CHAPTER 3

WORKING CAPITAL MANAGEMENT - CONCEPTS, TOOLS
AND TECHNIQUES
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In this Chapter, an overview of working capital and its management has been presented. The Chapter is conceived in three parts. The first part deals with the historical perspective of working capital, definitions, implications vis-a-vis corporate objectives, the 'management' dimension, the theoretical framework and policy aspects. The second part deals with characteristics, classification and components of working capital, factors influencing working capital levels, assessment of working capital needs and sources of financing working capital. The third part describes some tools and techniques for management and control of working capital.

Working capital in historical perspective

The concept of working capital is not something new. Seven decades ago, W.H. Lough wrote, "Sufficient working capital must be provided in order to take care of the normal process of purchasing raw materials and supplies, turning out finished products, selling the products and waiting for payments to be made. If the original estimates of working capital are insufficient, some emergency measures must be resorted to or the business will come to a dead stop."

The scope and functions of financial management has itself undergone vast changes during this period. The

2. For a more comprehensive discussion of the evolution of financial management, see Ezra Solomon, "The Theory of
traditional approach to financial management, developed during the twenties and which held sway till the early fifties, limited the scope of financial management to merely procurement of funds by corporate enterprises to meet their financing needs. Writers are divided on the question whether management of working capital was stressed sufficiently under the traditional approach. For instance, Weston and Brigham hold the view that, "Traditionally, the literature of business finance has emphasised either management of working capital or acquisition of funds .... Much of his (the financial manager's) energy is devoted to management of working capital." 3 On the other hand, Khan and Jain observe that the "traditional treatment was found to have a lacuna to the extent (that) the focus was on long-term financing. Its natural implication was that the issues involved in working capital management were not in the purview of finance function." 4 However, it would well be in order to suppose that under the traditional approach working capital did assume enough importance since the early developments in financial management were essentially in relation to agriculture, trade and manufacturing and in each of these current resources and their financing form the main issues for managing.


The traditional approach to financial management was criticised on the ground that it did not consider the important dimension of allocation of capital and thus ignored what Ezra Solomon describes as the central issues of financial management.\(^5\) Such criticism led to the development of the modern approach to financial management which uses the term 'financial management' in a broader sense and provides a conceptual and analytical framework for financial decision making to cover both the acquisition of funds as well as their allocation. Financial management is now viewed as an integral part of the overall management. "Beginning in the 1950s, a broader definition of financial management began to emerge. Financial management came to be considered an integral part of general management rather than a staff speciality concerned only with administering sources of funds. Financial management now was concerned also with the uses of funds and therefore with the investment decisions that determine the nature of a firm's business."\(^6\)

Financial management in modern times has been broken down into three major decision areas, viz., the investment decision, the financing decision and the dividend policy decision. The modern approach clearly recognises working capital as an important constituent of the scope and functions of financial management and most writers include


Working capital management as part of the investment decision pertaining to current or short-term assets.  

**Working Capital - Definitions**

Literature in financial management refers to two main concepts of working capital, viz. 'gross' and 'net'.

Under the gross concept, working capital is defined as the sum total of all current assets employed in the business. As the total of all financial resources which are put to variable operative purposes, working capital comprises current assets such as inventories, receivables, cash and marketable securities. Several authors like Mead, Malott, Baker and Field have defined working capital in this sense.

Under the net concept, working capital is defined as the excess of current assets over current liabilities. This concept seems to have appealed better than the gross concept to many authors. For instance, according to Gole, "Whenever working capital is mentioned, it brings to mind current assets and current liabilities with general understanding that working capital is the difference between the two."

The two concepts have also led writers like Kuchhal to distinguish between 'gross working capital' referring to the total current assets and 'net working capital' referring

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to the surplus of current assets over current liabilities.  

Such conceptual difference, also appears to have dismayed some authors, for example, Dewing says "owing to the confusion of terms, the expression 'working capital' had better be omitted altogether."  

There does not appear to be anything conflicting about the two concepts. They emphasise two major aspects of working capital. Husband and Dockeray refer the gross concept as the quantitative aspect and the net concept as the qualitative aspect of working capital. The gross concept defining working capital as the total of current assets lays stress on the quantum of the components of current assets such as cash, inventory, etc. which are used to work on the productive or fixed assets of business viz. plant, building and machinery. An appropriate mix between fixed assets and current assets is an important criterion for profitability. On the other hand, the net concept is oriented towards the qualitative dimension of working capital. Under this concept, there is focus on the liquidity of the current assets. Excess of current assets over current liabilities measures the liquidity of the firm and one of the important facets of financial management is to ensure corporate liquidity at all times. Therefore, it would be inappropriate to regard the


two concepts as mutually exclusive because each has its respective relevance. The gross concept helps in determining the quantum of working capital, component-wise and in total, their proper utilisation and methods of their financing. The net concept helps in evaluating the liquidity position of the business in order to ensure that technical insolvency does not overtake the business. Thus both concepts are facets of the same central theme in financial management.

Working capital vis-à-vis business objectives

Working capital has an important bearing on business objectives because the two vital aspects of corporate business viz., profitability and liquidity, are both considerably influenced by the efficiency with which working capital is managed. Profitability is enhanced by efficient management of current resources like materials and cash which constitute the two most important components of working capital. As regards materials, minimising their cost and consumption and avoiding their wastage go a long way in reducing the cost of production of goods and services and thus increasing the margin of profit. With regard to cash, since cash is by itself an idle asset, it

13. Insolvency can be either legal or technical. Legal insolvency may be defined as being unable to pay one's debtors even when all the assets are realised. Technical insolvency refers to the position when the company does not have time to realise its assets to pay its creditors. No doubt, technical insolvency is less serious than legal insolvency.
should be used judiciously so as to generate the right volume of revenues to result in profit. It should be recognised that there is an opportunity cost of holding the current assets like inventories and debtors represented by the interest foregone due to investment in them. Further, poor control of inventory and debtors can result in losses through the holding of obsolete items and bad debtors.

But profitability is a longer-term objective of the business. The most immediate objective, and which is concerned with the day-to-day business, is liquidity which means the ability of the firm to meet its day-to-day obligations as and when they become due. This aspect depends a great deal on the efficiency with which current assets in general and cash in particular are managed.

Working capital management

The modern view of financial management is that it is a part of the overall corporate management. Therefore, to comprehend that working capital management is different in its essence from financial management is the very negation of the integrated approach to management. "Technically, working capital management is an integral part of the overall financial management. To that extent it is similar to the long-term decision making process because both entail an analysis of the effects of risk and profitability." 14

in the context of working capital conveys that working capital is a decision area in business calling for managerial skills. Moreover, the term is also used to indicate the functional content implied in 'management', such as setting up of objectives and goals, framing of policies and plans and initiation of control and review in relation to working capital. According to Michael Firth, "in spite of the enormous amounts involved, very little management or control of working capital was done until quite recently; often the only management was that by necessity i.e. reducing current assets to meet overdraft requirements."\(^{15}\)

The implication of the term 'management' in relation to working capital has not been adequately projected in the many definitions of working capital management. Generally working capital management is defined as management of current assets and current liabilities and the sources of their financing. But the problem of managing working capital as a whole has got a separate basis as against different decision making issues concerning current assets individually. According to Kuchhal, the skills for working capital management are somewhat unique, though the goals are the same as in managing current assets individually.\(^{16}\)

Even so, most definitions are by way of highlighting one aspect or the other, such as quantities, levels, financing, etc


For instance, Gitman states that the goal of working capital management is "to manage each of the firm's current assets and current liabilities in such a way that an acceptable level of net working capital is maintained." According to Ramamoorthy, "Management of working capital involves the financial manager in deciding about where to look for working capital funds, how to use them, how to measure, plan and control." Smith lays stress on the inter-relationship between current assets and current liabilities and defines working capital management as "concerned with the problems that arise in attempting to manage the current assets and the current liabilities and the inter-relationship that exists between them."

A comprehensive definition of working capital management must, therefore, include all dimensions of the functional issues involved in managing working capital such as objective-setting, policy formulation and plans, review and control in addition to quantitative and qualitative aspects. At the same time, the definition


should also emphasise that working capital management is but a part of the overall financial management. Regrettably, such a definition does not seem to have been attempted uptill now, except by Rajeshwar Rao and Jogaiah, who say "Efficient management of working capital involves setting up of the objectives of working capital, formulating plans and policies to achieve the set objectives, making adequate organisational arrangements with clearly defined duties and responsibilities for different management levels involved and exercising effective control through a system of authorisation of expenditure and timely reporting." 20

Characteristics of working capital management

In order to develop a distinctive understanding of working capital management, some of its main characteristics should be considered. The first arises out of the characteristic of the components of working capital viz. the short life-span of current assets and current liabilities and the time factor which plays an important role in decision making. Both these factors influence the problems involved in working capital management. For instance, decisions in the case of fixed assets are influenced by the benefits arising from them discounted over time but in the case of current assets, time is less crucial as a decision variable because, by definition, current assets lose their identity fairly quickly.


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The second characteristic is that decisions affecting the level of working capital are frequent and repetitive. If managers get too much involved with the operating function, they will have very little time to develop a broader perspective for efficient management. It would, therefore, be necessary that a set of unambiguous rules are created by managers, within the overall goals, and handed down to lower levels of management for making routine decisions. Simultaneously a feedback system should be set up to ensure proper adherence of these rules.

The third characteristic is that "a close interaction among working capital components entails the assumption that efficient management of one asset form can not be undertaken without simultaneous consideration of other components." For instance, although there is a basic similarity between cash and inventories, simple inventory models have been found to be inappropriate in management of cash. Similarly, credit department is directly concerned with bad debts, and not with level of inventories so much so that the credit manager would be reluctant to extend credit to sub-marginal customers even when the resultant cost of bad debt is less than the cost of excess inventories.

Objective of Working Capital Management

The overall objective of financial management veers round two aspects viz. profitability and solvency and the

same aspects govern working capital management too. Profitability and solvency are, in fact, interlinked objectives in the context of working capital management. To ensure solvency, a firm must have liquidity; which is measured by the excess of current assets over current liabilities. Therefore, a firm's liquidity increases by holding a large volume of current assets which means huge investments in current assets. But larger the investment in current assets, the greater is the locking-up of funds resulting in higher cost of capital and therefore reduced profitability. Thus, higher the liquidity, the lower will be the profitability and vice-versa.

In view of the direct but obverse relationship between profitability and liquidity, the objective of working capital management should be to strike a proper balance between the two so that profitability and liquidity are commensurate for the firm. Hence, the objective of working capital management is to achieve an optimal combination of profitability and liquidity. It is also called the "return-risk trade off" because profit is measured by the rate of return on investment while risk means the business risk of insolvency which is directly affected by liquidity.

A different way of looking at the return-risk trade off is in terms of the cost of maintaining a particular
level of current assets. Two types of costs can be thought of viz. the cost of liquidity and the cost of illiquidity. If a firm holds a high level of current assets, it would have excess liquidity; but the return on its assets will be low since funds are tied up in idle cash and stocks which earn nothing and in debtors which reduce profitability. Thus the cost of liquidity increases with the level of current assets. The cost of illiquidity, on the other hand, represents the cost of holding insufficient current assets. The firm will not be able to meet its payment obligations if it has too little cash. This will force the firm to obtain cash by borrowing it at high rates of interest. Similarly, a low level of stocks will result in loss of sales while a low level of debtors would affect future sales. Thus the cost of illiquidity i.e. cost of lower levels of current assets increases as current asset levels decrease.

