CHAPTER IX

Working Capital—Conceptual Framework

Introduction

Working capital plays an extremely important role in the continuity of a business. It is considered to be the circulatory system of an enterprise making possible the needed co-operation between diverse units of activity. It has an important bearing on the profitability of an enterprise. Inefficient management of working capital leads not only to loss of profits but also to the ultimate failure of a business firm which might otherwise be a promising business unit.

Besie R. Howard has rightly observed that "Much has been rightly made of the long-term planning of capital projects, 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."

Every care should, therefore, be taken in every business to ensure its judicious management.

The importance of working capital management will be revealed when we consider that the problem of working capital has been engaging the attention of the financial institutions and government agencies. As early as in 1968, the now defunct National Credit Council, appointed a Working Group, known as "Dehejia Committee" to go into establishing some norms for lending operations by commercial banks in the country. The Dehejia Committee was of the opinion that it was extremely difficult to evolve the norms for lending to manufacturing concerns because working efficiency, methods of production and marketing, and the processes of acquiring raw materials and other supplies differed significantly from enterprise to enterprise. So, keeping in view these diversities, generalised norms would be difficult to establish. Apart from these diversities, in our economy that is a seller's market characterised by shortages and in which the public sector plays a commanding role, establishing norms for lending operations by commercial banks can become a farce. Because of these practical difficulties, the Dehejia Committee abandoned the idea of evolving norms and settled for what it called the 'Core' requirement for working capital, recommending that this core requirement should be met by internal resources, and that bank credit should be available
for meeting the fluctuations around this core requirement that arose from time to time. Further, this Committee noticed that the financing of inventories were out of proportion compared to production or sales and stock piling leading to inflation was indirectly encouraged. In this regard, the Committee recommended that the banking system in the country should turn to financing of industry on the basis of a total study of the borrower's operations rather than security considerations alone. The Committee also pointed out that though the Commercial banks theoretically financed the industrial concerns for their short-term requirements; in practice, however, a big portion of bank credit became long-term in character because short-term borrowings from banks were hardly paid off and were renewed perpetually. So, the Committee recommended that the short-term borrowings by industrial concerns should be paid back in the shortest possible time. Since the National Credit Council had become defunct, there was no follow up on the recommendations made by the Dehejia Committee.

In the years 1973 and 1974, the Indian economy witnessed a galloping inflation- an upswing in the inflation touching an unprecedented level of 31 percent in the year 1974- necessitating expanding bank credit. It was realised by the Reserve Bank of India that a package of measures were necessary to control the expansion of credit and to frame guidelines for follow up of bank credit. With this end in view, in July, 74,
the Reserve Bank of India set up the Study Group under
the Chairmanship of Shri P.L. Tandon (later known as
Tandon Committee) to frame guidelines for follow-up
of bank credit. Its terms of reference were:

(i) To suggest guidelines for commercial banks
to follow up and supervise credit from the
point of view of ensuring proper end-use of
funds and keeping a watch on the safety of
the advances and to suggest the type of
operational data and other information that
may be obtained by banks periodically from
such borrowers and by the Reserve Bank of
India from the lending banks;

(ii) To make recommendations for obtaining
periodical forecasts from borrowers of (a)
business/production plans, and (b) credit
needs;

(iii) To make suggestions for prescribing inventory
norms for different industries both in the
private and public sectors and indicate the
broad criteria for deviating from these norms;

(iv) To suggest criteria regarding satisfactory
capital structure and sound financial basis
in relation to borrowings;

(v) To make recommendations regarding the sources
for financing the minimum working capital requirements;

vi) To make recommendations as to whether the existing pattern of financing working capital requirements by cash credit/overdraft system etc. requires to be modified, if so, to suggest suitable modifications; and

vii) To make recommendations on any other related matter as the Group may consider germane to the subject of enquiry or any other allied matter which may be specifically referred to it by the Reserve Bank of India².

The Study Group submitted its report to the Reserve Bank of India on the 9th August, 1975. The recommendations of the Study Group will be referred to from time to time in the course of the present study.

It appears that study of working capital management, neglected so far, acquired a prominent place with the increasing difficulty in procuring working capital due to recent credit squeeze imposed as a result of the acceptance of recommendations made by the Tandon Committee. It appears, therefore,

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necessary to evolve such an approach which deals with the different aspects of management of working capital and lays down a framework on the basis of which the various problems of working capital may be tackled. This in turn leads to a discussion on the basic ingredients of a working capital theory. The basic ingredients of a working capital theory may include its definition.

2. Working Capital Defined:

Like other versatile terms, capital has many meanings. Accountants may mean it total assets less liabilities, or net worth. Businessmen often take it as total assets and to an economist it may mean those goods that are to be utilized for further production. John Myer points out, "Economists use the term capital as a synonym for property rights and call the permanent form fixed capital and the revolving form current capital. The excess of the assets of a business over its obligations represents the interest of the owner or owners in the business; this excess Accountants call capital".

Like various meanings, capital can also be divided into various categories: real or financial capital, fluid or sunk capital, fixed or working capital. Real capital is the sum total of tangible assets that help in the production process whereas financial capital is the sum total of shares, debentures, loans raised and other securities issued by the enterprise. To quote George A. Christy and Peyton Foster Roden, "Real capital is the economist's generic name for tangible, man-made objects that cooperate in the productive process..... By contrast, financial capital (sometimes referred to as money capital) comprises money and financial instruments devoted immediately or ultimately to the production of goods and services. Financial capital is represented by stocks, bonds, bills, mortgages, securities issued by business and other economic units. Bank loans, lendable money waiting in banks, and cash in corporate treasuries or bank accounts also constitute financial capital". Capital embodied in short-term assets such as cash, inventories or receivables is known as fluid capital. On the other hand, sunk capital is that capital which is committed to a

particular location or specialised use, such as erection of a new machinery at a plant site.

A final and the most important distinction is between fixed capital and working capital. The term 'Fixed Capital' represents the amount of capital embodied in fixed assets, such as land, buildings, machinery, furniture and fixtures, goodwill etc. On the other hand, like the broader concept of capital there is no universally accepted definition of working capital with which the present study is concerned. Broadly speaking, it is taken either as the total current assets or as the excess of current assets, over current liabilities.

