CHAPTER I

INTRODUCTION

WHAT IS WORKING CAPITAL

Working capital is defined as all the short-term assets used in the daily operations.\(^1\) It has also been defined as the firm's investment in current Assets.\(^2\) Current Assets comprise of all assets that the firm expects to convert into cash within the year.\(^3\) Thus it can be surmised that the working capital basically consists of the firm's investment in cash, inventories, receivables and marketable securities.

We also come across the concept of net working capital, which is denoted by the difference of current assets and current liabilities.

The theory of working capital has developed various concepts with regard to the working capital management. For example, working capital has been classified into fixed and fluctuating components; Operating Cycle Concept.

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Fixed working capital refers to that level of working capital investment which is required to maintain the bare minimum level of operations. We may also refer these to the safety margins which have to be maintained in case of cash and inventories, in addition to receivables. For example, any undertaking has to keep a minimum level of cash balance so as to meet its day-to-day expenses in addition to some amount kept to meet any contingency. This is the minimum level of cash which an undertaking will have to keep to avoid any undue risk of low liquidity. In the case of inventories, an undertaking has to keep a bare minimum of inventories, depending upon the lead-time, consumption level & cost. This minimum level of inventory is kept to avoid any stoppage of production due to shortage of inventories on account of any reason. The Fixed working capital, also referred to as 'Permanent Working Capital', is generally financed from long term Sources of funds.

Fluctuating working capital refers to that component of the working capital which fluctuates with the fluctuation in the levels of activities. Thus, if the level of activities rises, fluctuating working capital requirements also rise and vice versa.

The operating cycle concept refers to "the period during which investment of one unit of money will remain blocked in the normal course of operation till recovery out of revenue."\(^1\) Thus, operating cycle of working capital refers to the time period taken by cash to become cash again after its conversion to inventories, work-in-process, finished goods and receivables. This can also be represented by the following diagram:

**Diagram showing the Operating Cycle of Working Capital**

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<tr>
<th>Materials issued to Purchase</th>
<th>W.I.P.</th>
<th>Completion of Production</th>
<th>Sale</th>
<th>Cash Received</th>
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<td>Credit from suppliers</td>
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<td>Money Lock Period</td>
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Payment for Material Purchase

Time Scale


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From this diagram, it is clear that initially from the time of purchase of materials till these are recovered from debtors after manufacturing & sales, the entire costs have to be borne by the undertaking from its own sources. But once cash is received, the cycle of reinvestment and recovery starts. As the cycle gains momentum, the undertaking starts to generate its own funds by way of profits which are again ploughed back to finance the growth. This entire process is known as the Circular Flow of Working Capital.

WORKING CAPITAL - ITS CHARACTERISTICS
The basic characteristics of working capital may be classified under the following broad heads:

a. Short Life: Components of working capital consists basically of cash, inventories, receivables, and marketable securities. The life of these assets is short. In practice, however, some assets are still considered as components of working capital even if they violate this criterion. For example, tobacco companies may store tobacco for more than one year for the purposes of natural curing. In such companies tobacco is a prime raw material and a part and parcel of their working capital.
Similarly, the cycle of conversion of cash into inventories, inventories into goods-in-process, and finished goods, finished goods into receivables and finally receivables into cash takes place in every undertaking. The duration of this cycle is an indication of the efficiency of the undertaking in all its spheres and functional areas. This is so because slackness on the part of the management in any one functional area increases the duration of this cycle of working capital, and have a direct bearing on the costs.

b. Quick Transformation: As the undertaking function, the components of working capital quickly transform themselves from one form to another. For example, cash is utilised to purchase and thus form inventories. Inventories are then taken to the factory and they become goods-in-process. Once the inventories have been processed they become finished goods, and when sale is effected, receivables are created. When cash comes in from the debtors, we find the whole circle completed. How quickly one form of asset transforms itself into another form is determined by the efficiency of that department, 1 eg. materials management, production, sales and collection.

c. Linkage with Levels of production: The third basic characteristic of the various components of working capital is that their life span depends on three different activities, viz. production, distribution and collection. The length of the life span of the various components of working capital depends on the degree of synchronisation in the levels of activity in these three basic areas. The higher the degree of synchronisation, the shorter the life span of the working capital components.