Balancing the return-risk tangle under the cost of liquidity/illiquidity approach means minimising the total costs i.e. liquidity and illiquidity costs. In other words, the levels of current assets must be so maintained that the total cost of liquidity together with the cost of illiquidity is minimised. The following diagram makes the point clear.
CHART 3.1
LIKIDITY AND ILLIQUIDITY COSTS TRADE OFF

TOTAL COST
COST OF LIQUIDITY
COST OF ILLIQUIDITY

LEVEL OF CURRENT ASSETS

MINIMUM COST
TOTAL COST
COST OF LIQUIDITY
COST OF ILLIQUIDITY

LEVEL OF CURRENT ASSETS

OPTIMUM LEVEL OF CURRENT ASSETS
A theoretical basis for Working Capital

A review of literature in the field of finance reveals that, although considerable effort has been made in the development of techniques and tools used in working capital management, not much effort has been directed towards the development of a theory which could serve as a basis for formulating working capital policies. All the academic work that has been done so far in the field of working capital management is mainly in the nature of empirical studies of a random sample of working capital situations in business firms. While the data employed in such a study may be statistically sound, there is no proof that the conditions which prevailed during the period of the study will repeat themselves. Therefore Carl Dauten observed "A theory of business finance cannot be developed solely from a study of what has occurred in the past, an analysis of such data and the drawing of generalisations. For example, a study of the working capital policies of corporations, over a period of time, will not necessarily provide the data for developing a theory of working capital. In the first place, in any such series studied over a period of time, each figure is in a real sense unique since business fluctuations do not repeat themselves in any determinable pattern and this makes generalisation difficult and unreliable." 22

However, Walker has developed a four part theoretical framework for working capital on the basis of two assumptions, viz. that managements wish to maximise the present value of the firms' net worth and that every firm is subjected to risk during the normal business process primarily because of managements' inability to forecast the future. Risk is defined as the uncertainty of achieving the firm's goals or objectives as well as the uncertainty of not maintaining the value of the firm's assets. In the particular context of working capital management, risk would refer to the uncertainty associated with the firm's ability to maintain the correct amount of cash, inventory and receivables in order to maintain production and sales in such a manner as to achieve its primary goals.

Relationship with sales, risk and gains

The first part of the theory of working capital states: if the amount of working capital is varied relative to sales, the amount of risk that a firm assumes is also varied and the opportunity for gain or loss is increased. This implies that a definite relationship exists between the degree of risk and the rate of return. For instance, a conservative management would employ more working capital for a given volume of sales than another which is willing to assume more risk. The levels of working capital can thus be expected to reveal the policy of management and its

objective as regards taking risk vis-a-vis the rate of return it expects from investment in working capital. By correctly analysing the factors determining the levels of working capital and the state of economy, a management can determine a level of its working capital which will bring in the equilibrium between the rate of return and the firm's ability to assume risk. This squares correctly with the objective of working capital management.

An important connotation of this theory is that a firm's rate of return varies inversely with the level of its working capital. The more conservative a management is, the lower will be the rate of return on its working capital investment, though, at the same time, the firm will enjoy a greater degree of liquidity.

**Criterion for Investment**

The second part of the theory states that capital should be invested in each component of working capital so long as the equity position of the firm increases. This arises from the principle which is universally true, viz. that every rupee invested in fixed or working capital should contribute to the welfare of the firm. Stated negatively, it means that no investment should be made unless each rupee invested in cash, receivables or inventories contributes to the firm's net worth. According to Seymour Friedland, "the firm will invest in trade
credit if the net present value of the investment is positive .... Cash will be held as long as the expected value of the cash balance exceeds the cost. Thus, cash will be held if the holdings increase networth. This is relevant in the context of the fundamental problem facing management in determining the ideal level of working capital which is the point at which the investment made will cause the net-worth to be higher than what it would have been had the investment not been made.

**Type of Financing and Rate of Return**

The third part of the theory is concerned with the effect arising from the type of capital used in financing working capital requirements on the rate of return. Stated briefly, the type of capital used to finance working capital i.e. equity or debt directly affects the amount of risk which, in turn, affects the firm's opportunity for gain or loss as well as its cost of capital. Equity and debt capital possess varying degrees of risk and therefore a firm would be able to increase its opportunity for higher return on equity through the use of debt capital. In other words, a firm will employ only equity capital if it wishes to minimise risk, but in doing so it would forego the opportunity for a higher return on equity capital.

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Maturity periods and Risk

The fourth part of the theory may be stated as; the greater the disparity between the maturities of a firm's short-term debt and its flow of internally generated funds, the greater the risk, and vice-versa. The importance of this principle lies in the fact that, as management is not compensated for assuming this type of risk, such risk should not be assumed under any circumstances. It is extremely difficult to predict accurately a firm's cash flows in a dynamic economy, and therefore, a margin of safety should be included in every short-term debt contract i.e. adequate time should be allowed between the time funds are generated and the date of maturity of the debt.

On the basis of the above considerations an overall theory of working capital management can be summarised. It can be stated that the policies governing the amount and type of working capital are determined by the preparedness of management to assume risk. In other words, by assuming more risk, a management can reduce the amount of working capital required and thus increase the efficiency of capital, resulting in an increase in total profits. Also, by employing more debt capital, management can increase the rate of return on equity and, reduce its cost of capital. Finally, more debt capital can be employed provided the firm's ability to repay its obligations through proper scheduling can be accurately determined.
Working Capital Policy

The delineation of a unique working capital policy for a firm is not possible. "Depending upon the state of money markets, the business and financial risk faced by a firm and the subjective probability distribution of risk premia, an indefinite number of policy alternatives may open up." However, there are three identifiable shades of such alternatives leading respectively to conservative, moderate and aggressive working capital policies depending on high or low mixes of long-term debt or current liabilities or current assets and high or low risk accompanying each of the three mixes.

The conservative policy aims at avoiding short-term financing totally so that the risk in renewing short maturities is altogether eliminated. Even a high level of current assets is financed by long-term debt or permanent source of capital. Evidently this is the safest course since a high level of current assets accompanied by a zero level of current liabilities produces an indefinite current ratio.

The aggressive policy at the other extreme, finances all requirements - current and long term - by short term borrowing. The risk in this case is very high as the current ratio becomes dangerously low. Such a policy nevertheless increases equity of returns. The average policy follows a middle path and moderates the risk within fair tolerances.

Part 2

Characteristics of working capital

Current assets possess a set of characteristics which distinguish them from fixed assets and are relevant in their management. These are:

**Short span of life:** The first and the most important characteristic is that current assets are short-lived. Typically the short-life span does not exceed one year. Such short-life is inherent in the very definition of current assets as "those which in the ordinary course of business will be turned into cash within the operating cycle (normally one year)" But through theoretically current assets are supposed to be used up within one year, in practice there are assets which do not obey this criterion and yet are classified as current assets. For example, tobacco companies keep their raw-materials in storage for curing purposes for more than a year, and yet, these are treated as inventories under current assets.

**Swift transformation and inter-linked asset forms:** The second important characteristic of current asset components is that they are swiftly transformed into other asset forms. Typically in a business, cash is utilised to replenish inventories; inventories are diminished when credit sales occur which augment accounts receivables; collection of accounts receivables increases

the cash balances. Thus the cycle of cash - inventory - account receivables - cash is repeated continuously in business.

The asset forms and synchronisation of activity levels: The third characteristic of current assets is that their life span depends on the extent to which the three basic activities, viz. production, distribution (sales) and collection are non-instantaneous and unsynchronised. If production and sales were synchronised, there would be no need for inventories of finished goods. Similarly, when all customers pay cash, accounts receivables management becomes unnecessary.

It is important to note that in the case of STUs the current assets are influenced considerably by the synchronisation of the three basic activities of production, sales and collection of dues. STUs 'produce' passenger transport services as the buses run and which are marketed and sold simultaneously in the bus. Passengers pay for these services immediately and in cash which account for as much as 95% of the earnings of STUs. Thus the cash cycle is very much shortened.

Classification of Working Capital

Time constitutes an important point of focus in many an issue concerning financial management. The assets
employed in a business are classified into fixed and current assets on the basis of time. Fixed assets have longer life whereas current assets are characterised by a short span of life. Similarly, the capital and liabilities appearing in the balance sheet are also classified according to the time factor, into long-term and short-term.

In relation to working capital also, the time factor has been used to describe the various kinds of working capital. Such classification is also useful to ensure proper treatment with regard to the source of financing and management decision making concerning each kind.

Working capital is usually classified into two kinds, viz. (a) permanent and (b) variable.

(a) **Permanent working capital**: A part of the investment in current assets would always be required as a permanent feature in any business and for which funds have to be found as a permanent arrangement. Such a part covers the irreducible minimum amount necessary for making the circulation of the current assets and may be termed as 'permanent' working capital. It represents amounts of various current assets and current liabilities which persist year after year and are not influenced by weekly or monthly fluctuations in the business activity of the firm. According to Mohammed and Khan, permanent working capital represents "the amount of funds which are required to produce certain volume of services in a given period of time." 27 In other words,

permanent working capital is permanently sunk in the current assets of a business all the time.

Permanent working capital may be sub-divided into (i) 'initial' working capital and (ii) 'regular' working capital. This can be viewed in the context of the time taken before the regular flows of cash take a steady pattern of occurrence.

(i) Initial working capital: When a company has not been firmly established and when liberal terms of credit have to be given to customers, it may be necessary to create a fund to maintain the outflow of cash. Thus, there would be the need for an 'initial' working capital which would correspond to the amount of cash required to initiate the circulation of the cash flow and keep it moving till the inflow of cash starts generating funds. In other words, till the time the cash inflows, by way of receivables, become greater than the cash outflows, there would be the need for some funds as initial working capital. It appears logical that the initial working capital, which is a part of the permanent working capital, should be financed by the owners of the business.

(ii) Regular working capital: A company might require an excess of current assets over current liabilities at all points of time in order to maintain the circulation of capital. In other words, a safe margin of liquidity of cash has to be maintained as a permanent feature. The
regular working capital is thus the irreducible minimum necessary to keep a steady circulation of current assets. Usually, the regular working capital is a fixed amount which would change only with the expansion of business. Long term funds would be needed to finance regular working capital.

(b) Variable working capital: The working capital requirements of a business would vary from time to time, notwithstanding the fixed/permanent working capital owing to variations in the volume of sales and seasonal fluctuations in the demand for products and the supply of raw materials. The additional requirements of working capital due to these variations is called variable working capital. The variable working capital is usually met through short-term financing such as bank loans against hypothecation of inventories or mortgage of fixed assets, though sometimes, variable working capital is also met from more permanent sources, such as retained earnings or by the sale of shares or long-term debt.

Variable working capital can be further sub-classified into (i) seasonal working capital and (ii) special or emergency working capital.

(i) Seasonal working capital: Seasonal working capital arises mainly on account of variations in production levels, business cycles and seasonal changes. For example, an anticipated rise in the price level may induce a firm
to increase its stocks of raw materials and finished goods. Also more money may be required to tide over dull market conditions.

(ii) **Special working capital**: Special working capital may be explained in terms of adhoc requirements of funds to face emergency situations such as strikes, fires, floods, unexpected severe competition, etc. Also special efforts by companies for increasing their sales through advertisement and other sales promotion activities, or for conducting research and development or for executing special orders of government etc. may necessitate additional working capital on an adhoc basis.

**Components of working capital**

The two basic components of working capital are (a) current assets and (b) current liabilities. Within each, a number of items are included. Generally, the items included under current assets are grouped under four major categories viz. (i) inventories, (ii) loans and advances and other debtor balances, (iii) investments and (iv) cash and bank balances, while current liabilities are grouped into three categories viz. (i) borrowings, (ii) trade creditors and other current liabilities and (iii) provisions.