5 "Current assets are understood to be cash, bank balances and other resources that are reasonably expected to be realised or consumed within one year from the date of the balance sheet. Cash and bank balances included in current assets are, however, those available for current operations and exclude amounts whose future use is subject to restrictions, such as foreign exchange controls in some circumstances".

Some definitions of working capital given by eminent authorities on business finance are as follows:

According to Professor S.C. Kuchhal, "Working capital is often classified as gross working capital and net working capital. The former refers to the total of all the current assets and the latter is the difference between total current assets and total current liabilities."

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6 "Current liabilities are understood to be obligations of the enterprise that are payable on the demand of the creditors or that are reasonably expected to be liquidated within one year from the date of the balance sheet, either through the use of resources classified as current assets or through the creation of other current liabilities. Current liabilities, therefore, include the current portion of long-term liabilities, unless:

a) assets existing at the balance sheet date, out of which settlement is to be made, have been excluded from current assets; or

b) the enterprise intends to refinance the obligation on a long term basis and there is reasonable assurance that the enterprise will be able to do so". Ibid.
M. Mohsin completely endorses this view when he says, "Net working capital is the difference between current assets and current liabilities, whereas gross working capital is the sum total of current assets". Lawrence J. Gitman has also expressed somewhat similar views when he says, "the most common definition of net working capital is the difference between a firm's current assets and current liabilities. As long as the firm's current assets exceed its current liabilities, it has net working capital. Most firms must operate with some amount of net working capital; how much depends largely on the industry. Firms with very predictable cash flows, such as electric utilities, can operate with negative net working capital; however, most firms must maintain positive levels of net working capital".


According to Professor Harry G. Guthmann and Herbert E. Dougall, "Working Capital is the excess of current assets over current liabilities". Rufus Wixon's Accountants' Handbook completely endorsed this view, supported by Professor C.W. Gerstenberg. According to Professor Gerstenberg, "The meaning of working capital will be restricted to the excess of current assets over current liabilities".

Dr. Colin Park and Professor John W. Gladson are in complete agreement with the above view and say "Most commonly, working capital is defined as the excess of current assets of a business (cash, accounts receivable, inventories, for example) over current items owed to employees and others (such as salaries and wages payable, accounts payable, taxes owed to government)". In the similar way, working capital is defined in the Annual survey of Industries to include, "stocks of materials, stores


13 Park, Colin and Gladson, John W.: orkin Ca New York McMillan Com
fuels, semi-finished goods including work in progress and finished goods and by-products; cash in hand and bank and the algebraic sum of sundry creditors as represented by (a) outstanding factor payments, i.e. rent, wages, interest and dividend; (b) purchase of goods and services; (c) short term loans and advances and sundry debtors comprising amounts due to the factory on account of sale of goods and services and advances towards tax payments".

The arguments of the first school of thought (supported by authorities like Mead Baku, Malott and Field) in taking working capital as the total of current assets are as follows:

1. Profits in each enterprise are earned with the help of both fixed and current assets. Individually


these assets have not much value for the efficient running of a business. To a certain degree, it similarly can be observed in these assets as both are partly borrowed and are supposed to earn profit in excess of the interest costs. But the difference between the two is that fixed assets constitute the fixed capital of a company whereas current assets are of a revolving nature from cash to inventories to receivables and again to cash. Hence, logic demands that current assets should be taken as the working capital of a company.

2. This definition of working capital takes into account the fact that there will be an automatic increase in working capital with every increase in funds of the business while it is not so according to the net concept of working capital.

3. Every management is more interested in the total current assets as they constitute the total funds available for the operations of an enterprise than with the sources from where the funds are procured.

4. The net concept of working capital, it is argued, may hold good only when the form of organisation was on the basis of single entrepreneurship or partnership and when there was a close
contact between the ownership of capital and its management. But under the Modern age of company organisation, when there is no close contact between ownership, management and control, the ownership of current or fixed assets is not given so much significance as in the past.

The arguments of the second school of thought (supported by economists like Selmers, Lincoln and Stevens) in taking working capital as the excess of current liabilities are as follows:

1. A long-term view of working capital is afforded if we concentrate on the net concept of working capital. A concern with a comfortable surplus of current assets over current liabilities can successfully meet its short-term maturing obligations on time and tide over periods of emergency since working capital (excess of current assets over current liabilities) is not to be returned in near future. Moreover, working capital represents a margin of safety for short-term obligations. Current assets usually realise a higher percentage of their book value on liquidation than do fixed assets because fixed assets are more specialised in use and suffer larger declines in their values in a forced
liquidation. So, short-term creditors took to the current assets for their claims to be met. The excess of current assets over current liabilities indicates the amount by which the value of current assets could drop and still cover the claims of short-term creditors without loss. The working capital concept in second sense is, therefore, more important to short-term creditors.

2. Such a definition helps to find out correct financial position of companies having current assets of similar amount.

Attempts have been made to remove the ambiguity regarding the definition of working capital. As we have seen eminent authorities on business finance like Kuchhal, Mohsin and Gitman suggest that 'gross working capital' may be used to refer to total current assets and 'net working capital' to refer to the excess of current assets over current liabilities. Yet another suggestion given by William H. Husband and James C. Dockeray is that the net concept of working capital may be referred to as the 'qualitative' aspect and the total current assets concept as the 'quantitative'
aspect. The term 'circulating capital' has been suggested by Professor Gerstenberg to mean all current assets of a company that are changed from one form to the another form in the ordinary course of business.

Both the net and the gross concepts of working capital have their own significance. The choice of a particular concept will depend on the object in view. If the purpose is to find out whether the total current assets of a particular undertaking are being efficiently utilized, the gross working capital is preferable. According to Husband and Dockeray, "Management prefers the gross working capital or total current assets concepts... it takes into consideration all the current resources of the enterprise, from whatever source derived and their application to the current and future activities of the enterprises."


But for having a long-term view of working capital, it is essential to concentrate on the net concept of working capital. Which of the two approaches is preferable to the present study? The net concept of working capital has been preferred in the present study because the purpose is to have a long-term view of management of working capital in the fertilizer industry.

