquidity position as more than 100% of net cash flow was generated from the operation than current liabilities particularly during the latter five years of study.

It showed that the sample units were 'technically' and 'actually' solvent.

(8)   The overall average percentage of coverage of current liabilities was 22.16%. It showed an increasing trend in the later seven years of study. The high coverage of current liabilities had helped the sample units to meet the currently maturing obligations.

WORKING CAPITAL FINANCE:

(1)   The overall total amount of working finance of sample units showed an infallible trend to rise throughout the period under study. A rapid increase of working finance is attributed to a faster rise in the size of current assets.

(2)   The trend percentage of working finance reveals a rising trend throughout the period under study, except in 1996-97. A similar rising trend was also observed in output and sales during the period under study. In all the years, the positive rate of growth of all the three variables indicates that business expansion had mainly contributed to the growth of working finance.

(3)   There was regular increase in working finance of the sample units. The average working finance in terms of months' cost of production had increased from 4.07 times in 1989-90 to 6.24 times in 1998-99. The overall working finance in terms of months' cost of production was 4.95 months which was much

below the suggested norm of 6.5 total months by the Tandon Committee. Rising trend of working finance must be checked and its growth should be arrested.

(4)   The funds flow Statement reveals that the sample unit had raised major amount of funds from operation. The aggregate amount of funds from operation was Rs. 1794.85 crores during 1989-90 to 1998-99 which constituted 79.62% of the total funds generated. This indicated that the management relied heavily on funds from operation and had tapped other sources only when required.

(5)   The proportion of working capital gap of sample units varied from 51.64% to 60.13% of the total current assets during the period under study. The average percentage of working capital gap to total current assets during the period under study was 55.53%. The working capital gap to the extent of 27.87% was financed through short-term bank borrowings and major part of the balance amount was financed through long-term sources. Comparing the maximum permissible bank finance based on reasonable current assets as per the Tandon Committee norms with the actual borrowings from the banks reveals that the sample units had not made any excess bank borrowings throughout period under study. Unlike the normal case the sample units avoided resorting mainly to bank finance even though they had higher eligibility of bank finance year after year. Moreover on applying the norms suggested by Nayak Committee and Vaz Committee for working capital financing on the basis of turnover, it indicated that none of the selected units

had borrowed more then their eligible limit of 20% of turnover. This indicated that the selected units had not relied much on short-term bank borrowings for their working capital requirements.

(6)   The overall percentage of long-term funds in total working capital finance was 49.60% while short-term bank borrowings was 27.87% and funds from operation was 22.53%. The rate of increase of long-term sources of funds compared with rate of fall of short-term bank borrowings indicated that the sample units had heavily relied on long-term sources of funds for financing their working capital requirements.

(7)   The percentage of current liabilities to total assets was on an average 40.74% during the period under study. It had showed a declining trend due to the fact that, the long-term sources of financing had increased during the later period under study. This means that the sample units had substituted long-term sources of finance in place of short-term sources of finance. This may be a better position from the viewpoint of the outsiders, as the unit would not be hard pressed to meet its short-term liabilities. But from the point of view of profitability it is more expensive which ultimately leads to fall in the return on investment.

(8)   The average payment period of 141 days compared with average collection period of 39 days indicated that the sample units had received more credit facility than they allowed to their

customers. This shows better credit worthiness of the sample units and sound credit and collection policy of the managements.

(9)   The overall average creditor to inventory ratio of 2.45 times indicated that the sample units had procured entire inventory on credit. It further reveals that the management had not used immediate cash to procure inventory. It also indicated that the sample unit had obtained free flow of credit and managed their operations effectively.

(10)   The profitability which prepares an internal base for financing of working capital, had been satisfactory in the sample units. The overall average percentage of gross profit to total capital employed and profit after tax to net worth was 17.12% and 18.99% respectively during the period between 1989-90 and 1998-99. Moreover overall average earning power of 8.08% of sample units as compared to 3.92% of 'Pharmaceutical Industry in India' and 3.29% of 'All Industries in India' was significantly higher. The sound profitability of the sample units over the years strengthened their internal base for financing and helped them to meet the working capital requirements from the same.

(11)   The overall average gross margin to sales and net margin to sales of the selected pharmaceutical units was 11.15% and 5.40% respectively during the ten year period under study. The

high margin of sample units was mainly due to low cost of sales. The percentage of total cost of sales to sales was 78.24% and showed a declining trend during the period under study. The declining trend shows the efficiency of management in controlling the cost.