(a) **Current assets**

(i) **Inventories** - The term 'inventory' embraces raw materials, goods-in-process and finished goods and should relate to the goods and services in the product line of the
business. However, there would also be other stocks of supplies, consumables, stores and indirect materials which do not belong to the main product line, but are, all the same, necessary as incidental items to the main product lines. It is sometimes suggested that such items should not be included under inventory since the relationship of these items to the final product line is not of 'constituent' nature but an 'incidental' nature. However, this view has not found favour with professional bodies such as the Accounting Principles Board of the American School of Certified Public Accountants, because the disqualification of some items of inventory on the grounds that they are only incidental to the product line appears unsound. Indirect materials and supplies also enter into the cost-stream and are recovered from the product price in the same manner as the cost of direct materials such as raw materials and bought-out components. Moreover, the argument that they cannot be easily converted into cash does not hold much force because raw materials and work-in-progress also have, more or less, the same problem regarding cash convertability as they are not meant for direct sale. Therefore, it appears quite in order to include all stores, supplies, consumables, packing and shipping materials, office supplies etc. under inventory and as part of current assets. At the same time, it is necessary to
seggregate those items, whether constituent or incidental, which are non-moving or non-realisable stocks so that what is included in inventory represents truly the current assets used in the business.

(ii) Loans, Advances and Other Debtor Balances - Under this category are included all debtor balances such as sundry debtors or trade debtors, pre-payments and loans and advances. In modern times, credit sales constitute a high proportion of the total sales. Trade debtors and receivables thus constitute an important component of current assets. In this case also it is necessary to segregate those items which are considerably over-due or which show remote prospects of realisation or potential bad debts.

An important point in relation to trade debtors is concerning items which represent dues to the business arising out of unusual transactions, such as credit sale of fixed assets and advances to staff. It is sometimes argued that such debtor balances arise, out of activities which do not constitute the normal and regular course of business and therefore should not be included under current assets. But when it is recognised that these claims also have to be collected and realised in the short-run, the objection to their inclusion under current assets can not be sustained.

Pre-paid expenses are universally treated as current assets according to accounting conventions, though they do not exhibit the same degree of cash convertability as book
debts and inventory or are useful as securities for financing facilities from banks. On the other hand, deferred revenue expenditure, which arises mainly out of the intention to spread large revenue expenditures over a number of years, do not form part of current assets.

(iii) Investments - These include government, semi-government and industrial securities and private deposits. Only those items which are quoted investments will be included under current assets because they alone are realisable in the short-run. Other items such as investment in shares of subsidiary companies or in interest earning deposits with public utilities, e.g. electricity undertakings, do not merit consideration as current assets. Similarly, sinking funds and other special funds invested and meant for repayment for long-term debtors and augmentation of fixed assets are not included.

(iv) Cash and bank balances - These include fixed deposits with banks and other bank balances and cash in hand. Though cash and bank balances are invariably treated as current assets, if any portion of cash or bank balances have been earmarked for use other than as current assets, e.g. purchase fixed assets or for redemption of debentures, such portions are not included under current assets. Fixed deposits with banks are treated as current assets since they are resorted to by companies as short-term remunerative channels for the deployment of surplus funds.
(b) **Current liabilities**

(i) **Borrowings** - These are inclusive of bank borrowings other than those against a firm's own debentures and other mortgages, public deposits, loans etc. Only short-term liabilities and instalments of loans from financial institutions and other long-term debt inclusive of interest thereon which are payable in the operative period are treated as current liabilities.

(ii) **Trade dues & other current liabilities** - These include short-term creditors as well as advances received. All trade dues on account of liabilities to suppliers of goods and services are treated as current liabilities. However, creditors such as customers who have paid advances against pending supplies may or may not be included under current liabilities.

(iii) **Provisions** - Provisions, such as for taxation and for known liabilities, which are likely to mature within the operating period are included under current liabilities.

**Factors influencing working capital levels**

The working capital needs of a firm are influenced by several factors which may be grouped into two categories viz., external (environmental) and internal.

(a) **External factors**

Some of the external factors are the overall growth of economy, money-market conditions, the time and the manner of
availability of raw materials, the nature of competition, demand characteristics, inflation and technological changes. These may be explained briefly as under.

**Overall growth of economy**

If the level of per capita income rises, there would be an increase in the purchasing power of consumers as a result of which the demand for goods would increase. This will trigger the firm to increase production which means more inventories of raw-materials and finished goods to be carried, more labour to be employed, and more wages to be paid. All these would lead to increased working capital. The vice-versa also holds good when the per capita income falls.

**Money-market conditions**

A cheap rate of interest would provide inducement to accumulate inventory because of the easy availability of cash. This would lead to increased needs of working capital. On the other hand, when money-market becomes tight, i.e. when the interest rates are raised, cash becomes dearer and, therefore, inventory accumulation would get discouraged. Such a situation would lead to lesser and lesser working capital requirements.

**Raw materials availability**

The time and manner of availability of raw materials would also affect the size of working capital. When raw materials are available throughout the year, there may not be
the need to maintain large stocks of the same, but if they are available only seasonally, adequate quantities would have to be stocked to ensure uninterrupted supply throughout the year. In case of some raw materials, their sources may be few or irregular. In these cases, the firm may be forced to stock them far in excess of genuine production requirements in order to keep production uninterrupted. This will result in excessive inventory. There may be raw materials whose supply is controlled by government to ensure their equitable distribution, e.g. edible oils. In such cases, the firm has limited options as to the quantities and timing of procurement.

**Competition**

The nature of competition faced by a firm would have an impact on its need for working capital. In a market which is characterised by imperfect competition, a firm has to maintain significantly large stocks of goods because going out of stock might result in permanent loss of customers and corporate image. Similarly, there may also be the pressure to stock a variety of finished goods to satisfy customers' demands or to grant more generous credit terms, both of which would cause an expansion in 'receivables' and, therefore, the working capital.

**Fluctuations in demand for products**

Some products are subject to seasonal fluctuations in their demand. It may be difficult to adjust production
vis-a-vis the fluctuations because such adjustments may result in the non-utilisation of full capacity of plant and machinery. Therefore if steady production is to be maintained irrespective of the fluctuations in the demand for the product, there will be accumulation of finished goods inventories during the slack demand periods. The rising stock levels during periods of production in excess of demand will entail increasing amounts of working capital.

**Inflation and price-level changes**

The impact of inflation on working capital levels is very strong. Rapidly rising prices create the need for more funds for maintaining even the existing level of activity. For the same quantities of inventories, higher cash outlays are needed. Operating expenses keep mounting up; wage increases need additional financing, replacement of assets would cost more than what depreciation provisions can permit. Soaring prices of inputs have caused budgets to go awry. Though technically a firm can resort to increasing the price of its product to counter the effects of inflation, in real life situations such measures are becoming increasingly difficult in the face of growing competition and the general fall in the purchasing power of people. The problems on account of inflation get further compounded in the case of those units which have a system of administered prices such as passenger road transport services.
Technology and working capital levels

Technological changes, particularly those related to the production process, have a sharp impact on the need and levels of working capital. Automation and mechanisation reduce the labour intensity of technology and consequently the wage content in working capital requirements. Similarly improved machinery which can process raw materials at a faster rate or which utilise less expensive raw materials, alter the need for inventory levels.

(b) Internal factors

Internal factors which influence the need of working capital are nature of the industry, production cycle, production policy, profit level policies including depreciation, dividend and taxation policies, cash management and the firm's attitude towards risk.

Nature of the industry

The nature of the industry has an important effect on working capital requirements. For instance, trading companies require a large sum of money as working capital since, specially in retail trade, they must carry a large stock of a variety of goods to satisfy the varied and continuous demand of their customers. At the other extreme, public utilities, which sell services rather than goods are not required to maintain bigger inventories and,
therefore, would need to invest only minimally in current assets. The position with regard to manufacturing companies lies between these two extremes.

**Business cycle**

Working capital requirements are also influenced by the nature of the business cycle. Business cycle refers to the variations in two directions (1) the upward phase when boom conditions prevail and (2) the down swing conditions when economic activity is marked by a decline due to recession etc. During the former phase, the need for working capital will grow to cover the lag between increased sales and receipt of cash as well as to finance purchases of additional materials to cater to the expansion of the level of activity. The latter phase will have exactly the opposite effect on the level of working capital requirements. Recession for example would lead to a fall in the level of inventories and book debts.

**Growth and expansion of the firm**

As a business firm grows, additional working capital is required. Although no mathematical relationship exists between growth in sales and growth in current assets, the important factor to note is that the need for increased working capital precedes the growth in business activity and not follows such growth. This calls for advanced planning of working capital requirements.

28. However, the problems of working capital still loom large in the case of a public utility like State Transport Undertakings due to a variety of reasons like their organisational and financial features which have been briefly described in Chapter 1.
Production cycle

An important factor influencing working capital needs of manufacturing firms is the length of the production cycle. The production cycle refers to the time lag between the acquisition of raw materials and the emergence of the finished product. If the production cycle is considerably longer, it would mean that funds are to be locked up in current assets for comparatively longer periods. On the other hand, if the production cycle is short, funds are realised early from operations which will facilitate a good turnover of working capital and result in relatively lesser need for working capital. The scale of production also has an impact on the working capital needs. A firm with a large scale of operation would tend to need more working capital than a firm with a small scale of operation.

Production policy

It was noted, while describing the external factors, that seasonal variations in the demand for the product as well as the availability of the raw materials affect the level of working capital. These two factors also have an impact on the production policy of the firm which can vary from continuous production throughout the year to intermittent production. A steady and continuous production policy would cause inventories to accumulate during the off-season periods and the firm would be exposed to greater inventory costs and risk. Therefore, if the costs and risks
of maintaining a constant production schedule are high, the firm may adopt a policy of varying its production schedule in accordance with the changing demand for products. Thus, firms whose production capacities can be utilised for manufacturing a variety of products will have the advantage of diversified activities and thereby solve some of the working capital problems.

**Operating efficiency**

There is an obvious relationship between a firm's operating efficiency and its working capital position. In a period of increasing prices, the firm would lose no opportunity to cut its costs through elimination of wastage and delay, higher productivity and greater capacity utilisation. These measures result in drawing more out of a given volume of working capital or obtaining present output levels with a reduced volume of working capital. Thus, efficiency of operations accelerates the pace of the cash cycle and improves the working capital turnover.

**Credit Policy**

Sales policies including credit and collection policies equally have a bearing on working capital needs. If a firm's sales are on easy terms, its working capital will tend to pile up in receivables and, therefore, a source has to be found for financing such receivables. If the credit policy is too lenient stagnant receivables will result, and if too strict stagnant inventories will result. Thus the efficiency of the credit department in extending credit and in making collections thereof influences the size
of the receivables and, in turn, the size of the working capital.

Similarly, the availability of credit to the firm also affects its working capital requirements. If liberal credit terms are available from suppliers, the working capital requirements will be considerably less. Also, availability of bank credit influences working capital needs. If such facilities are easily and readily available a firm can operate with less working capital than otherwise.

**Profit level policy**

Another important factor is the profit margin of the firm. A high net-profit margin contributes towards the working capital pool. In fact, net profit is an important source of working capital to the extent that it has been earned in cash. However, the net cash inflows from operations can not be considered as cash available for use, because as the operations are in progress, cash is used up for augmenting stocks, book debts, or fixed assets. Therefore, even if the net profits are earned in cash at the end of the period the whole of it may not really be available for working capital purposes.

The determination of net profit is however influenced by the policy of the firm regarding depreciation, dividend and tax management and therefore, working capital is affected by the way in which profits are appropriated between taxes, depreciation, and dividend payments and the policy regarding retention of profits.
Tax liability is unavoidable and, therefore, adequate provision should be made for it in working capital planning, otherwise strain on working capital will result.

The firm's policy to retain or distribute its profits would affect the cash resources and thus reduce this important source of working capital to that extent. Therefore, if more profits are retained in the business, the working capital position would get strengthened.

The depreciation policy too, through its effect on tax liabilities and retention of earnings, affects the working capital since depreciation is tax deductible; higher depreciation would mean lower tax liability and, therefore, more cash would be available for working capital purposes. Similarly, if the dividend policy is linked with net profit, the firm can pay less dividend by providing for more depreciation. Thus depreciation acts in an indirect way on retained profits and in preserving the firm's working capital position.