3 Importance of Working Capital Management

Before making an analysis of the individual items included in working capital, it is imperative to point out the importance of adequate working capital. Compared to the situation prevailing a few years ago, today working capital management has acquired a significant place in view of the tight credit money policy followed by the Reserve Bank of India as a result of the acceptance of recommendations made by the Nambiar Committee.

Unlike fixed capital needed for the purchase of fixed assets, working capital is required for investment in current assets of a business. A manufacturing unit is likely to face the financial crisis without adequate supply of raw materials or without adequate cash to meet the wage bill and other operating expenses or being unable to grant credit to its customers. Working
capital is the life blood and nerve centre of a business. If this centre becomes weak, the business can hardly survive. Sooner or later it is likely to collapse. Professor Gerstenberg rightly observes, "Excess of current capital over current liabilities represents the heart of the business; and if it becomes weak, the business cannot long survive. In other words, when working capital is insufficient to meet the requirements of the business, the business cannot prosper."

Operational efficiency of any concern depends upon the adequacy of working capital. A business unit can avail of the cash discount facilities offered to it by suppliers, if proper balance of cash is maintained by it. Further, adequate working capital also makes available funds for unforeseen contingencies and a unit can successfully weather through periods of crisis.

It is with working capital that fixed assets are utilized without which they remain idle. In other words, it is the working capital which is the force behind the fixed assets utilisation. The

manufacture and sale of a new commodity may require not only a new plant, but also additional raw materials and an increase in accounts receivable to support credit sales of the new product. Moreover, a concern's profitability is increased as working capital is added to fixed capital provided the concern does not exceed 100 percent capacity and does not change the selling price per unit as output is increased because fixed expenses are spread over a larger number of units. According to S. Chakravarty, "efficiency and the optimal utilization of even the fixed assets, to which a lot of attention is given, is very closely related to the proper management and the deployment of working capital." Thus, a manufacturing concern must not only have adequate working capital but also a coordination between working capital and fixed capital if it wants to function successfully.

Adequate working capital creates an atmosphere of certainty, security and confidence. General morale of management is enhanced because short-term creditors are sure to get their payments in time, the employees are to get their remuneration at the fixed time and shareholders are assured of a payment of dividend.

4. Nature of Working Capital:

The concept of working capital has undergone a change. Formerly, it was considered a margin of safety for short-term creditors, i.e., meeting current obligations as and when they fell due. Working capital is required for carrying on the day-to-day operations of a firm and should not be taken merely as a margin of safety for short-term creditors. Keeping in view this, focus has shifted from coverage and liquidity to the operating cycle, so nature and inter-relationship of working capital can be best understood by the operating cycle of the firm. A firm begins with cash which is used for purchase of raw materials and bought in components. Materials and other operating supplies can also be purchased on credit which in turn generates accounts payable. Further cash is expended to pay the labour and other manufacturing costs and further trade credit obtained to enable production of finished goods, which are
eventually sold on credit giving rise to accounts receivable. The collection of the receivables brings cash into the firm and creditors are paid. The average time which elapses between the acquisition of materials or services entering into the manufacturing process and the final cash realization constitutes an operating cycle. The operating cycle is depicted in Figure 2.1 given on page 45.

In order to reduce the requirement of working capital, the management should try to reduce the period of the operating cycle. This underlines the importance of managing key variables affecting working capital so as to get the optimal results. This leads to the discussion of structure of working capital.

5. Structure of Working Capital

Structure of working capital includes a study of the elements of current assets and current liabilities. The important elements of current assets are inventory, receivables, cash and bank balances and short-term investments other than trade investments. Current liabilities usually
WORKING CAPITAL CYCLE

Cash

Debtors

Purchase of Materials and Components.

Accounts Payable

Sales

Production

Inventory (Finished Goods)

Fig. 2:1
include trade creditors, bank borrowings, accrued expenses, accrued tax and unpaid dividends.

5.1 **Inventory**

Inventory represents a major current asset investment in most manufacturing firms, ranging from perhaps 25 percent to 75 percent of their current assets, depending upon the magnitude of the firm and the type of industry. Adequate inventory is essential for the 'production-sale' process of an enterprise as insufficient inventory hampers production and fails to generate sufficient sales. Further, inventory being an item which is quite amenable to control, optimisation of working capital leading to increase in profits can be achieved mainly through the rationalisation of inventory. It is, therefore, quite natural that inventory occupies the most important place among current assets.

Any stock that a firm keeps to meet its future requirements of production and sales is called 'inventory'. The principal types of inventories are: raw materials, goods in process, finished goods and supplies. Raw materials represent goods kept by a manufacturing firm prior to their being utilised in the production process. Goods in process represent the semi-finished goods; they
include those materials that have been committed to production process but have not yet been converted into finished goods. Finished goods are completed goods awaiting sale. In a manufacturing concern, they are the final output of the production process. Supplies generally include tools, stores and spares which are consumed in the production of goods and services.

Adequate inventories facilitate smooth production activities and help to provide off-shelf delivery to customers. On the other hand, excessive inventory is idle resource of the firm and can prove costly because it ties up working capital unnecessarily which could have been better used had it been utilized for some other purpose. According to Atton E. Smith, "Inventory is "money" on which a company pays interest rather than collects interest. It is money always in danger of devaluation. Non-controlled inventory is an industrial danger."

The major problem of inventory management, therefore, should be to arrive at an optimal balance between too much inventory and too little inventory.

The optimum level of inventory is decided keeping in view the costs associated with holding inventories. There are two types of these costs, ordering costs and carrying costs. Let us examine each.

Ordering costs are the costs of getting an item into the firm's inventory and are incurred each time an order is placed for the purchase of the item. Such costs consist of cost of processing a purchase order, inspection cost and general administrative overhead costs.

Carrying costs are the costs which are incurred on the maintenance of inventories and include interest on money invested in inventory, obsolescence and storage costs (including insurance etc.).

The inventory specialist estimates the inventory costs at varying inventory levels and chooses the level with the lowest total cost.

To successfully manage its inventories,
a firm should use a system approach to inventory management. A system approach considers in a single model all the factors that influence the inventory. The model, called a system, may have any number of sub-systems tied together to achieve a single goal. In the case of inventory systems, the goal is to minimise costs.