If these activities were instantaneous and synchronised, the management of working capital would become a trivial matter. But when we consider the element of uncertainty along with the unsynchronised levels of activity, the need for efficient and effective working capital management is intensely felt. For example, if production and sales could be synchronised, the need to keep finished goods inventories is not felt. And when customers pay cash, there is no need for the management of receivables. Even when these activities are not synchronised, the need for inventories and receivables may be considered diminished by tailoring the production to customer's orders and accepting only those orders whose payment is made in cash.
But the crux of the problem is that such practices are unlikely to attract and generate sufficient business to ensure, not to talk of growth, but mere survival in a competitive economy.

At this point two implications need elaboration. First, decisions concerning working capital management are frequent & routine in nature. While the requirement of fixed capital is assessed on the basis of needs felt at a particular point of time, working capital is assessed over a period of time. This time frame requires dynamism, foresight and close monitoring of the market dynamics on the part of the management.

The second implication is that close interaction that exists amongst the working capital components results in the assumption that efficient management of one form of asset in working capital cycle cannot be undertaking without the simultaneous consideration of other forms of assets in the working capital cycle. Very often management concentrates on one form of asset and totally ignore the other forms. This results in an unsynchronised levels of activity amongst the various working capital components, resulting in a longer working capital cycle.
FACTORS INFLUENCING LEVEL OF WORKING CAPITAL REQUIREMENTS.

For the purposes of this investigation, I have defined working capital as the total investment in current assets. And net Working Capital is being defined as the difference between Current Assets and Current Liabilities. The basic factors influencing the level of working capital may be as follows:

a. Factors influencing levels of Cash Requirements\(^1\)- A business undertaking needs cash to conduct its transactions, and to serve as a cushion in lean periods, and to some extent, to enable the management to take advantage of the changes in price levels of raw materials. Although routine cash requirements are easy to predict, it is difficult to forecast the occurrence of strikes, accidents leading to closure of factory, inability on the part of the important customers to pay in time, etc. These and like events cause a discrepancy in the anticipated inflow and outflow of cash. Apart from the above, the following factors have a direct bearing on the level of cash requirement by an undertaking:

i. TERMS OF PURCHASE AND SALE - The terms on which the goods are purchased and sold influence to a large extent that amount of cash reserve an undertaking has to hold. If an

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undertaking can manage to purchase goods on credit and manage to sell its products and services for cash, then the undertaking can conduct its affairs with reduced amounts of cash. But this tendency is reversed if the undertaking has to purchase its goods in cash and sell its products and services for credit.

ii. COLLECTION PERIOD OF RECEIVABLES: If the credit sales are collected speedily, the undertaking need not carry large cash balances. However, in competition and owing to liberal credit & collection policies, poor and ineffective collection machinery, the cash requirements of an undertaking is enlarged, and it has to maintain substantial amounts of cash balances.

iii. CREDIT POSITION OR CREDIBILITY OF THE UNDERTAKING: If an undertaking can once establish for itself a sound and good image of itself regarding its financial soundness, in the market, it can conduct its affairs with lesser amounts of cash balances as it will get liberal credit facilities from the market.

iv. PRODUCTION LEVELS: The level of production to be maintained during the year will have a direct bearing on the inventories to be purchased. To finance this purchase of
inventories, cash is required. So, if the management decides to carry two month's inventory requirements, the quantum of this two month's inventory level will depend on the production level or quantity.

v. CURRENT LIABILITIES & THEIR MATURITY: An undertaking having a large amount of current liabilities will have to have large amounts of cash balances, specially at the time of their maturity. The undertaking can end up in an embarassing position in case it has large current liabilities and the anticipated cash inflows do not materialise or materialise only in part.

vi. NATURE OF DEMAND: The nature of demand for the products and services of an undertaking also have an influence on the cash balances. If the demand is highly fluctuating, larger amounts of cash balances will have to be kept. However, if the demand is steady, lesser amounts of cash will ensure adequate liquidity.

b. Factors influencing Receivables Level: Receivables mainly represents credit sales by an undertaking. It arises when goods are sold but their payment to the undertaking is deferred. In actual practice, credit sales and payments are conducted on an open system, i.e. the undertaking goes on
selling the goods and the purchaser goes on making the payments, usually on a lumpsum basis. At the end of the accounting period or the financial year, the books of accounts are balanced, showing a debit or credit balance. The financial effects of these transactions is that while credit sales takes place, cash is tied down because the payment is not received immediately for the purposes of meeting the expenses already incurred and for further investment in inventories. As such, the undertaking has to look around for additional cash from other sources so as to maintain its activities. Thus, the longer the delay in receiving the payments, the larger the amounts of cash balances required.