**Cash level policy**

Last but not the least, the position of cash balances in a firm has an important influence on its working capital needs. If a firm's income is regular in the form of cash pre-payments for goods and services, it will need relatively a small cash working balance. For instance, public utility companies have more or less a regular income of cash and the occurrence of which can be easily forecast. On the other
hand, a retail firm, though doing business on a cash basis, may suffer from inadequacy of cash because its income may be irregular as a result of seasonal sales. Thus, the irregularity with which cash flows occur considerably influences the working capital needs.

Attitude towards liquidity and risk

In addition to the above physical factors, there is also the most important factor, which is attitudinal, viz. the firm's attitude or policy towards liquidity and risk. If a firm desires to take a greater risk for a bigger gain or loss, it reduces the size of its working capital in relation to its sales. On the other hand, if the firm is mainly interested in improving its liquidity and wishes to minimise the risk, this will increase the level of its working capital. In the former case, profitability improves at the increased risk of ill-liquidity, while in the latter case liquidity improves at the cost of profitability. In either case working capital needs are affected.

The multiplicity of factors examined above thus exert varied degrees of influence on working capital levels. Managements have therefore to be alert to all these factors and plan and review the working capital needs constantly.

Assessment of working capital needs

Several techniques are employed to forecast working capital requirements. These range from the simple estimation
techniques based on past experience to the highly sophisticated techniques involving use of the computer. Some of the simple techniques are described here.

**Product life-cycle technique**

The product life cycle technique takes into account the requirement of cash outlays needed for a product right from the time a decision has been taken to introduce the new product up to the collection of book debts. Between these first and last stages, the sequence includes the starting of the development work, trial and laboratory production, market testing, installation of production facilities, the actual manufacturing activity including generation of inventories of raw materials, work-in-process and finished goods, the establishment of distribution channels and the promotion of sales campaign. In this sequence cash outflows occur right from the beginning till the completion of the last stage when the cash inflow starts. By working out the cash outflow till the cash inflows take place, the working capital requirement is assessed.

**Operating cycle technique**

This technique is based on the operating cycle which covers the distinct stages of the conversion process involved and calculates the required level of the investments needed at each stage. The operating cycle has usually four stages viz. the raw materials and stores inventory stage, the work-in-process stage, the finished
goods inventory stage and the book debt stage. Each stage is expressed in terms of a number of days which when added up would give the total operating cycle in number of days. The underlying principle of this approach is that the amount of working capital required for the completion of one operating cycle would get back into the business on the completion of the cycle and be thus available to finance the successive cycle. In other words, each rupee invested in working capital returns to the business at the end of the operating cycle and is available for reinvestment as working capital in the successive operating cycle.  

29. Mathematically, the operating cycle can be expressed as follows:

\[ t = (r-c) + w + f + b \]

where, \( t \) = total period of the operating cycle (expressed in no. of days);

\( r \) = the no. of days of raw material and stores consumption requirements held in the raw material and stores inventory;

\( c \) = the no. of days' purchases included in trade creditors;

\( w \) = the no. of days of cost of production held in work-in-progress;

\( f \) = the no. of days' cost of sales included or finished goods inventory; and

\( b \) = the no. of days' sales in book debts.

When 't' is divided into the total no. of days in the year viz. 365, the no. of operating cycles (N) during the period of one year is obtained. If C is the total estimated cost on materials, labour and
It should be pointed out that the estimated working capital under this technique can only indicate the magnitude of working capital needs on an average. The short-run fluctuations attributable to seasonal factors etc. can not be coped up by this technique.

**Percent of sales**

This technique determines working capital needs as a per cent of total sales. The underlying principle of this method is the recognition that sales stand out preeminently as a causation mechanism in business and therefore an approach based on observed historical and fundamental relationships between sales and working capital can serve as a basis for determining working capital needs. Though simple, this technique is based on many assumptions, viz. that -

a. additional sales involve proportionately additional investment in plant and equipment,

b. current assets and current liabilities maintain a fixed ratio relationship with sales,

c. the implications of dividend payment can be overlooked,

d. the cash inflow, attributable to non-cash charges like depreciation, will be used up for replacement of equipment, and

other manufacturing expenses and selling and administrative overheads (excluding depreciation as it is non-cash), then \( C \times N \) gives the working capital required per one operating cycle.
e. even for the enhanced activity levels, the profit after tax will continue to maintain the same percent level on sales.

In real life however, these assumptions seldom hold good. For instance, the assumption that current assets and current liabilities maintain a fixed ratio relationship and that such a relationship is usually linear is often found to be invalid in dynamic business situations. Refinements of this technique have therefore been made to establish the true relationship between current assets/current liabilities and sales on the basis of statistical techniques such as correlation, multiple regression, etc.

A question is sometimes raised whether forecasting, as an input to financial or working capital planning, is an art or science. Although graphical or statistical procedures may be used to extrapolate past experience, forecasting is still considered to be an art for two reasons. First, the financial manager must decide which of several available forecasting procedures is most appropriate in a given context. And second, the financial manager must decide when to temper the results of forecasting procedures with subjective judgement. Changes in technology, inflation, competition, top-level management and government regulation could all cause a financial manager to alter a forecast based solely on historical experience. Furthermore, economic forecast are seldom current for long and thus financial managers
should always be prepared to revise their forecast as new information becomes available.

Any one single technique can not be viewed as exclusive in its application with regard to determining the working capital requirements. In fact, assessment of working capital requirements are made through a combination of these techniques. An experienced Finance Manager would, often find it convenient and essential to adopt these methods, singly and in various combinations, for different purposes of his financial planning exercises. With a proper understanding of the use and limitation of each tool or technique, he should use them in order to get the best out of them.

**Financing working capital - conceptual framework**

As important area in working capital management is with regard to financing the working capital. The problem in this case is confined to selecting a basic approach and develop an appropriate policy. As there are many sources of finance with respective costs attached to each, a decision is involved as regards the selection of the right source.

**Approaches to working capital financing**

There are three basic approaches to financing of assets in business, viz. (i) the matching or hedging approach,
(ii) the conservative approach, and (iii) the aggressive approach.

(1) **Matching or hedging approach**

This involves the matching of the expected life of the assets with the expected life of the source of funds raised to finance the assets. For example, a ten year loan may be raised to finance a plant or machinery whose expected life is ten years or stocks of finished goods which are expected to be sold in 30 days may be financed by a bank loan for 30 days. This approach is based on the principle that since the purpose of financing is to pay for the assets, the financing should be relinquished when the asset is expected to be relinquished. Thus, when this approach is followed, long-term financing will be used to finance fixed assets and permanent current assets and short-term financing to finance temporary or variable current assets. However, it must be stressed that exact matching as above stated is rather difficult in practice because of the uncertainty about the expected life of assets. Under this approach, a firm's fixed assets and permanent current assets are financed with long-term funds; while the temporary or variable current assets are financed by short-term funds. An important corollary of this approach is that long-term financing for short-term assets will prove expensive as the funds will not be used for the full period. Similarly, financing of long-term assets with short-term
funds would be expensive, and also inconvenient, because short-term funds have to be arranged on a continuing basis.

(ii) Conservative approach

Under this approach, a firm would depend more on long-term funds for its financing needs. Thus, a firm would finance its fixed assets and a part of the permanent working capital with long-term financing. Therefore, in periods when the firm has no temporary current assets, it stores liquidity by investing surplus funds in marketable securities. As this approach relies heavily on long-term financing, it is less risky.

(iii) Aggressive approach

A firm is said to pursue an aggressive policy of financing when it uses more short-term financing than is warranted under the matching approach. Under this approach, the firm would finance a part of its permanent current assets with short-term funds. Where the policy is too aggressive, it would mean financing even a part of fixed assets with short-term funds.

Long-term vs. short-term financing

Generally, short-term financing is more preferred to long-term financing because of three factors viz. cost, flexibility, and risk.
**Cost**

Short-term financing is generally less costly than long-term financing. Interest rate increases with time i.e. longer the maturity of the debt, greater the interest rate. This fact has an economic base in what is known as the liquidity preference theory, which states that since lenders are risk averse and since risk increases with the length of the lending time, most lenders would prefer to lend for short periods of time and, therefore, the only way to induce lenders to lend for longer time is by increasing the interest rate. The cost advantage of short-term financing also has the impact of improving the firm's rate of return since the cost of financing is less.

**Flexibility**

It is relatively easy to refund the short-term debt when the need for funds diminishes. On the other hand, long-term financing e.g. debentures, preference share capital etc. can not be returned when funds are not needed as they have to run their term of time.

**Risk**

Use of short-term funds makes the firm susceptible to more risk than when using long-term funds. This risk arises from two main reasons. If a firm borrows on long-term basis, its interest cost will be relatively stable over time but if it borrows on a short-term basis, its interest obligations will fluctuate widely. Again if a
firm borrows funds on short-term basis, it may find itself unable to repay the debt or it may be in a difficult financial position which might make the lender hesitant to provide the loan. Thus uncertainty is associated with short-term funds.

Sources of working capital finance

The sources of working capital fall under two broad categories viz. (a) internal, and (b) external. Internal sources of working capital are (i) retained earnings, (ii) depreciation provisions under certain circumstances, and (iii) sale of non-current assets. External sources generally includes debt and equity. Debt can be of various types viz. (i) trade credit, (ii) bank loans, (iii) public deposits and (iv) debentures. These are briefly discussed here.

(a) Internal sources of working capital

(i) Retained Earnings

The ever-present prime source for the day-to-day operations is the sales income and the resultant profits. When the total sales income for the year exceeds the cash costs and expenses, the operations can be said to have generated a net working capital inflow. But this alone is not sufficient because, out of this excess the owners have to be satisfied through the payment of dividends. Therefore, it is the net inflow diminished by the outgoings on account of dividends and taxes, i.e. the net profits which would
ultimately emerge as the potential permanent source of working capital funds. Thus profit, net of tax and dividend is the effective source of working capital funds.

(ii) Depreciation Provisions

There is considerable confusion as to whether depreciation is really a source of working capital funds (or cash). The concept that depreciation contributes to the cash flow and, therefore, is a source of funds has baffled many. According to B.S. Sharma, depreciation is "a part of the cost of production and (which) is subsequently recovered in cash in the gross revenue. Since the assets are not replaced then and there, and particularly in heavy and basic type of industries where the life of the plant and machinery is fairly long, depreciation can be utilised as a long-term source of working capital." 30 But Pandey categorically states that "depreciation is not a source of funds. The funds (working capital or cash) are provided by the revenues, not from depreciation. Unlike other operating expenses, depreciation can indirectly influence the flow of funds by affecting the firm's tax liability. If more depreciation is provided the tax liability of the firm will reduce and therefore there will be less outflow of cash to the income tax authority. Except through its impact on the tax liability; depreciation expense has no effect on working capital." 31

Pandey seems to rely on the explanation of depreciation provided by Anthony and James who hold that "depreciation is the accountant's way of matching costs of fixed assets with the benefits derived from these assets; depreciation is not a source of funds. The funds flow occurs when fixed assets are acquired; moreover at that time the flow is a use (investment) of funds, not a source. Depreciation simply spreads that outflow over the life of the assets for purposes of measuring results of operations." 32

To this author, the controversy whether depreciation is or is not a source of funds seems unnecessary. After all, depreciation does affect the working capital levels through its impact on the income of the firm. The higher the income, the greater is the propensity of a portion of that income being retained in the business as a source to finance working capital. Therefore, it appears logical to treat depreciation as a source, though not a direct source like retained earnings, of working capital.

(iii) Sale of Non-current Assets

Though not a regular source, the sale of non-current assets such as investments, plant and machinery, equipment, land and building, goodwill, trade marks, patents, etc. constitutes a source of working capital.