A system for effective management of inventories involves three sub-systems: economic order quantity, reorder point, and stock level, each one of these is discussed below:

**Economic Order Quantity Sub-system**

An economic order quantity is the number of units per order to be purchased that will result in the lowest total of order costs and carrying costs of a year's supply of the product. Such a quantity seeks to balance the cost of inventory acquisition against the cost of inventory possession. It can be represented diagrammatically as shown in figure 2.2 on page 50.
ECONOMIC ORDER QUANTITY (E.O.Q.)

Fig. 2.2
The diagram depicts that the economic order quantity (EOQ) will be that at which the total cost to carry and order curve is at its lowest. Thus, the quantity to be purchased at one time should be such that minimises the carrying costs and ordering costs. The order for the inventory to be purchased should be sufficient enough to earn more trade discount and to take advantage of bulk transport, but at the same time, it should not be too large to incur too heavy a payment on account of interest, storage and insurance costs.

The mathematical explanation of the economic order quantity is as follows:

The annual ordering costs are equal to the number of orders per year multiplied by the cost per order and can be represented as \( CO \)

\[ CO = \frac{Q}{Q} \]

Where \( C \) = Annual consumption of the inventory in units.
\( O \) = Cost of placing one order including the cost of receiving the goods, i.e., costs of getting an item into the firm's inventory.
\( Q \) = Quantity per order in units.

The annual carrying costs are equal to the average value of stock held multiplied by carrying cost per unit and can be represented as \( QI \)

\[ QI = \frac{2}{2} \]
Where \( I \) = Annual carrying cost per unit.

The annual total inventory service cost is at its lowest when the two costs, namely ordering costs and carrying costs, are equal i.e.

\[
\frac{CO}{Q} = \frac{QI}{2} \\
2 = 2 \cdot CO \\
\frac{Q}{1} = \sqrt{\frac{2 \cdot CO}{1}}
\]

**Re-order-Point Subsystem:** An important question in any inventory management system is "when should an order for the purchase of an item should be placed, so that the concern does not run out of goods". The answer to this question is provided by the reorder-point subsystem.

The reorder point is the level of inventory at which the storekeeper should initiate the purchase requisition for the purchase of inventory in the amount of the economic order quantity. This point is fixed somewhere between the maximum and minimum levels in such a way that the difference of the quantity of inventory between the reordering point and the minimum level will be
sufficient to meet the requirements of production up to the time the fresh inventory is reordered. In designing a re-order point subsystem, three items of information are needed as inputs to the subsystem.

1. Lead time, i.e., time lag between indenting and receiving of the inventory. It is usually expressed in number of days.

2. Usage rate, i.e., the quantity per day at which the item is consumed in production process or sold to customers.

3. Minimum stock level, i.e. the quantity below which stock should not be allowed to fall. This can be calculated by multiplying the usage rate by the number of days the firm wants to hold as a protection against shortages.

The following formula can be used for the calculation of the reorder point.

Reorder point = URxLT + URx Days of safety.

Where UR = usage rate per day.

LT/ Lead time in days.

Days of safety = days of safety stock desired by the firm.

The main purpose of determining reorder
point is to ensure that production or sale of goods is not held up due to shortage of any item of inventory. **Stock-Level Subsystem:** This subsystem makes possible track of the inventory held by the concern, the arrival of the inventory and the issuing of inventory. For this purpose, a bin card for each item of inventory is kept. The bin card is debited with the quantity of inventory received, credited with the quantity of inventory issued and a balance of the quantity of inventory is taken after every receipt or issue, so that the balance at any time may be readily seen. Whenever the bin card reports that an item of inventory is at or below the reorder point level, the storekeeper will initiate the purchase requisition for the purchase of the item.

5.2 **Receivables:**

Receivables are current assets representing amounts owed to the firm as a result of the sale of goods or services on credit in the ordinary course of business. This term is also applicable to prepaid expenses and short term loans and advances to subsidiaries and employees and suppliers of raw materials, stores, spares and equipment.

Every employment of financial resources in a firm is expected to increase the profitability of a firm. The investment of funds in receivables is no
exception. In support of this objective, the goals of maintaining receivables are as follows:

1. **Increase in sales:** Credit is considered to be the backbone of modern business. To increase sales, goods are sold to customers on credit who are not willing to pay cash when they purchase goods. Where there is acute competition it may be necessary for a firm to extend longer credit to its customers and establish credit policies similar to the policies of competitors.

2. **Increase in profits:** If the direct objective of maintaining receivables is to have increased volume of sales, an indirect objective is that the additional sales will lead to higher profits.

The size of receivables is a function of the level of sales, credit and collection policies. The greater the level of sales and longer the term of credit given to customers, the more will be the quantum of investment in receivables. Since the terms of trade are similar in most units of the same industry, a unit with a large level of sales will have a larger volume of receivables. Further, if the firm has a relatively liberal credit policy, it will have a still higher quantum of investment in receivables than a firm which has followed a more
strict credit policy. A liberal credit policy encourages customers to delay settlement of their accounts. Thus a restrictive credit and efficient collection policy should be followed to reduce the amount of receivables and thereby lead to their optimisation.

Receivables, like inventories, involve costs; it should be kept in mind that these costs should not exceed the profits earned on sales generated by receivables. According to Dr. Ram Kumar Mishra, "with the exclusion of the cost of capital tied up in them, receivables, like inventories, carry some direct and indirect costs. The direct costs which receivables carry may consist of allowances and concessions to customers and losses from bad debts. The indirect costs of carrying receivables may include credit and collection cost, cost associated with recording bills and preparing statements etc. These costs make it necessary to plan the volume of receivables in such a way that at any point of time the total costs of carrying receivables do not exceed the profitability of sales".

5.3 **Cash**

Cash is the crucial component of the working capital of a concern. Cash, like bloodstream in the human body, gives strength to a business unit. Without it, the firm is not able to procure the other resources that it needs to continue the operations of the business. Lack of cash can put the operations of a business unit to a standstill. Management has a duty, therefore, to see that the firm it manages has sufficient cash balance at all times to meet its day-to-day requirements.