(12) The overall average turnover of capital employed was 1.66 times. A ratio greater than unity indicates higher efficiency of the sample units in utilisation of assets to generate sales. Moreover the overall average turnover of fixed assets of 11.18 times, indicated that the managements of sample units had efficiently used their fixed assets to generate higher production and thereby sales.

(13) The overall average debt equity ratio of the selected pharmaceutical units was 0.55:1.00 during the period under study. It indicated that the selected units were "low geared". All the sample units except unit no. 4 had less than 1:1 debt equity ratio. This shows that the management of the sample units were very conservative in using debt financing. Out of the thirteen sample units, three units showed increase in the proportion of debt during the later three years of study, while all other units had reduced their proportion of debt significantly during the later period of study. Very low ratio of debt suggests that the management had not used the financial leverage to their benefit to magnify the return on investment.

WORKING CAPITAL MANAGEMENT:

(1)   The overall size of net working capital of sample units had maintained a rising trend throughout the period under study. The total amount of net working capital was Rs. 200.86 crores in 1989-90 gradually increased to Rs. 942.21 crores in 1998-99 i.e. by 369%. Fast increase in net working capital is attributed to the faster rise in the size of current assets.

(2)   The trend analysis of current assets, current liabilities and sales showed a rising trend. This situation could be viewed favourably as they had moved in concert, as each of this had been the cause for increasing trend in net working capital. Though increase in current liabilities would reduce the net working capital, the yearly increase of the current liabilities was much lower as compared to yearly increase in current assets.

(3)   The overall average net working capital turnover was 6.96 times during the period under study. It had a mixed trend of upward and downward throughout the period of ten years. The high turnover indicated the adequacy of net working capital. It also clearly indicated that the sales efforts had been more efficient and effective. High turnover ratio revealed high degree of efficiency with which short-term funds were deployed in a business.

(4)   The overall average percentage of inventory to net working capital was the highest at 137.10% followed by receivables at 129.23% and cash at 18.54% during the period under study.

The analysis reveals that inventory and receivables as a percentage of net working capital had declined from 192.04% to 102.60 and from 155.07% to 137.47% respectively in 1989-90 and 1998-99, while cash had increased from 9.31% in 1989-90 to 26.88% in 1998-99.

(5) The ratio of gross working capital to total capital employed on an average 70.13% during the period under study reveals the conservative policy adopted by the managements of the sample units. The increase in the proportion of gross working capital to capital employed may lead to a decline in the profitability of the unit. The increase in this ratio, no doubt, shows a high liquidity, but a very high proportion of current assets keeps funds tied-up a on permanent basis. To ensure maximum profitability, these assets, therefore, are required to be managed skillfully.

(6) The overall average percentage of net profit to gross working capital was 11.88%. The ratio had a fluctuating trend throughout the period under study. The overall position of the sample units indicated that they had earned sufficient return on their gross working capital. This also showed increase in efficiency in utilisation of gross working capital. The overall average percentage of net profit to working capital 11.88% of sample units as compared with 6.30% of 'Pharmaceutical Industry in India' and 6.18% of 'All Industries in India' was significantly higher.

CONCLUSION:

(1) Better planning and control of working capital in the light of norms suggested by Tandon Committee and by other experts in the field of finance helped the pharmaceutical companies of the Maharashtra State to achieve better efficiency in working capital management. There was no excessive accumulation of any component of current assets.

(2) Turnover of working capital is largely governed by turnover of inventory. The rising trend of inventory turnover indicated efficient and sound inventory management. The management could avoid excess locking up of working capital in different components of inventory by exercising strict control over it. The management of the sample units needs to maintain this situation in future also.

(3) Proper synchronisation between purchase, production and sales departments helped the sample units to avoid overstocking of raw materials and finished goods.

(4) Receivables form the largest segment of working capital. The high debtors' turnover ratio, low average collection period, low accounts receivables ratio and low age of accounts receivables all indicated efficient credit and collection policies followed by the management.

(5) Size of other receivables and its percentage to total receivables was consistently high during the ten-year period under study. As a matter of principle there should be minimum investment in

this segment of receivables, because it is the least productive among all the current assets.

(6) Bad debts of sample units were under control and had been kept at a lower level throughout the period under study.

(7) Cash is the most liquid assets and is of vital importance for the daily operations of the business firm. Cash is both the beginning and the end of working capital cycle. Its effective management is a key determinant of efficient working capital management. The increase in cash to sales ratio and cash in number of days' operational requirement indicated the operational adequacy of cash.