Apart from the above the following have a considerable influence on the level of receivables:

1. CREDIT POLICY: The credit policy of the undertaking contains guidelines as to the length of credit period to be allowed, cash credit, and the amount of credit to be allowed to its customers, and the policy of discounting bills. The liberal credits will naturally boost the sales of the undertaking. As a result, the working capital requirements of the undertaking will increase to finance increased receivables. Undertakings having a tighter credit policy will not face such a situation.
Credit policy of an undertaking is generally influenced to a large extent by the general state of business, seasonal changes and credit policy of the competitors. However, it has to be remembered that extremely liberal credit policy also attracts customers with poor financial standing, thus resulting in high bad debt losses.

It is the undertaking's financial manager who has to strike a balance between tight and liberal credit policy, with the objective of maximising sales revenue.

ii. EFFECTIVENESS OF CREDIT DEPARTMENT: In addition to the credit policy, the effectiveness of the credit department has a lot to do with size of receivables. The credit department has three main functions — inspection of orders of the customers, investigating into the creditworthiness of the customers, and collection of receivables in time. The more efficient this department is in its work and aggressive in the collection of the receivables, the less would be the amount of bad debts and lesser would be the cash requirements.

If reverse were the case, then the undertaking would have a large of bad debts losses and the receivables would be tied down for a considerable period of time.
c. Factors influencing INVENTORY REQUIREMENTS: Inventory represents the most important component of working capital, more so in manufacturing and trading undertakings, and large service or utility undertakings for the manufacturing undertaking, it is necessary to have inventory of raw materials, goods-in-process, and finished goods. How much cash is required to finance these investments so as to ensure continuous production and meet the supply deadlines without delay is a decision which the finance manager has to take. Hence, if the inventory is in excess of the requirements it means idle investment coupled with high interest charges. On the other hand, if the inventory level is very low, it could mean lost sales, apart from stoppage in production, higher set-up costs, extra planning effort, more clerical work.

Apart from the above, the following have a direct bearing on the level of inventory investment in an undertaking:

i. NATURE OF ACTIVITY:— If an undertaking is engaged in manufacturing activity, sufficiently large amounts of funds will be required to carry adequate inventory. Similarly, trading concern also have to invest heavily in inventory so as to ensure smooth operations. In sharp contrast to this, utility and service undertakings require relatively less amount of inventory.

ii. METHOD OF INVENTORY VALUATION :— The method followed in the valuation of inventory also has its effects on level of investments in inventories. We have three methods of valuation of inventory, viz. LIFO method, FIFO method and lastly Cost or Market Price, whichever is lower. The first is the Last-in-First-Out method, the second is First-in-First-Out. In the first case, it is assumed that the last item entering the godown is used first. Under the second method, it is assumed that the first item entering the godown is used first. Under the third method, we take the cost price or market price of the inventory stock, whichever is lower. Thus, in times of high price fluctuations, the method of valuation can raise or lower the level of investment in inventory.

iii. INVENTORY TURNOVER :— Even in the same line of activity, different undertakings require different levels of inventories, depending upon the inventory turnover. The inventory turnover reveals how many times the inventory turns over in a particular period, i.e. the ratio of inventory utilisation and inventory stock. The faster the inventory flows into sales and receivables, the lesser will be the amount of inventory level requirements. If the inventory turnover is high, an undertaking can manage to conduct high amount of business with relatively low amount of investment.
in inventories, thus reducing carrying and interests costs. Moreover, loss on account of theft, spillage etc. is reduced.

iv. NATURE OF INVENTORIES:— If the inventories required is easily and abundantly available, then the investment in inventory is automatically reduced, as the undertaking does not have to carry heavy stocks. If, however, the inventory requirements have to be transported from a long distance and are scarce, the requirement to maintain high level of stocks is felt.

v. LEVEL OF PRODUCTION:— The amount of inventory carried depends, to a large extent, on the level of production. If the level of production is high, the inventory investment is also high. However, if the level of production is going down, the level of investment in inventory should also go down. Further, if the undertaking is producing a large variety of goods, the type of inventory will also be diverse and as a result high.

vi. PRODUCTION CYCLE:— The amount of inventories tied down in work-in-process depends upon the time lag between the introduction of the raw materials into the production process and the completion of the finished product. The longer the time required in the process, the higher will be the requirement in inventory. The management can utilise various
tools and techniques, like PERT, CPM etc. to reduce the processing time and speed up the production.

vii. OPERATIONAL EFFICIENCY OF UNDERTAKING :- By accelerating the efficiency of the production engineers and planners, the length of the production period can be shortened. With the help of new engineering techniques some process can be eliminated, thereby speeding up the manufacturing processes. Consequently, funds requirements to carry investment in work-in-process declines.