Cash is both the beginning and the end of the operating cycle—cash, inventory, sales, receivables, cash. In other words, cash is the ultimate resource for a business, so management of each business unit should endeavour to secure larger cash at the end of each working capital cycle than what it had invested into the business at the beginning of the working capital cycle. Further, the important objective in managing cash should be to trade-off liquidity and profitability in order to maximise profits. By keeping larger amount of cash, the firm is able more to meet its obligations when they fall due and the risk of technical insolvency is reduced. However, cash is a non-earning asset, so unnecessary cash should not be kept on hand than the optimum required to continue the operations of the business efficiently. Liquidity and profitability must be balanced in such a
way that the organization retains its liquidity and at the same time maximizes its profitability.

The reasons for holding cash have traditionally been divided into three categories as postulated by Keynes, the transaction motive, the precautionary motive and the speculative motive. The transaction motive is the need for cash balances to conduct the day-to-day operations of the business. The precautionary motive is the need for cash to meet unexpected circumstances as cash inflows and outflows are somewhat unpredictable. The less predictable the firm's cash flows, the larger the cash balances held. However, if a firm has easy access to short-term borrowing, it need not hold much cash for precautionary purposes. The speculative motive relates to holding cash to enable the firm to take advantage of any unusual buying opportunities.

Although there are good reasons for holding adequate cash, there is a strong reason for not

holding excessive cash because redundant cash simply lowers the working capital turnover, thereby reducing the profitability. Thus, firms should endeavour to increase the efficiency of cash management by striking a balance between liquidity and profitability. The basic strategies for utilizing cash more effectively are as follows:

1. The important tool in cash management is the cash budget. This budget gives an estimate of the anticipated inflows and outflows of cash over some specified period of time. This budget is prepared for the guidance of the management so that surplus cash, if any, may be invested in short-term securities. Arrangements may be made with the bank to provide the necessary money to meet the production and sales programme.

2. Firms can reduce their cash balances to a minimum if they arrange their business transactions in such a way that cash receipts coincide with the timing of their cash outflows.

3. Firms can reduce their cash balance requirements by making payment of accounts payable as late as possible without damaging the firm's credit rating and collecting accounts receivable.
as quickly as possible without losing future sales because of a strict collection policy. Cash discounts, if they are economically justifiable, may be used in making the quick collections of receivables. Speedy collection of cheques received may also be followed in this regard.

A number of strategies that can be followed for the efficient management of cash have been described above. But the implementation of these policies involves expenses i.e. cash discount, cost of the collection department etc. How far should a firm go on incurring these expenses? The answer is so long as marginal returns exceed marginal expenses.

5.4 Marketable Securities

Now-a-days it has become a practice with business concerns to invest their surplus cash in marketable securities. Marketable securities are short term money market instruments like treasury bills, quoted corporate shares, debentures etc. that can easily be converted into cash when the cash is needed in the business. Long-term investments and shares held in subsidiary companies for the purpose of acquiring their control do not come under the category of this element of current assets.
Marketable securities usually give lower yields than firm's operating assets? Then, why would a firm have such marketable securities? There are two reasons for making investment in these securities. First, these serve as a substitute for larger cash balances, liquidating part of the securities to increase the cash balance when cash outflows exceed cash inflows. Second, these are used as a temporary investment to meet known financial requirements of the firm in near future. These also serve as a cushion against seasonal or cyclical requirements of cash. Securities should be purchased as soon as the excess cash is on hand so that income on excess cash may not be lost.

In planning the management of marketable securities, two objectives, namely easy convertability into cash and profitability should be kept in mind. Therefore, the safest procedure is to invest in securities that mature when the cash is needed and at the same time reasonable income is also earned.

An important problem faced by business units is what mix of cash and marketable securities should be maintained. To quote Lawrence J. Gitman, "this decision is difficult to make because it
involves a trade-off between the opportunity interest on idle funds and the cost of brokerages associated with the purchase and sale of marketable securities. This trade-off between interest returns and brokerage costs is a key factor in determining just what proportion of the firm's liquid assets should be held in the form of marketable securities."

6. Financing of Working Capital:

A business unit requires two types of working capital: (a) fixed or regular; and (b) variable or temporary. Fixed working capital is that part of working capital which is permanently locked up in the circulation of current assets on a continuing basis over the entire year. In other words, it represents the amount of cash, receivables and inventory maintained as the minimum to carry on operations at any time to keep up the circulation of current assets from cash to inventories to receivables and back again to cash. On the other hand, variable working capital is that part of working capital which changes with the volume of business. The working capital required to meet the seasonal needs of an enterprise comes under the category of variable working capital. For example,

additional inventory must be maintained to support the peak selling periods. Receivables increase during the peak selling periods and must be financed by additional funds. Similarly, extra cash is required to pay for increased supplies proceeding high activity. Richards C. Osborn has rightly observed when he says, "Part of the current assets of a Corporation are required permanently in the business and are as necessary for its continuity as the fixed assets. Another part of these assets is variable and can be required to fill temporary needs."

The distinction between permanent and variable working capital is of great importance at the time of drafting a financial plan. Since the investment of an enterprise in fixed working capital is permanent, it is logical that the funds for this purpose should be raised in the same way as fixed capital is procured on a long term basis. Otherwise, the enterprise will have a recurring legal obligation to repay such locked up loans not conveniently available.

for repayment. On the other hand, variable working capital needs can be financed from short-term sources. The cost of long-term finance during stable periods usually exceeds that on short-term finance, so it is but natural that short-term requirements of working capital should be met by short-term borrowings. Such a policy of financing of working capital will reduce the cost of working finance and increase the profitability of the firm. Thus, there are two sources of financing of working capital:

a) Permanent sources of working finance.
b) Short-term sources of working finance.

Permanent sources of working finance can be both internal and external. Among the internal resources, retained earnings and depreciation funds are important. Retained earnings are accumulated profits and distributed to shareholders in the form of dividends. There is no immediate pressure to pay a return on this source of working finance. Further, financing of working capital by retained earnings has the advantage of avoiding the cost of raising loans or issuing shares or debentures. But this method of working finance can be used by established concerns and cannot be used in the initial stages of an enterprise.
Depreciation is a non-cash expenditure. It does not involve any cash outlay like other expenditures. As a result, there may be an increase in working capital by an amount equal to the depreciation provisions provided such provisions are not balanced by new investment in fixed assets and are not used for the payment of long-term liabilities.