(b) **External Sources**

**Debt**

(i) **Trade Credit** - Trade credit represents goods and services (including electricity, rent, telephone and wage expenses) received by a firm for which payment is made later. The extent of such credit depends upon the trade custom, the type of goods involved and the financial position of the suppliers and the purchasers.

Trade credit is a very convenient source of finance as it accrues immediately when a purchase is effected. It is also an informal method of availing credit in the sense that there is very little documentation involved in requesting for it, making it almost free and the most desirable type of short-term finance. However, since there is always a cost of foregoing the discount offered by the suppliers for cash down payment, a firm has to make a conscious plan of availing this form of easy credit as against the benefit of cash discount. 33

Trade credit as a source of financing working capital has been gaining in importance in India. The following table records the growth in this source during the period from 1965-66 to 1975-76.

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33. The cash discounts are usually generous. For example, a discount of 2 per cent for payment within ten days or full amount within 30 days would actually mean an annual interest rate of 36 per cent. Therefore, not taking such cash discount involves an opportunity cost of 36 per cent. This can be explained as follows. By not taking the discount and paying the bill on 30th day the firm has the use of funds for an additional 20 days. If the bill is for Rs.100, it has the use of Rs. 98/= for 20 days. The annual interest cost is -

\[
\frac{2}{98} \times \frac{360}{20} = 36.7\%.
\]

(For ease of calculation, a year has been taken as 360 days instead of 365 days).
### Table 3.1

**Trade Credit as a Source of Working Capital**

<table>
<thead>
<tr>
<th></th>
<th>1501 selected companies</th>
<th>1650 selected companies</th>
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<tbody>
<tr>
<td><strong>(Rs. crores)</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>1965-66; 1967-68</strong></td>
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<tr>
<td><strong>1969-70</strong></td>
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<td><strong>1974-75</strong></td>
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<tr>
<td><strong>1975-76</strong></td>
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</tr>
</tbody>
</table>

1. **Total Current Assets**
   - 2371
   - 2664
   - 2881
   - 3096
   - 3396
   - 4043
   - 4482
   - 4735
   - 5477
   - 6586
   - 7117

2. **Current assets by Trade dues & other Sundry Creditors**
   - 749
   - 860
   - 941
   - 1027
   - 1145
   - 1374
   - 1541
   - 1703
   - 2090
   - 2625
   - 2883

3. **Item No.2 as %age of Item No.1**
   - 31.5
   - 32.3
   - 32.7
   - 33.2
   - 33.7
   - 34
   - 34.4
   - 36
   - 38.2
   - 29.9
   - 40.5

4. **Annual growth of Item No.2**
   - 100 (base)
   - 115
   - 126
   - 137
   - 154
   - 100 (base)
   - 112
   - 124
   - 152
   - 191
   - 210

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It is significant that trade dues and other sundry creditors financed as much as between 31.5 per cent to 40.5 per cent of the total current assets and that the growth within this source itself was 1½ times between 1965-66 to 1969-70 and a little over 2 times between 1970-71 and 1975-76. According to Prasad and Viyyanna Rao, "a distinctive feature of trade dues and other current liabilities is that its proportion in the total funds has been rising very sharply since 1968-69. Between 1961-62 and 1968-69, it contributed annually around 16 per cent whereas during 1969-70 and 1977-78 its annual average contribution was as much as 26.5 per cent."34 But one should carefully examine whether such a high proportion of trade dues in the financing of current assets is really a healthy sign. An increase in trade dues and other current liabilities unaccompanied by an equal proportion of increase in loans, advances and other debtor balances indicates an adverse current ratio, and in turn, implies an impairment of corporate liquidity.35

(ii) Bank Loans - Bank credit has traditionally been the primary institutional source for working capital finance. Until 1967, the commercial banks were essentially suppliers of short-term funds for financing working capital needs. But with the social control of banks in India from 1967, the importance of commercial banks as suppliers of short-term

credit to industries, trade and commerce has receded to a lower position.

**Kind of Bank Loans**

There are three major forms of credit from the banks. These are overdrafts, advances against inventory (finished goods, raw materials or work-in-process) and bill financing.

**Bank overdrafts** - Bank overdraft formalities consist of an agreed line of credit on which a firm can draw current-account cheques. Technically, the overdraft is repayable at call but in practice the banks normally give some specified longer time e.g. 6 months, within which the firm must eliminate the overdraft or reduce it to a lower level. In assessing a request for overdraft facilities the bank will need to know, the maximum overdraft amount required, the purposes for which it is needed and when and how it will be repaid. The current financial position of the firm and its recent past performance, and what security can be offered. In the case of a small firm, the bank may, in addition, require a personal guarantee from the principal directors or partners.

The banks may specify a repayment schedule for the firm. The interest rate on bank overdrafts is normally above the basic lending rate and which could be still higher if the banks consider a loan risky. Additionally, a commitment fee is often charged for offering an overdraft account and for giving standby credit. Even so, overdrafts are one of
the cheapest sources of finance and should be used in preference to other loans. However, it is very important to build up a rapport with the bank since the granting of overdrafts facilities is largely a matter of personal judgement by the bank's officers.

**Advance against inventory** - There are two systems of granting advances by banks on the security of inventory viz. (i) the key-loan system, where goods are secured by pledge and are in the actual or constructive possession of the banks and (ii) the 'open loan' or 'cash-credit' system where a letter of hypothecation is taken by the banker and the goods are allowed to remain in the custody of the borrower with a certain flexibility and freedom to deal in the goods with the prior knowledge and consent of the bank. These are different from overdrafts in that they are for a specified period and that a principal sum is borrowed. The credit assessment for a bank loan against inventory is usually more stringent than for overdrafts. Advances against inventories are granted by the banks in respect of all forms of inventories, such as raw materials, work-in-process and finished goods. "Advances against industrial raw materials have recently assumed greater importance, particularly on account of the fact that industrial raw materials take a long time to come as finished products unlike agricultural produce."36 In India, commercial banks

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meet on an average, 60% of inventory finance. The percentage is as much as 70% in case of major industries like cotton textiles, jute textiles, sugar and iron and steel.\textsuperscript{37}

\textbf{Bill financing or Bills of exchange} - This is a method of financing the purchasing and sales, and involves the borrower undertaking to pay a particular sum of money at some specified future date. If a bank 'accepts' a bill (for which it receives a commission), it undertakes to meet that bill at maturity if the drawer of the bill defaults. Bills of exchange are generally of two types viz. trade bills and acceptance credits.

Trade bills are drawn by a purchaser promising to pay for the goods at a specific future date. The seller would be willing to take the bill in settlement, if it has been 'accepted' or, if the purchaser is completely credit-worthy the seller will sell the bill in the money market (this is usually known as discounting the bill).

Acceptance credits occur when a purchaser draws a bill on an accepting house (say a bank or a financial institution) and sells it in the money market. The proceeds are used by the purchaser to pay the seller while the accepting house is repair later.

\textsuperscript{37} Ibid p.232.
Trade bills and acceptance credits thus provide a very useful and convenient source of medium-term funds for working capital.

In the context of the Indian industries, commercial bank loans for working capital management have played a very important role and till the mid-sixties i.e. before the social control of the banks, they constituted a high percentage of working capital finance, both in terms of working capital gap and total current assets. However, owing to strict regulatory measures introduced since the sixties, in order to bring financial discipline into the industries, the extent of bank loans as a source of working capital finance has progressively reduced. For example, the share of the short-term bank loans financing working capital gap decreased from 63% in 1965-66 to 58.9% in 1975-76 (it was the lowest at 54.4% in 1974-75). Similarly as a proportion of total current assets, bank loans dropped from 31.7% in 1965-66 to 28.5% in 1975-76. The following table refers.

38. According to a study by G. Prasad and Vijayanna Rao, the availability of bank credit to the industry has been made more difficult by the incorporation of increasing restrictions. The Dabeja Committee in 1969, the Tandon Committee in 1975 and the Chure Committee in 1981, have aggravated the paucity of finance to industry. (Changing Structure of Capital Finance in India, The Chartered Accountant, Dec 1982).
Public Deposits

Borrowing funds through public deposit schemes is relatively a new method of financing working capital in India. Public deposit means any deposit of money with, including any amount borrowed by, a company within the meaning of Sections 58A and 58B of the Companies Act, 1956 and under Rule 2(D) of the Companies (Acceptance of Deposits) Amendment Rules 1978. Broadly speaking, public deposits are loans but with certain distinctions, viz.:

1. Deposits are generally offered for placement whereas loans are applied for. In other words, a depositor approaches a company even though it may also be in response of an invitation by the lender,

2. Deposits are repayable in toto on maturity whereas loans are generally repayable in instalments,

3. From the point of view of taxation, interest on loan is chargeable in full against revenue in computing the taxable income under the Indian Income Tax Act. On the other hand, only 85 percent of the interest on public deposits can be charged against revenue for the purpose of income tax.

The history of public deposits as a source of finance in Indian industrial development has been chequered. In the
Public Deposits

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30s, public deposits constituted a fertile source of easy finance because the rate of interest on bank loans was very high as compared to the rate of interest on fixed deposits. Moreover, bank loans were granted against hypothecation of stocks with the result that only well-established industries could borrow from the banks. This led to the emergence of several alternative sources of finance, one of which was accepting deposits from the investing public. However, public deposits went into oblivion in the 50s mainly for two reasons. They were one of the contributing factors for many business crashes, particularly of those companies which employed public deposits, which are short-term, for long-term purposes. Secondly, a large number and variety of financial institutions came into the scene to provide funds for industrial growth. Once again in the recent past public deposits have shot into prominence. The amount of such deposits was of the order of Rs.2097.2 crores as at the end of March 1977.

Since the early 60s, the dependence of the companies on public deposits, as a source of working capital finance, has been gradually increasing. In order not to let this source lead to major financial crashes which happened in the 50s and also with a view to securing the interests of the depositors, the Government of India and the Reserve Bank of India have introduced many guidelines and directives in regard to the limit, the manner of invitation and the
conditions upon which the deposits can be accepted and invited by a company from the public or from its members.

As a source of working capital finance, public deposits have become popular due to four main reasons viz. (1) they eliminate financial intermediaries, (2) their nominal cost is less than that of bank finance e.g. the highest rate of interest of public deposits is lower than the lowest rate of which cash-credit is offered by banks, (3) the company is not bound to accept any condition from the depositors, and (4) they are basically unsecured. The following table illustrates the growth of public deposits during the period 1973-74 to 1978-79.

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Companies at work</th>
<th>No. of Companies reporting</th>
<th>Public Deposits (Rs. in crores)</th>
<th>Annual growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1973-74</td>
<td>6416</td>
<td>1356</td>
<td>340</td>
<td>-</td>
</tr>
<tr>
<td>1974-75</td>
<td>6826</td>
<td>1367</td>
<td>350</td>
<td>2.9</td>
</tr>
<tr>
<td>1975-76</td>
<td>7012</td>
<td>1389</td>
<td>367</td>
<td>4.9</td>
</tr>
<tr>
<td>1976-77</td>
<td>7142</td>
<td>1566</td>
<td>532</td>
<td>45.0</td>
</tr>
<tr>
<td>1977-78</td>
<td>7048</td>
<td>1702</td>
<td>642</td>
<td>20.7</td>
</tr>
<tr>
<td>1978-79</td>
<td>7251</td>
<td>1550</td>
<td>802</td>
<td>24.9</td>
</tr>
</tbody>
</table>

Public Deposits and STUs

Notwithstanding the growing importance of public deposits as a source of short-term finance, specially working capital requirements, the State Transport Undertakings have not generally been able to take advantage of this source. Among the five STUs covered in this thesis, only Maharashtra State Road Transport Corporation (MSRTC) and Gujarat State Road Transport Corporation (GSRTC) have some deposit schemes which can be likened to the public deposits scheme. In the case of MSRTC, deposits are accepted from public, as well as from the employees, for a minimum period of one year and a maximum period of five years. Other STUs have not used the scheme of public deposits to mobilise finance. Among the various reasons for this, poor financial performance of STUs is important. The investing public has to satisfy themselves that their deposits and interest thereon would be repaid by the STUs on maturity but the poor financial performance of STUs would not inspire such confidence. Moreover, acceptance of public deposits by STUs requires the approval of the respective State government and the experience has been that State governments are rather reluctant to accord such approval because, in effect, it would mean their guaranteeing the repayment of the deposits. However, the launching of public deposit schemes by MSRTC and GSRTC point out to the fact that
administrative hurdles and poor financial performance need not necessarily stand in the way of mobilisation the resources through public deposit schemes.