viii. SEASONAL GOODS :- Undertakings dealing in seasonal goods need to hold sufficiently high amount of inventory in their peak season to meet the demands. For example, agricultural undertakings have to invest a lot of funds in inventories during the harvesting seasons to acquire raw materials which last till the next harvesting season. Thus huge amounts of funds are invested in inventory so as to ensure continued production.

ix. ATTITUDE OF MANAGEMENT :- If the management is dynamic and utilises the latest and modern tools of forecasting estimates precisely regarding changes in economic environment, social environment and political situation etc. it can reduce to a large extent its investment in inventories. Conservative management does not bother much in
forecasting the future and considers it safer to carry huge stocks of goods in hand. Obviously, the requirements of inventory in the former case will be much less than that of the latter.

FORECASTING WORKING CAPITAL REQUIREMENTS

Considering the numerous factors affecting the level of working capital requirements, it becomes really difficult to forecast, with a high degree of accuracy, the exact amount of working capital required at a particular level of activity. But, the financial manager has to live with the situation and prepare a working capital forecast. While doing this, the following broad factors are given special weightage:

1. The expected yearly production;
2. The cost of raw materials, wages & overheads per unit of product;
3. The period during which the raw materials will remain in store before their issue to production shop;
4. The processing time;
5. The period of storage of finished goods;
6. The credit terms, e.g. sales, purchase, time lag in payment of wages, overheads etc.

In the above, all the costs are calculated on cost basis.

During the later part of the 1980-81, there were persistent reports and news in newspapers regarding the inability of the state undertakings of Assam having insufficient funds at their disposal for the payment of wages and salaries. The problem was growing to assume menacing proportions and the state undertakings were 'rescued' by the state government by giving grants by way of 'managerial subsidy'. On enquiry it was found that the function of 'managerial subsidy' was similar to that of saline water, i.e. just to keep alive the state undertakings.

Being a student of management, I was somewhat curious to find out as to why, in spite of all the resources at the command of the state government, the state undertakings continued to be a drain on the resources of the state. During the course of a cursory survey, it was found that one of the major problems that was faced by the state undertakings was working capital management. If problems could be identified, then to a large extent the state undertakings could become viable. At least, they would not have to run to the government for 'saline.' With these thoughts, I started the present investigation.
THE SAMPLE

The sample consists of eleven state public sector undertakings, named in the preface to this thesis in page No. 4. It may be seen that the sample covers a wide range of undertakings engaged in a wide spectrum of activities, which encompasses various sectors of the economy, like education, agriculture, industry, sericulture & weaving, trading, transport, power, etc.

At present, there are forty-four public sector undertakings under the Government of Assam, in various sectors. Thus our sample covers 25% of the total undertakings under the state public sector. These eleven sample undertakings have 83.99% of the total capital investment in the state public sector undertakings, when taken together, and out of the total employment provided by the state public sector undertakings in Assam, 94.5% of the total employment has been provided by the sample undertakings together. Moreover, all the sample undertakings have been in existence for more than ten years.

The total investment of the government of Assam in the sample eleven undertakings is 81.39% of the total investment by the Government of Assam.

THE DATA AND THE METHODOLOGY

Information relating to this investigation was collected personally by visiting some of the undertakings, and data of the balance sheets & profit and loss accounts was collected from the balance sheets and profit and loss accounts of the sample undertakings. In order to supplement the information so obtained, the researcher had personnel discussions with the staff of the Department of Public Enterprises, Government of Assam, and also the staff of the finance & accounts departments of some of the undertakings coming under the sample. Other sources of information include the Combined Annual Reports on the Financial Results of Public Enterprises, published by the Department of Public Enterprises, Government of Assam, 1982 and 1985 editions, Bureau of Public Enterprises' circulars, and various earlier research studies conducted on the subject in other states.

As far as the theoretical aspects are concerned, the researcher consulted various books & journals, which have been acknowledged at the appropriate places.

The methodology followed is the analysis of the relevant portions of the financial statements, eg. Current Assets and their position vis-a-vis the sales, total assets, fixed
assets, inventory utilisation, etc. From these financial statement extracts, the same were again subjected to vertical & horizontal analysis and ratio analysis, and the correlation analysis.