Internal sources of permanent working finance are irregular and for the most part are temporary. External sources of working finance in form of loans and shares are the sources that can be planned with certainty. Of the two, issue of equity shares is preferable because it does not add to interest burden like long-term loans.

Like the permanent sources of working finance, the short-term sources of working finance may also be internal or external. Among the internal sources, a mention may be made of tax provisions and dividend provisions. Taxes are not paid over day-to-day as the profits are earned but the estimated liability for them is provided in the balance sheet. A certain period of time elapses between the provision of taxes and payment of taxes and during such period
of time the firm can use funds provided for taxes. But, now-a-days, quarterly advance payments of tax have diminished the importance of this source of short-term financing of working capital. Similarly the payments of dividends may be so timed by the directors that there may be no difficulty in their payment.

Among the external sources of short-term finances of working capital are: trade credit and borrowings from banks. Firms use trade credit because it is more convenient to purchase goods and services on an open-book account than to pay cash at the time of purchase. Moreover, a firm need not go through the time consuming procedure of applying for a loan. Another characteristic of this source of financing is that it appears to be inexpensive because it has no apparent cost. However, it must be remembered that the firm granting the trade credit incurs a cost by tying up its money in goods sold on credit and recoups the cost by charging more for its products. So, trade credit is not free of cost; it has some hidden cost. It is a spontaneous source of financing because it arises in the ordinary
business transaction and is used to finance inventories.

Borrowings from the commercial banks account for a large part of the current working finance. These borrowings may be arranged in the form of secured or unsecured loans. For the major portion of working capital required, the public sector undertakings are normally expected to approach the commercial banks.

7. **Analysis of Working Capital**

From time to time many questions relating to efficiency of working capital are asked. Is the working capital being effectively utilized? Is the amount of working capital sufficient, excessive or inadequate keeping in view the day-to-day operations of the firm? Will the company be able to pay its short-term obligations when they fall due? Is the working capital position improving or becoming worse day by day? To answer such questions, an analysis of the working capital position of an enterprise should be made. In this regard two important tools, namely, funds flow statement and ratio analysis are used.

7.1 **Funds Flow Statement** Changes in the financial condition of a firm are depicted through the funds
flow statement showing sources of funds and the applications of funds during the financial year. The term funds can be taken as working capital, so all transactions affecting working capital (current assets and current liabilities) are recorded in this statement. This statement indicates changes in working capital during the year, i.e., increase or decrease in the working capital.

Increase in working capital means application of funds and decrease in working capital is taken as a source of funds. Funds flow statement reveals whether the addition to working capital during the year has been financed out of operating profits, issues of shares or debentures, or sale of fixed assets. This statement also explains why in spite of earning good amount of operating profits, the firm is experiencing difficulty in payment to creditors or payment of dividends to shareholders. In brief, this statement provides an explanation as to how and why the working capital has undergone changes.

Funds flow statement suffers from a deficiency in the sense that it does not clarify the significance of movements of individual current assets and current liabilities. Further, this technique
of analysis of working capital is useful to the internal management and does not throw light whether the working capital is being effectively utilized or not.

7.2 Ratio Analysis: Ratio analysis is the commonly cited form of analysis which deals with each and every aspect of working capital management. A ratio is simply the relationship between two variables. By itself, it has almost no relevance. For a ratio to have meaning, it must be interpreted against some yardstick. There are two main ways to analyse a ratio. In the first method ratios over time are studied within the organisation with the result that significant trends indicating stability, rise or decline are highlighted. In the second method, the ratios are compared with the ratios of other firms in the same industry. Such comparisons are significant because firms of the same industry face similar financial problems. It may be pointed out that ratio analysis proceeds on the assumption that the industry average is a suitable standard of performance for individual firms in that industry. The various types of ratios which are directly connected with the management of working capital are discussed below:

**Liquidity of Working Capital** The liquidity of a
business unit is measured by its ability to meet its short-
term obligations as and when they fall due. An analysis of the liquidity of working capital is very helpful for short-term creditors and internal management of a firm since it communicates to the former the chances of receiving the payment on the due date and to the latter it indicates whether working capital is sufficient or not. The two basic measures of this important feature of working capital are (1) current ratio and (2) acid-test ratio or quick ratio.

**Current Ratio:** This is the ratio of current assets to current liabilities and is expressed as follows:

\[
\text{Current Ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}
\]

Standard current ratio as per text books is 2:1, although individual companies may have this ratio anywhere in the range of 1.5-2.5; if a firm has been able to manage its operations successfully for a number of years on a current ratio of 1.5, then this indicates that 1.5 is a satisfactory ratio for that particular firm. The higher the ratio the more liquid the company is; at the same time, however, too high current ratio may indicate a failure to utilize its resources properly. On the other hand, a low ratio is an indicator that a
unit may not be able to meet its short-term obligations on the due date, particularly, if conditions change causing a slow down in cash inflows. What is important here is not the quantum of ratio alone, but its quality. It is necessary to see to what extent the liabilities are really current. This ratio shows the extent to which the firm's current assets can shrink in value without making it impossible for the firm to cover its current liabilities. For example, a current ratio of 2:1 means that the firm can still pay its current liabilities even if the current assets diminish in value by 50 percent.