**Debentures**

Debentures, especially those possessing extra attractions like convertability into shares or those issued on a 'rights' basis, provide an outlet for the investible resource in the economy to augment the long-term resources of the companies for working capital requirements and to reduce their dependence on fixed deposits and other short-term borrowings. They constitute an important source of capital for small and medium sized companies who may face unstable earnings and, consequently, difficulties in raising equity capital.

A debenture may be defined as the instrument representing the contract of a company to pay the holder or owner a definite sum of money at a definite time together with periodic payment of interest. The debenture holders have a first claim over the assets of the firm and the interest thereon has to be paid regardless of the earnings or the financial position of the firm. Debentures, as a source of funds, are relatively cheaper both on the basis of the rate of interest payable to debenture holders and the tax advantages arising from such interest payments. As debenture holders have no voting rights, ownership of the firm is not

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39. It is strange that the Companies Act, 1956 which permits the use of debenture stock, does not however define the meaning of debentures.
diluted by the issue of debentures. But the procedure for floating a debenture issue is long. Even so, convertible debentures, i.e. debentures which can be converted at the option of holders into ordinary shares of the company under some specified terms and conditions, have proved to be a very popular method of raising capital. Another variety of debentures, viz. 'rights' debentures has also been found quite useful. Right debentures are those that are offered to existing resident shareholders of the company.

**Equity**

As a source of working capital finance, equity capital or share capital is mostly non-repetitive, or if repeated the interval is quite long. Generally, at the time of commencement of business, the capital required is worked out in terms of both fixed assets and current assets and equity capital is raised. Permanent working capital can thus be met by equity capital financing. Whenever further equity capital is raised for expansion, diversification, amalgamation, etc. the revised working capital needs can be similarly met from the new issue of equity capital. But employing equity capital to finance working capital needs is rather costly since equity capital, being the permanent capital base of the business, is long-term and has therefore a higher cost compared to short-term sources.
Working capital gap

The sources of finance for working capital may also be classified in four categories, viz. (1) trade dues and other sundry creditors, (2) current provisions and non-bank short-term borrowings (e.g. public deposits), (3) short-term bank borrowings and (4) net working capital met from equity and/or long-term borrowings.

The first two items together constitute the non-bank current liabilities. When these are subtracted from the total current assets, the working capital gap is found. The working capital gap can be partly met by bank borrowings/cash-credit facilities and the balance by equity and/or long-term borrowings. In other words, that portion of the working capital gap which is met by equity and/or long-term borrowings may be referred to as the net working capital as this represents the total current assets minus total current liabilities. It is pertinent to note that although short-term bank borrowings is an ideal source of working capital, it is however regulated and restricted in India through various directives and guidelines issued by the Reserve Bank of India. For instance, the working capital gap is assessed by the bankers in terms of the recommendations of the Tandon Committee, which put severe restrictions in financing the working capital gap.
Sources of Working Capital for the Public Sector

The availability of the conventional sources of working capital needs to be examined in the context of the public sector industries. It has been generally suggested and in the various Acts/Resolutions establishing the public sector industries that their working capital should be met through borrowings.\(^{40}\) This was the view taken by the Central Banking Enquiry Committee in India.\(^{41}\) But according to Sharma, borrowing as a policy to finance working capital requirements is too general a view. Considered in the context of public sector projects, "it neither comprehends the problem, nor does it explain the purpose of financing. The decisions have to be highly contextual and the arrangement of working capital, particularly the choice of sources of fund, will be governed by the circumstances both of ownership and operation as well as exact nature of capital requirements."\(^{42}\)

Ownership considerably influences the choice of sources of funds. In the case of a private firm, the choice of sources of working capital may be fairly broad-based in the sense that besides its internal resources i.e. its retained earnings, depreciation funds, etc. it can tap a large number of alternatives. It can resort to the issue of

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40. For example, the RTCs Act 1950,(Section 26)\(^{40}\) states that the Corporations may raise their working capital from the market.\(^{41}\)
shares to the public, float debentures or bonds, borrow from financial institutions, directors and officers of the concern, banks, trade creditors etc. But in the case of a public enterprises a very restricted choice is available. The social and economic policy of the government determines the available alternatives. The issue of shares to the public, resorting to financial institutions and seeking loans from directors and officers are all remote sources for a public enterprise. Thus the ownership context has implied a restricted choice of sources of working capital in public sector.

Although retained earnings and depreciation are the best internal funds for financing the permanent working capital, the discretion about the use and accumulation of these funds may not rest exclusively with the public enterprise. Reliance on these sources is conditional and subject to the approval of the government. For instance, according to Section 30 of the RTC's Act, an STU can utilise its net annual profit, after payment of interest and dividend on the capital, for providing amenities to passengers, labour welfare measures etc. only with the previous approval of the government. The balance after such utilisation shall have to be made over to the State government for the purpose of road development.

Among the external sources, the only source which a public sector enterprise can tap is the Government. But
government's financial participation in public sector enterprises is, by and large, in respect of capital expenditure only. So far as working capital is concerned, the government usually allows the public sector enterprises to borrow. Open-market borrowing is out of question because of the ownership characteristics mentioned above. Only bank borrowing is seen to be feasible. But as Kuchhal says "public undertakings might be unable to secure funds in this manner particularly in the initial stages. In such case government should be willing to provide necessary guarantee and to consider the request of public undertakings even for working capital requirements." However, in recent years, public deposits have come to be regarded as a source of working capital needs of the public sector also. Many public sector enterprises like the Indian Oil Corporation, Hindustan Zinc Ltd. etc. have successfully launched public deposit schemes.

An exclusive Institution for financing working capital needs of public sector?

Pareshnath Chatterjee in his analysis of the problems of working capital financing in public sector enterprises, has stated that "the public enterprises in general have had to carry huge stocks of both raw materials and finished goods for a considerable period of time. On the other hand, sales on credit and sticky realisation made working capital

management face untold rough weather .... With sticky debts for a considerable period, a major part of the accounting profit is taken away on account of interest on such debts being unrealised, mostly even unaccounted, if not entirely untraced. As a result, several constraints are faced by the public sector units such as unrealistic profit position and being driven to procure short-term funds at high interest rates notwithstanding huge debtor balances. He concludes by suggestions that "The Government should either establish a new financial institution for meeting working capital requirements of public sector enterprises or should assign one of the 20 nationalised banks exclusively for the task."

Though the suggestion has certain merits, it should be evaluated in the light of the fact that, in India, the entire financial market, both institutional and banks, are virtually under government control and regulation. If this market is not able to cater to the need of working capital in the public sector enterprises, the solution is not to create an exclusive agency but to seek the reasons as to why the existing arrangements have failed. After all, it is the same money market that is serving the private sector too and except that the credit is restricted and dear, the private sector has not cried as loudly as the public sector. To this author the main reason for the public sector in being not able to exploit the existing financial arrangements is because of the financial indiscipline in their cases. A few examples are

overaged accounts receivables. Grant respect for budgetary control and project overruns in terms of cost and time. Financial discipline is one of the key factors imposed by the banks and financial institutions while granting working capital finance and unless the public sector is earnest about financial discipline, institutional arrangements already existing can hardly help in their case.

Part 3
Tools and Techniques in Working Capital Management

Working capital management is not an independent, unrelated entity nor can working capital decisions be taken in seclusion. It is part of the overall financial management which itself is a part of the overall general management. Therefore, tools and techniques in working capital management are rather the general tools and techniques of scientific management.

Many a tool or technique has been developed in relation to a particular resource such as machinery, material, manpower and money. Therefore, the tools and techniques which are relevant to the resources of money and materials are primarily pertinent in working capital management. For instance, "with many alternative uses to which funds must be allocated, the cost of stocks is a sensitive area in the management of working capital." 45 and therefore, tools and techniques in the area of inventory management have relevance and application in managing working capital.

45. Grass, Martin, "Control of Working Capital," Gower Press Ltd., USA, 1975; p 75.
In this Part the tools and techniques for each major component of working capital are described first and later the use of several ratios for maintaining and controlling the working capital position is described.

A. Management of Cash

Cash is a key asset in business and serves as the "means of purchasing parts and materials, and the plant and equipment used in production. It pays for payments to labour services of employees, the marketing skills of the salesmen and the administrative abilities of all levels of management. Cash also provides for interest payments to bankers and bond holders, taxes to government and dividends to shareholders." \(^{46}\) It is not surprising, therefore, that cash management has emerged as a distinct career specialization. \(^{47}\) Cash is also the common denominator to which all current assets can be reduced because the other major liquid assets i.e. receivables and inventory get eventually converted into cash. At the same time, cash does not constitute the largest asset in the balance sheet; in fact, cash and cash equivalents form only a smaller percentage of the total assets of the firm. This is because, as an asset, cash is least productive by itself. It is only when it is properly used in the shape of other assets that it helps in the overall profitability of the firm.

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47. There are professional seminars that deal with various aspects of cash management. There is also a trade association in the USA called the Cash Management Institute devoted to the collection and dissemination of information concerning corporate Working Capital and cash management in particular.
John Maynard Keynes has postulated three major motives for holding cash by a business firm viz. the transactions motive, the precautionary motive and the speculative motive. 48

The transactions motive arises from the need of cash to make payments falling due in the ordinary course of business, e.g. payments for purchases, wages, operations, taxes and dividends. Lack of adequate cash to meet the transaction needs will affect a firm seriously. Therefore, the main aim of effective cash management, is to ensure smooth functioning of the day-to-day business by judicious direction of the flows of cash into and out of the firm so that the operating and contractual payments are promptly made.

The precautionary motive relates to the need for keeping readily available funds to meet unexpected circumstances. The degree of precaution bears an inverse relationship to the degree of precision with which cash flows can be predicted; the more uncertain the cash flows is greater will be the precautionary balances of cash to be kept. Ready borrowing power enjoyed by a firm will help in tiding over emergency cash drains and releasing of available cash resources for remunerative uses.

The speculative motive relates to the need to hold cash balances in order to take advantage of changes in prices or other unusual buying opportunities. However, this motive does not come into play as often, or as much, as the other two motives because it has a high degree of risk.

In recent times, another motive for holding cash is often mentioned viz. the compensation motive which necessitates holding of cash balances to compensate the banks for providing certain services and granting loans. Although the banks change a commission or a fee for providing most of their services, they also sometimes seek indirect compensation by requiring the clients to maintain a minimum balance of cash with them.

Factors affecting cash levels: Several factors have a bearing on the levels of cash to be maintained. The expected cash flows (which depend upon the levels of sales and the volume of production and the stage in the life-cycle of the firm, viz. settling up stage, expansion, stagnation or decline, the deviation of the actual cash flows from the forecast flow due to changes in markets, competition and other external influences like government policy etc.), the frequency of occurrence of major non-recurring expenditure (e.g. construction expenditure, advertisement expenditure, etc.); the maturity schedules or the structure of liabilities
of the company; the borrowing power of the company in emergencies; the firm's attitude as regards the running out of cash and the efficiency with which cash is controlled, are some of these factors.