(8) Sample units had satisfactory liquidity position. They had current ratio marginally less than the generally accepted standard norm 2:1, but the quick ratio was more than 1:1. The high liquid assets helped the sample units to meet their current liabilities.

(9) High cash to current liabilities ratio, high net cash flow to current liabilities, high percentage of coverage of current liabilities and positive net cash flow during all the years under study indicated that the sample units were 'technically' and 'actually' solvent.

(10) The increase in working capital finance was mainly due to rise in output and sales.

(11)   For financing the working capital requirements the management relied heavily on long-term sources and funds from operations. The sample units did not resort to short-term bank borrowings even though they had higher eligibility of bank finance year after year. It is inferred that they had followed the policy of utilizing less short-term bank borrowings for financing working capital requirements.

(12)   High payment period and low collection period showed better credit-worthiness and sound credit and collection policy of the managements.

(13)   High gross margin, high net margin, high earning power and low cost of sales helped the sample units to plough back enough funds and also to strengthen their internal base for financing their working capital requirements.

(14)   Of the thirteen sample units, unit no 9 was the best having the lowest accumulation of working capital, the highest working capital turnover ratio and earning power ratio. It had a very high inventory turnover, debtors' turnover and capital turnover ratios. Moreover the unit had one of the best credit and collection policy and the lowest debt equity ratio.

From the above discussion it can be concluded that the overall working capital management of the pharmaceutical companies in the State of Maharashtra was very sound, effective and efficient.

SUGGESTIONS:

(1) The study may be replicated with all pharmaceutical companies in India and other regions in India.

(2) A separate study may be undertaken on the large and medium size drugs and pharmaceuticals public limited companies to have better idea about the working capital management practices followed by them.

(3) Specific indepth study should be made for each of the components of working capital separately i.e. inventory, receivables and cash in the pharmaceutical companies in India.

(4) A separate study on multinational pharmaceutical companies may be undertaken to have better idea about the working capital management practices followed by them.

(5) The pharmaceutical companies and their associations should strive to maintain and publish sensitive and vital information – statistical and financial, on a continuous basis for the benefit of scientific and scholarly studies based on such data.

(6) Short-term bank borrowings were not preferred as a means for financing working capital requirements. A greater use of this source of financing could have been made to increase the return on investment.

(7) The excess balance of cash which arises in course of business operations, should immediately be invested in short-term securities. It is desirable that the daily cash flow Statement is prepared and should be closely monitored.

(8) The stores and spares inventory can be reduced if programme for import substitution is given due encouragement and ancillaries is developed around the manufacturing units to cater their needs.

(9) Management of the pharmaceutical companies should have adopted a latest technique of 'Zero working capital' i.e. all the times current assets should be equal to current liabilities. The firm saves opportunity cost on excess investments in current assets and as the bank cash credit limits are linked to the inventory levels, the interest cost are also saved. This would bring a self-imposed financial discipline in the firm to manage their working capital. Zero working capital would ensure a smooth and uninterrupted working capital cycle, and would compel the finance managers to improve the quality of current assets at all times, to keep them 100% realisable. Zero working capital would call for a fine balancing act in financial management, and the success in this endeavour would further improve the bottomlines of the companies.

(10) The management of the pharmaceutical companies should go for innovative techniques and professionalism for working capital management and need to look for options available, rather than confining to tradition.

(11)   It is suggested that in the light of Reserve Bank of India giving all the commercial banks complete freedom to fix their own norms, banks should come out with the new norms at the earliest and do away with the outdated norms fixed by the different committees.

(12)   For working capital appraisal, commercial banks should follow two simple and broad norms instead of detailed norms. In place of inventory norms, they should look for a minimum turnover of two times for the current assets and minimum current ratio of 1.50: 1.00 as suggested by Jillani Committee. This would help to ensure that there would be no inefficient use of credit for working capital and also ensure a reasonable relationship between current assets and current liabilities. It is widely accepted that what the banks should finance is not the working capital gap but the cash gap. The lending by the bank should be based on the cash flow basis rather than the balance sheet basis.

(13)   It is suggested that the management of the selected pharmaceutical companies should go for benchmarking of each component of working capital and adopt the best practices followed in the industry in this regard. There is always a scope for improvement so that the pharmaceutical companies should try to strive for better. Therefore, it is suggested that to strengthen further the working capital position, the management should implement modern techniques for controlling the different segment of working capital. For inventory control they

may adopt techniques like Just-in-time, Integrated Management information system using the computer for timely and quick information, use of Operation Research for improving the operational efficiency. For improving the efficiency of cash management the techniques of concentration banking and lock-box system should be adopted by the enterprise.