Comparison of the amount of working capital over time is useful in making analysis of the liquidity of the same firm and should not be made for making inter-firm comparisons; instead the current ratio should be used for this purpose as is clear from the following example:

**Balance Sheet (Abridged) of Firm A**

<table>
<thead>
<tr>
<th>Shareholders' Fund</th>
<th>Rs. 6,00,000</th>
<th>Fixed Assets</th>
<th>Rs. 8,00,000/-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term Debt</td>
<td>4,00,000</td>
<td>Current Assets</td>
<td>Rs. 6,00,000/-</td>
</tr>
<tr>
<td>Current Liabilities</td>
<td>4,00,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14,00,000</td>
<td></td>
<td>14,00,000/-</td>
</tr>
</tbody>
</table>
### Balance Sheet (Abridged) of Firm 'B'

<table>
<thead>
<tr>
<th></th>
<th>Rs.</th>
<th>Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shareholders' Fund</td>
<td>8,00,000</td>
<td>12,00,000</td>
</tr>
<tr>
<td>Fixed Assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-term Debt</td>
<td>8,00,000</td>
<td>16,00,000</td>
</tr>
<tr>
<td>Current Assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Liabilities</td>
<td>12,00,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>28,00,000</td>
<td>28,00,000</td>
</tr>
</tbody>
</table>

Calculations of the amount of working capital and current ratios give the following results:

<table>
<thead>
<tr>
<th></th>
<th>Firm 'A'</th>
<th>Firm 'B'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Capital (current assets - current liabilities)</td>
<td>Rs.2,00,000</td>
<td>Rs.4,00,000</td>
</tr>
<tr>
<td>Current ratio (Current assets / Current liabilities)</td>
<td>1.5:1</td>
<td>1.33:1</td>
</tr>
</tbody>
</table>

Firm B seems to be more liquid than firm 'A' if we compare working capital of two firms; whereas on the basis of current ratio firm A is more liquid than firm B because firm A can afford more shrinkage in value of current assets. A final point worth of noting is that whenever a firm's current ratio is 1, its working capital is zero (current assets equal current liabilities) and if its current ratio is less than 1, it has a negative working capital (current liabilities exceed current assets).
Quick Ratio: This ratio is a more precise measure of liquidity than the current ratio because it excludes inventories from the firm's current assets. The reason for excluding inventories from current assets is that these usually take sometime to realise and they will not, therefore, be available to meet immediate current liabilities. The formula for the derivation of this ratio is as follows:

\[
\text{Quick Ratio} = \frac{\text{Current assets} - \text{inventories}}{\text{Current Liabilities}}.
\]

The quick ratio is also named as acid test ratio because it shows the ability of a firm to pay its short-term obligations when they become due without relying on the sale and collection of inventories. According to Yasaswy and Srinivas, "An ideal current quick ratio again prescribed by many text books is 1:1. But in fact, many Indian Companies are doing well with quick ratio around 0.45:1.00"

What is considered an acceptable ratio depends on the industry in which the firm operates. A quick ratio higher than the prescribed norm may indicate that the firm has excessive cash or receivables, both signs of inefficient management of working capital. On the other hand, a ratio lower than the yardstick is a sign of difficulties in the prompt payment of short-term obligations when they fall due.

Daily Cash Flows: Another useful liquidity measure is to find out the daily cash inflow of the firm from its normal trading operations. The daily cash inflow is calculated as follows:

\[ \text{Net profits} + \text{depreciation} \]
\[ \frac{\text{number of trading days per year}}{\text{}} \]

Depreciation has been added to net profits because it does not involve any cash outflow. Calculation of this figure gives an idea of the daily cash inflow from trading operations which is useful in knowing how long it will take for creditors to be repaid only from the company's trading operations if the firm's cash was exhausted and receivables and inventories were unrealisable. Further, if there is
a serious situation of deficit working capital in a firm when current liabilities exceed current assets, the daily cash inflow from trading operations would indicate how many trading days it would take to remedy the situation.

Circulation of Working Capital: An analysis of the circulation of working capital throws light on the efficiency with which various components of working capital are being managed. Turnover ratios have been developed in judging the effectiveness with which various current assets are being utilized in the business. Generally, the higher the turnover ratios, the smaller would be the amount of working capital that a business enterprise needs. The following ratios may be used to make an analysis of this feature of working capital.

Inventory turnover ratios: These ratios help in making an analysis of the use of working funds in the different types of inventory. These ratios show how many times the different types of inventory have turned over. These ratios include (i) the turnover of aggregate inventory, (ii) the turnover of raw materials inventory, (iii) the turn-over of
stores and spares inventory (iv) the turnover of work-in-progress inventory, and (v) the turnover of finished goods inventory.

**Turnover of Aggregate Inventory**

This ratio shows how many times the inventories have turned over, i.e. how many times the aggregate inventory was sold and replaced during an accounting period. The ratio is calculated as follows:

\[
\text{Turnover of aggregate inventory} = \frac{\text{Net Sales}}{\text{The value of aggregate inventory at the end of the accounting period.}}
\]

The higher the ratio, the more efficiently the firm has managed its inventory. But this is true up to a point beyond that a high inventory turnover ratio may create problems. For example, one method to increase this ratio is to hold very small inventories; such a situation could lead to a large number of stock-outs which could reduce the future sales.

**Turnover of Raw Materials Inventory**

This ratio is one method of exercising control over materials. The ratio is calculated as follows:
Cost of materials consumed during the year

Cost of stock of materials at the end of the year.

This ratio shows the number of times the raw materials were replaced during a year and helps in ascertaining the items of materials which are slow moving helping management to avoid keeping working capital locked up in such items. A low ratio is an indicator of slow moving stock, accumulation of obsolete materials, carrying of too much investment of funds in materials. If the ratio for a particular item of materials is zero, it means that the item had not been used at all during the year and should be immediately disposed of otherwise the quality of the item will be deteriorated.

Turnover of Stores & Spares Inventory:

This ratio is obtained by dividing the value of stores and spares consumed during the year by the cost of stock of stores and spares held at the end of the year. Expressed as a formula, it is:

\[
\text{Cost of stores and spares consumed during the year} \\
\frac{\text{Cost of stock of stores and spares held at the end of the year.}}{}
\]

The higher the ratio, the more efficiently the firm has managed its stores and spares inventory and lesser is the working capital tied up in such inventory.
On the other hand, a lower turnover ratio is a sign of excessive investment of working capital in this segment of inventory.

**Turnover of Work-in-progress Inventory:** This is ratio of cost of goods produced to value of stock of work-in-progress at the end of the year. It is calculated as follows:

\[
\text{Cost of goods produced during the year} \quad \frac{\text{Value of stock of work-in-progress at the end of the year.}}{\text{Value of stock of work-in-progress at the end of the year.}}
\]

Like other inventory ratios, higher the ratio better it is. A low ratio is an indicator of inefficiency in management of this segment of inventory.