**Objectives of cash management**

The main objective of cash management is two-fold viz. to meet the cash disbursement needs and to minimise the funds committed to cash balances. A firm would be in a better position to meet its debts, both expected and unexpected, by keeping a sufficient amount of cash (liquidity). This would lead to creditor confidence being built and thereby reduce the risk of technical insolvency. The other advantages of adequate cash balances are improved relationship with banks, maximum availing of trade discounts by making payments within the discount periods and the ability to meet unexpected cash expenditure in emergencies with minimum of strain e.g. during strikes, fire, lock-outs etc. But keeping large balances of cash means high costs since cash is a non-earning asset and therefore, the greater the amount of the cash balance, the less is the profit-earning potential of the firm. In extreme cases lack of adequate profitability might lead to shareholders' dissatisfaction and eventual take-over bids. On the other hand, if cash balances are reduced to the minimum, there is a greater chance that the available resources have been invested in revenue earning assets. This will result in increasing the short-term
profitability of the firm. Thus the overall objective of cash management is to strike a right balance between liquidity and profitability.

**Planning for cash management**

Planning and control in cash management assumes great significance because the right balance between liquidity and profitability can only be achieved through systematic planning and control. Two major aspects are involved in planning for cash viz., an assessment of factors which affect the cash balances and the choice of appropriate techniques to work out the optimal cash balance. While planning for the cash levels, the following factors have to be considered.

**Synchronisation of cash flows**: The matching of the inflows and outflows of cash influences the level of cash balances. If inflows and outflows coincide or balance perfectly there would be no need for cash balances at all. But such synchronisation can hardly be expected in real life.

**Cost of cash shortages**: A short-fall in the firm's cash holding entails a cost such as the transaction cost associated with raising the cash to tide over the shortage, the borrowing cost i.e. interest on loans, commitment charges and other expenses relating to the loan raised to cover the shortage and the notional cost of the loss of image in the eyes and esteem of creditors.
Cost of excess cash balances: This represents mainly the opportunity cost of missed chances to invest the funds in lucrative investments.

Uncertainty of cash flows and other factors like inflation market conditions etc.

Techniques for planning cash

Several techniques for cash planning are described in literature ranging from the simple relationship models (e.g. cash levels related to sales volume) to accounting techniques like forecasting the cash balances with the help of cash budgets and proforma accounting statements. There are also some sophisticated mathematical models like the Baumol Model, the Miller-Orr model and the Beranek model. In the case of STUs, the accounting techniques like cash budgets etc. are used because the mathematical models assume many refinements in management techniques and the STUs have not yet reached the stage to be able to use these models.

Cash Budget

The cash budget is the most important tool in cash planning and management and is used extensively by organisations big and small. In essence, the cash budget is a statement showing the estimated cash income (inflow) and the cash expenditure (outflow). In other words the net cash position (surplus or deficit) of a firm as it moves from one budgeting sub-period to another is highlighted by the cash budget.

49. For an exposition of these models, refer to Mohsin Mohamed and Khan, Masood Ahmad, op.cit., pp 316-321.
The major advantages of the cash budget are:

(i) it indicates the probable cash position of future dates,

(ii) it indicates cash excesses and shortages,

(iii) it indicates the need for arranging short-term borrowing to cover anticipated cash shortages and the availability of excess cash which can be profitably invested in short-term securities,

(iv) it helps in coordinating the cash management with reference to working capital planning, sales, investment and debt redemption,

(v) it estimates a sound basis of credit and a basis for current control of the cash portion.

The preparation of cash budget involves the following steps.

First the period of time over which the cash budget is to be prepared must be selected including the sub-periods over which the cash flows are to be projected. There is no specific rule for this but the general practice is to select a period which is neither too long nor too short because a long period will lead to problems of accurate estimation while a short period will result in many important events going unaccounted. Moreover, the planning horizon i.e. the period over which the cash budget is prepared, will also be
influenced by the nature and regularity of the cash flows. For instance, if the cash flows are stable and dependable, the cash budget could cover a longer period say a year divided into quarterly intervals. Where the flows are uncertain, a quarterly budget divided into monthly intervals, may be useful. Similarly if the flows are uncertain or affected by seasonal variations, monthly budgets divided into weekly or even daily may be helpful.

Secondly, only cash items are to be included and non-cash items like depreciation have to be excluded. Generally, the items included in the cash budget are categorised into 'operational' and 'financial'. The former relate to cash flows generated by the business operations. The latter are the other cash flows not related to operations e.g. a public issue of shares.

The third and the final step is the preparation of the cash budget itself.

**Basic Strategies in Cash Management**

The strategies in cash management have the main objective of minimising the cash balances. According to Gitman, strategies can be stretching accounts payables, speedy collection of accounts receivables and efficient inventory-production management.50

*Stretching the periods of account payables* means that a firm should pay its account payables as late as possible.

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without damaging its credit standing. This will help the firm to reduce the length of its cash cycle and at the same time increase the cash turnover. Centralised payments and utilising the time lag between the date of issue of the cheque and the date of its presentation at the bank by the creditors are two examples of how current payables can be stretched.

Speeding the collection of account receivables can be achieved by changing the credit terms offered, credit standards and collection policies. Credit standards refer to the criteria for determining the customers to whom credit should be extended. Collection policies determine the effort made to collect the outstandings promptly. For example speedy billing of customers and prompt encashment of the cheques received from them through appropriate banking arrangements are two methods by which accounts receivables can be collected speedily.

Efficient inventory – production management involves increasing the inventory turn-over ratio by increasing the raw materials turn-over, decreasing the production cycle and increasing the finished goods turn-over. These will shorten the cash cycle considerably leading to increased cash turn-over, which in result will mean lower cash balances.

The above strategies are not mutually independent.

In fact, the three strategies can be and should be adopted

51. 'Cash cycle' refers to the process by which cash is used to purchase materials which are converted into goods and later sold to customers and cash is fully collected. 'Cash turnover' means the number of times the firm's cash is used during a year.
simultaneously so that their synergic effect will be reflected in lowering the cash levels.

B. Management of Inventory

Inventories occupy the pride of place among current assets, constituting about 60 per cent of total current assets and, therefore, good inventory management is of great significance in Working Capital Management. "The experience of business consultants in the U.K. has been, even in recent years, that introduction and effective implementation of simple stock control schemes have accounted for 10-20 per cent reduction in inventories, with no ill effects on production and sales and with salutary effects on profitability." 52

Inventory can be defined as money stored up in the shape of four broad categories viz. (i) raw materials, (ii) stores and spares, (iii) work-in-progress and (iv) finished goods. As a component of current assets, inventory differs from the other components because the inventory not manager alone is the only person involved in the management of inventories. In fact, all the functional areas i.e. finance, marketing, production and purchasing are involved. "Inventory typically is a shared responsibility. The purchasing manager is responsible for the materials and parts which the firm acquires for use in the manufacturing process. The production manager is responsible for processing materials and parts together with necessary labour and

overheads toward the planned output of the firm. The marketing manager is responsible for seeing that the orders generated by the sale force are met. The financial manager is responsible for assessing the investment which is made in various kinds of inventory, and how inventory is related to other investments by the firm. These are key managers within the business firm and so decisions about inventory are a company-wise responsibility.\footnote{Smith, K.V., Op.cit., p 142.}

Effective Inventory Management consists of the following:

1. A comprehensive and well classified list of items in inventories;
2. ABC Analysis of inventory items;
3. Forecasting the levels of inventory;
4. Setting stock-levels for the different items;
5. System of continuous stock-taking and perpetual inventory, and
6. Evaluation through selected inventory ratios.

Classification and Codeification of Inventories: The full list of items in stock, duly coded, classified and presented with indication of the location and, wherever necessary, prices, will save much confusion and prevent duplication of purchases. The classification and codeification will serve a very useful purpose if reviewed periodically by revealing
items whose procurement may have become redundant due to material substitution and operational changes.

**ABC Analysis:** The ABC analysis is a selective approach aimed at keeping the inventories low and at the same time avoiding stock-outs of critical items. Under this technique, high value items in terms of money values of annual consumption get segregated for close control so that maximum attention could be given to such selected few items. Classifying the inventory items according to their importance is seen to be universally valid, because in most cases, out of the total inventory items in a business, about 10% items alone constitute 70% or so of the total annual value of materials consumed, while about 20% of the items, account for about 20% of the total annual consumption and the remaining 70% of the items constitute only about 10% of the total value of annual consumption. The three categories are respectively called, A, B and C and represent their relative importance with regard to the attention paid to them.

Diagramatically this classification can be represented as in the following Chart.
CHART 3-2

PROPORTIONAL VALUE ANALYSIS - GRAPHIC

(Inventory Analysis)
The A Class items, which constitute the expensive few, naturally need to be given the greatest attention and control. Absolute care in storing, minimum holding, maximum turnover and utmost speed in processing are the most essential steps in the case of these items. A low safety stock and frequent ordering of these items will result in substantial saving in investment. They also merit close attention for all possible avenues of profit improvement through effective price negotiation with suppliers, design changes for material, methods and better tooling.

The B Class items may not commend themselves for detailed or extensive or close attention as warranted in the case of A Class items. Yet they have to be managed with some degree of caution and subjected to a reasonable degree of control and review to aim at effective economy in their use and saving in investments.

The C Class items constituting a large number of small value items may not be subjected to rigorous management attention and control. Simple and inexpensive controls and procedures will do in their case and the ordering frequency for these items can be drastically reduced. A higher safety stock can be maintained without the risk of blocking huge amounts of funds.
**VED Analysis**

Categorising the inventory items in terms of their importance and criticality is known as VED analysis, where V stands for Vital components, E for essential components and D for desirable components. This classification duly takes into account the importance of the inventory items rather than their monetary values.

**Forecasting the levels of inventory**

One of the important areas in inventory management is forecasting the levels of inventory to be maintained in the business. A variety of forecasting techniques are available, such as econometric studies, lead indicators, past averages, moving averages, weighted moving averages, regression analysis and exponential smoothing. The employment of any one forecasting technique will depend on the degree of precision required since each technique has its own accuracy.

**Setting stock levels for individual items of inventory**

Many factors enter into consideration in determining the stock level of an individual item of inventory such as rate of consumption, lead time, capital needed, availability of storage space, storage cost, price fluctuation, risk of obsolescence, economic ordering quantity, government and other statutory restrictions.

**Economic Ordering Quantity**

Total inventory cost comprises items which are measurable as well as non-measurable. Examples of the measurable
items are storage costs, deterioration and obsolescence costs, costs associated with the ordering activity etc. On the other hand, the non-measurable costs are, say, the opportunity costs arising from foregoing other investment opportunities and the stock-out costs which include the loss of goodwill.

The measurable costs can be classified into 'ordering' costs and 'holding' costs. The ordering costs cover not merely the cost associated with the placement of order but also the subsequent costs arising from the follow up action on each individual supply order. The cost of purchase order form, the clerical and order processing costs in the purchase department, postage, stationery costs of "goods received notes" and "inspection notes", cost of the clerical work in the receiving and inspection departments and the specific costs for recording and processing the concerned suppliers' bills for payment etc. are included in ordering costs.

The holding costs comprise the cost of storage space (rent or depreciation charges), the property tax on stores building, the insurance cost of the stores building as well as the insurance cost of the inventory items, cost of deterioration or obsolescence, stores handling costs and storage costs including staff services, recording etc.