In our analysis, the following ratios were taken into consideration:

1. Inventory Turnover Ratio;
2. Receivable Turnover;
3. Working Capital Turnover;
4. Net Working Capital Turnover;
5. Fixed Assets Turnover;
6. Total Assets Turnover;

It may be noticed that the above are all turnover ratios. These ratios have been chosen in the light of the fact that whatever funds are invested in an undertaking, the measure of their effective utilisation is the ultimate verifiable result they obtain, ie. Sales.
These ratios have been calculated in the following manner:

1. Inventory Turnover Ratio
   \[
   \text{Raw materials Utilised} \quad \frac{\text{Average Inventory}}{\text{Net Sales}}
   \]

2. Receivable Turnover
   \[
   \frac{\text{Net Sales}}{\text{Average Receivables}}
   \]

3. Working Capital Turnover
   \[
   \frac{\text{Net Sales}}{\text{Working Capital}}
   \]

4. Net Working Capital Turnover
   \[
   \frac{\text{Net Sales}}{\text{Net Working Capital}}
   \]

5. Fixed Assets Turnover
   \[
   \frac{\text{Net Sales}}{\text{Fixed Assets}}
   \]

6. Total Assets Turnover
   \[
   \frac{\text{Net Sales}}{\text{Total Assets}}
   \]

In the above, the terms have been calculated as under:

1. Average Inventory
   \[
   = \frac{\text{Inventory at the beginning} + \text{end}}{2}
   \]

2. Working Capital
   \[
   = \text{Cash} + \text{Inventory} + \text{Receivables}
   \]

3. Inventory
   \[
   = \text{Raw Materials} + \text{Goods-in-Process} + \text{Finished Goods}
   \]
4. Net Sales = Gross Sales - Returns - Discounts

5. Fixed Assets = The Total Fixed Assets of the Undertaking

6. Net Working Capital = (Cash + Inventory + Receivables) - Current Liabilities


8. Raw Materials Utilised = Raw Materials utilised during the particular period.
THE HYPOTHESIS

This investigation has been undertaken on the basis of the following hypotheses:

a. First, that virtually all the public sector undertakings are suffering from irregular and inadequate supply/generation of working capital funds. This hypothesis has been so chosen because of the fact that at times the undertakings do not have funds to pay its wages and salaries to its staff. This can only mean mismanagement of working capital funds to such an extent that it verges on criminality. What greater disservice to the society can the management of an undertaking inflict that it utilises the funds of the society, it utilises the services of its citizens, and then fail to pay its citizens for the services utilised, not to talk of the cost of funds utilised? It is against all tenets of prudent financial management that an undertaking should require repeated doses of funds for its smooth day-to-day functioning. Rather it is expected that the undertaking should start generating its own funds after a reasonable period of time. But the state public sector undertakings have miserably failed in this respect.
b. The second hypothesis which I have taken for the purposes of this investigation is that the management of working capital funds has not been given the importance it deserves. Proper management of working capital funds require close monitoring of the activities of the undertaking. For this there has to be well defined system of information dispersion from different sources in the undertaking to the personnel who takes decisions in the respective functional area. There is a total absence of the modern systems approach to the management of working capital funds. But with the existence of an elaborate management information system, the management looses the excuse of lack of information and can effectively cover-up its lack of direction and capacity of taking decisions in the right direction, and hence facilitate diversion of funds to undesirable investments.

c. Thirdly, the extent of the mismanagement or defective management of working capital funds is the main contributing factor for the sickness of these undertakings. As discussed earlier, one of the major drawbacks in making the right decision at the right time, is the absence of correct and relevant data and information. Hence when no data or information are available, or if at all it is available, it is in a form not easily understandable, it is quite natural.
that it will result in mismanagement and/or defective management of working capital funds, resulting in the ultimate sickness of the undertaking.

UTILITY OF THE INVESTIGATION

Till date no such exhaustive investigation has been undertaken at the academic level with emphasis on the practical aspects of the problem of working capital management in the state public sector of Assam. The managements of the state undertakings have been so much sunk in the quagmire of its own problems, that it cannot foresee the future, it cannot afford to plan because it does not have the capacity to take the overall broad vision.

The investigation, it is expected, will be of some use to the state public sector undertakings in general, and the sample undertakings in particular. It will also help the Government in framing the future policies, plans and procedures, and in the formulation of the future projects because it help them to take a more realistic approach to the probable state of affairs in the management of working capital fund. This will be of immense help in the efforts to utilise the scarce resources more efficiently and effectively.
The investigation will also be of some academic value to the academicians in the teaching faculties who have an interest in the subject concerned.

With this background we now proceed to study the structure of finance function in state public sector undertakings, as envisaged by the Bureau of Public Enterprises, Government of India, and analyse as to what extent this structure has been adhered to in the organisation of the finance department/division of the state public sector undertakings of Assam.

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