**Turnover of Finished Goods Inventory:** This ratio establishes a relationship between the value of sales and the inventory of the finished goods. This is computed thus:

\[
\text{Net Sales during the year} \quad \frac{\text{Cost of stock of finished goods at the end of the year.}}{\text{Cost of stock of finished goods at the end of the year.}}
\]

Higher the ratio, better it is because it indicates that a larger volume of sales has been accomplished for the given investment of working capital.
in finished goods inventory. On the reverse, a falling ratio may be taken to mean that the volume of sales accomplished for the given volume of working capital in finished goods inventory is lower or more of finished goods has been kept to accomplish the given volume of sales.

**Average Age of Inventory:** Average age of inventory represents how many days or months, on the average, an item of inventory remains in the firm's inventory. Expressed as a formula, it is:

\[
\text{Average age of inventory in days} = \frac{365}{\text{Inventory turnover ratio}}
\]

\[
\text{Average age of inventory in months} = \frac{12}{\text{Inventory turnover ratio}}
\]

Average age can be calculated for each segment of inventory, i.e. raw materials, stores, and spares, work-in-progress and finished goods. The shorter the average age of the firm's inventory, the more liquid it may be considered, and less investment of working capital has been made in stock. On the other hand, an increasing average age of inventory indicates that
excessive working capital has been deployed in inventory.

**Receivables Turnover:** This ratio establishes the relationship between annual credit sales and receivables at the end of the year. The formula for this ratio is:

\[
\text{Receivables turnover} = \frac{\text{Annual credit sales}}{\text{Receivables at the end of the year}}
\]

The higher the ratio, the more favourable it is because it indicates better liquidity of receivables. A related ratio is the average collection period. It is calculated as follows:

\[
\text{Average Collection Period} = \frac{365}{\text{Receivables Turnover}}
\]

The average collection period is a more meaningful measure in evaluating the firm's receivables because it indicates to management the quality of its receivables, the wisdom of its credit granting policies and the efficiency of its collection policy. A collection period longer than the period allowed to customers suggests that credit department is inefficient in the collection of receivables and higher amount of working capital is blocked in receivables.
Aging Accounts Receivables:

This is a technique for evaluating the composition of accounts receivable. It equips the management with information relating to the proportion of each type of debt that has been outstanding for a period of time. By aging accounts receivable at regular intervals the management will be able to know a trend towards slowing down in the collection of accounts receivable, so it is a kind of early warning device regarding deterioration in the quality of receivables and the increasing possibility of large bad debt losses. A significant rise in the percentage of old debtors may be due to inefficient collection machinery. Under the Companies Act, 1956, a debt, which remains outstanding for a period exceeding six months, shall be shown separately from other debts for the purposes of the balance sheet.

Cash to Current Assets Ratio: This ratio establishes the relationship between cash and current assets. This ratio indicates that if most of the current assets are made up of cash alone, the profitability of a firm comes down because cash is the least profitable of all the current assets. Therefore, maintaining a cash balance which may be much more than the business needs, indicates that the surplus cash is not being
gainfully utilized. The proportion of cash to total current assets should be kept as low as possible keeping in view the operational needs of the business.

**Inventory to Working Capital Ratio:** To ascertain whether there is overstocking or otherwise, the inventory turnover ratio needs to be supplemented by the ratio of inventory to working capital. To keep the firm in sound financial health, it is desirable that the inventory should not exceed the working capital. Preferably, the inventory should be less than working capital. The formula for the derivation of this ratio is:

\[
\text{Inventory to working capital ratio} = \frac{\text{Inventory}}{\text{Working Capital}}.
\]

This ratio is connected with the quick ratio. If the quick ratio is more than 1, then the inventory to working capital ratio is less than 1 and a higher margin or security is available to creditors against quick assets. On the reverse, if the inventory to working capital ratio is more than 1, then quick ratio will be less than 1 and creditors will be unsecured to a greater extent due to fluctuations in inventory values.
8. **Summary and Conclusion**

The study of the conceptual framework of working capital has revealed the following points:

1. **Working capital represents the heart of the business.** It has an important bearing on the profitability of an industrial unit. Inefficient management of working capital leads not only to loss of profits but also to the ultimate closure of a business firm which might otherwise be a promising unit.

2. **The problem of working capital has been engaging the attention of the financial institutions and government agencies.** Keeping in view the importance of the problem, the now defunct National Credit Council, appointed a Working Group known as "Dehejia Committee" to go into establishing some norms for lending operations by commercial banks in the country. The Reserve Bank of India set up the study group in July 1974 under the Chairmanship of Shri P.L. Tandon to frame guidelines for follow-up of bank credit. Its important terms of reference were to suggest guidelines for commercial banks to follow-up and supervise credit from the point of ensuring proper end-use of funds and to suggest inventory and receivable norms. It was also to make recommendations regarding the sources for financing the working capital requirements.
3. There are two concepts of working capital: 'gross' and 'net'. According to the first concept, working capital is the total of current assets and according to the latter concept working capital is the excess of current assets over current liabilities. It is the latter concept which has been followed for the purpose of this study because it permits a long-term view of management of working capital.

4. Working capital is required for carrying on the day-to-day operations of a firm and should not be taken merely as a margin of safety for short-term creditors. So, nature and interrelationship of working capital can be best understood by the operating cycle of the firm.

5. The profitability and survival of an industrial unit depends upon the efficient management of working capital. This underlines the importance of efficiently managing key variables (i.e. current assets and current liabilities) affecting working capital.

6. A firm requires two types of working capital (a) fixed and (b) variable. Fixed working capital is that part of working capital which is permanently invested in the circulation of current assets on a
continuing basis. On the other hand variable working capital is that part of working capital which goes on changing with the volume of business. Funds for fixed working capital should be raised in the same way as fixed capital is procured from the permanent sources. The cost of permanent sources of finance exceeds that on short-term finance, so it is but natural that variable requirements of working capital should be met by short-term borrowings.

7. To make an analysis of working capital, two important tools, namely, funds flow statement and ratio analysis are proposed to be used in the present study. Of the two, the former does not clarify the significance of movements of individual current assets and current liabilities, so the latter technique is the better as it deals with each and every aspect of the working capital analysis.