The most important principle in inventory management is to minimise the total inventory cost. In other words
the aim is to order for an inventory item in such a lot
each time that the total of ordering cost and the holding
cost is reduced to the minimum. Thus, in respect of each
inventory item, a lot size can be worked out, called the
economic order quantity (EOQ), which would result in the
minimum total cost for that item. Mathematically, the
Economic Order Quantity is given by the formula:

$$EOQ = \sqrt{\frac{2 \times A \times O}{C}}$$

Where $A$ = the estimated annual usage of the
item (in units)
$O$ = ordering cost per order
$C$ = carrying cost per unit

**Perpetual inventory system**

This is a system of stock verification which is
undertaken throughout the year taking care to see that
each item in the inventory gets checked at least once a
year or more depending upon its importance or criticality.
Unlike the annual stock taking there is no need in this system
to close down the operations for verifying the stocks. With
the tedium of the work reduced and the verification process
spread throughout the year, a large number of items
can be verified leading to prompt detection of discrepancies,
speedy investigation and instant action for shortages detected.
This system also compels prompt updating of stock records on
a continuous basis.
C. Management of Trade Debtors or Accounts Receivables:

Trade debtors or accounts receivables do not constitute a major component of working capital in STUs because of the predominant cash sales of the transport product. It would still be pertinent to mention briefly the tools and techniques of management in this area since this Part has the objective of presenting the tools & techniques of management of each component of working capital and also because in the present context of growing competition in trade and industry, credit sales is gaining greater share of total sales and is extended even at the retail sale stage. The offer of credit enhances the selling potential of a firm, and improves the profit margin and the rate of return on the total investment.

The basic objective in receivables management is to maximise the return on investment in this asset or in other words to achieve "a balance which results in a combination of sales and profit rates that maximises the overall return on the investment of the firm." Receivables have linkage with liquidity and risk which constitute the central theme in the theory of working capital management. Liquidity increases as the certainty of collecting the receivables at maturity increases, and vice-versa. Also increasing the liquidity would decrease the risk to the owner's capital, while a decrease in the liquidity would increase the risk. Therefore, the main area of decision-making and control in receivables management is how to reduce the risk of loss to the share-holders' capital and at the same time enhance the prospect for more profit generated by increased receivables.

The management of accounts receivables can be divided into three distinct areas viz. the establishing an overall credit policy, the application of that policy to individual customers and the administration and control of the policy. The variables under the credit manager's control include the period of the credit, the discount rate if any, and the period of the discount. The criterion for granting credit is whether the credit leads to greater profitability for the firm. By granting credit, an increase in sales can be expected. Against this the costs of the discount and of financing the debtors, the administrative costs and the bad-debts expenses have to be matched. The credit policy can be set at an overall policy level and at an individual customer level.

Establishing the overall credit policy: As the customers of a firm vary in their financial strength, the establishing the credit policy must, begin with categorising the customers as those that pay promptly, those that delay payments and those that never pay. The second step is in relation to the decision, whether to grant or reject credit to the customers. For this a system of forms, paperwork, and overall information flow would be necessary and the possible use of credit insurance must be explored. The next step is to prescribe the credit terms taking into account the cost of credit to the firm and other relevant factors.
Application of credit policy to individual customers will involve performing a credit analysis of each customer, i.e. investigating each potential customer with respect to character, capacity, capital and conditions. These factors influence the credit rating of a person. But the credit analysis is quite likely to be subjective and therefore there is a growing application of sophisticated statistical techniques in this respect, such as multiple determinant analysis.

Administration and control of accounts receivables means to constant monitoring of the accounts receivables to help in improving the cash turn-over. Generally, monitoring is conducted by analysing the structural impact of the receivables on working capital position and sales through ratios like Accounts receivables, Accounts receivables, Sales Credit Sales Collection period, etc.

D: Management of marketable securities

Management of marketable securities has received lesser attention in financial literature, especially by Indian writers, than management of the other forms of current assets such as inventory, cash and receivables. Perhaps one of the

55. Many Indian writers have not paid attention to the management of marketable securities. For instance, Kuchhal (Financial Management - An analytical and Conceptual Approach), Ramamurthy (Working Capital Management), Khan & Jain (Financial Management), Mohsin & Ahmed (Corporation Finance), who have otherwise treated working capital management in great detail have not included management of marketable securities in their respective works. On the other hand, American and British authors have discussed the management of marketable securities in good detail e.g. Ezra Solomon (Financial Management), James C. Van Horne (Financial Management & Policies), K.V. Smith (Guide to Working Capital Management).
reasons for this may be that since the central problem in working capital management in India is one of limited cash, the question of excess cash, which gives rise to investment in marketable securities, does not arise. However, as a component of working capital, marketable securities have a role and purpose and, therefore, the management thereof warrants a brief discussion.

Marketable securities mean securities that have a short maturity and which are usually liquidated within one year. Typical examples are the call deposits accepted by banks. Marketable securities are to be distinguished from other investments like shares in other companies. Whereas an investment in the shares of another company is long-term, marketable securities are never more than a year in maturity. Moreover, the word 'marketable' has special significance in that these short-term securities are easily convertible into cash without significant price losses.

Marketable securities are availed of when, during the course of a year, there are occasions of excess cash which has no immediate use like, say, redemption of loan. It is profitable to invest it in securities which have quick maturities rather than keeping such cash in the firm. The main purpose and objective of marketable securities management is to invest the temporary excess of funds in order to add to organizational profitability. Although the liquidity goal is not usually considered in this case, it is none the less important.
E. Management of Current Liabilities

Following a description of the management of the major components of current assets, it is now the turn of major components of current liabilities for a discussion. As is well known, there are two major components of current liabilities viz., accounts payable (including sundry creditors and accruals) and short-term borrowing. A brief description of the management of accounts payables and accruals is taken up here. Short-term borrowing has already been covered while discussing the sources of working capital.

Accounts Payable & Accruals

K.V. Smith describes the important role played by accounts payable paying many firms could never get started in business, were it not for their suppliers. Manufacturing firms would not be able to obtain adequate financing from alternative sources in order to pay cash for the raw materials and parts needed in the production process. Wholesale and retailing firms would not be able to pay cash for the products and merchandise which they purchase for resale. Large established firms could conceivably finance materials and parts through other financial sources, but they tend not to do so. Thus accounts payable represent a large portion of short-term financing. Short-term financing is also made available through "accruals". This includes wages and salaries payable to employees and taxes payable to governments.

A common characteristic of accounts payable and accruals is that they are spontaneous (self-adjusting) sources of financing. As sales expand, the firm purchases more materials and parts and thus accounts payable increase. More labour and management are needed and, therefore, wages and salaries payable increase. If the firm is successful in its efforts, profits are enhanced and taxes payable also increase. Conversely, when sales decrease, there will be decrease in purchases, payables, accruals and taxes. In other words, the upward and downward movements in sales are accompanied by corresponding adjustments in the financing made available from these short-term spontaneous sources. Since most of the firms buy and sell on credit, accounts payable on the financing side of the balance sheet are paralleled, though not necessarily equalled, by accounts receivables on the investment side of the balance sheet. 57

The important aspects in managing the accounts payable are the timing and terms of purchase, the cost of financing obtained from suppliers and the decisions about when and how the suppliers should be paid. The management of accruals involves the recognition of the principle that the accruals are a form of short-term financing and also the fact that timing of payments to employees, governments and others affects the cost of debt financing. Thus, the goal in the management of payables and accruals can be stated "as to

57. The term 'net credit' is sometimes used to mean accounts receivables minus the accounts payables.
provide as much spontaneous financing as possible at zero cost to the organisation. •

**Strategies in accounts payable management:** The two important variables associated with accounts payables are the amount of the financing made available to the firm and the cost of such financing. One of the strategies in managing cash involves stretching the period of accounts payables. But this strategy has a financial cost (in addition to other non-financial consequences) because if the creditor charges a financial charge for delayed payments, the trade credit available from the accounts payable would become quite expensive.

Accruals, such as salaries, taxes, etc. payable, differ from trade credit in that they involve much less a decision variable. Management are relatively constrained in terms of what can be done to influence the accruals as a source of financing. A salary of Rs.1000 earned by an employee but not yet paid is not very much different from a sum of Rs.1000 borrowed from a bank. Thus, wages payable becomes a source of finance. But from a management perspective, there is not much really that can be done to manipulate this source of financing since payment of wages is mostly regulated by the laws of the land. Similarly, taxes which are payable to the various authorities constitute another source which too can become part of a firm's short-term financing. As the timing of tax payments is specified by

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the authorities, there is little that a firm can do about this source of financing. The general characteristic about accruals is that they are almost a free source of short-term financing for the firm even though they are not very much amenable to planning for delayed discharge.

**Overall analysis and Control of Working Capital**

The component items and the overall position of working capital can be analysed and controlled by the process of financial analysis which is "the process of identifying the financial strengths and weaknesses of the firm by properly establishing the relationships between the items of the balance sheet and the profit and loss accounts." 59

**Ratio analysis**

The main tools of financial analysis are the ratios which are indices relating two pieces of financial data to each other. Analysis and interpretation of various ratios give a better understanding of the financial condition and performance of the firm. "The ratio - the mathematical relationship between two quantities - is of major importance in financial analysis because it injects a quantitative measurement and demonstrates in a precise manner the adequacy of one key financial statement item relative to another." 60


Comparison with related facts is at the heart of ratio analysis. The analysis of financial ratios involves four types of comparison viz. (i) comparison of a present ratio with past and expected future ratios for the same firm i.e. trend ratios, (ii) comparison of the ratios of one firm with those of similar firms or with industry averages at a given point of time (inter-firm comparison), (iii) comparison of items within a given year's financial statement of a firm and (iv) comparison with standards or norms.

Limitations in ratio analysis

The comparison involved in ratio analysis is however beset with several problems, such as -

(a) the ratio in a previous year might have been the result of some exceptional factor;

(b) a particular trend in the behaviour of a ratio over a period of time is not necessarily indicative of good or bad management;

(c) changes in accounting policies and procedures will affect the ratios;

(d) no two firms are similar in all respects so as to be exactly comparable;

(e) balance sheet ratios relate to the position of items to one date of the year and this may not be indicative of their general nature; and

(f) development of an average or a standard ratio is extremely difficult.
Ratio analysis in working capital management

The ratios pertaining to the analysis of the position and control of working capital may be described as follows.

1. Current ratio: The current ratio is almost always the first financial ratio to be mentioned and probably the most frequently used of all the financial ratios. This is the ratio of current assets to current liabilities (expressed as \( \frac{\text{Current assets}}{\text{Current liabilities}} \)) and used as a major indicator of the firm's ability to meet its debts. It gives a general picture of the adequacy of a company's working capital and likewise measures the margin of safety available for paying current debts in the event of a reduction in the value of current assets. A current ratio of value greater than one means that the firm has more current assets than current claims against it. Therefore, a relatively high value of the current ratio is considered as an indication of the firm's short-term solvency and vice-versa. As a conventional rule, a current ratio of 2:1 (current assets twice of current liabilities) or more is considered to be satisfactory. This is based on the logic that in the worst situation, even if the value of current assets becomes half, the firm will be able to meet its obligation.

The thumb-rule of a 2 : 1 norm for current ratio became the inflexible standard over the period. But it was soon discovered that such a thumb-rule standard can not be
maintained by all industries and firms as they have their own individual characteristics affecting liquidity. Many times, firms with a lower value of current ratio remain quite liquid, whereas those with a greater value are not necessarily able to meet their current debt obligations. This is because the current ratio measures only the total rupees' worth of current assets and current liabilities and not the quality of the assets. Talking of the current ratio, Miller says, "at one time it commanded such widespread respect that many businessmen regarded it as being endowed with the infallibility of nature's laws - a law of gravity applied to the balance sheet. And a 2 to 1 value became the inflexible standard - the maximum value that analysts thought this ratio should have in a properly operating area .... In the long run, however, the originator of the 2 to 1 current ratio theory has done more disservice then can be imagined.... Blind reliance on a 2 to 1 standard for the current ratio is an indication of the constant groping for panaceas and easy solutions by businessmen who do not possess financial understanding. This sort of oversimplification is very dangerous and often leads directly to financial disaster." 61 The quality of the current assets therefore came to be emphasised.

2. **Acid test ratio:** A major refinement of the current ratio is the acid test ratio, also known as the quick ratio, which measures the total amount of cash and receivables

against the total amount of current liabilities. It is expressed as \( \frac{\text{Current assets - inventories}}{\text{Current liabilities}} \). Inventories are not considered in this ratio because they are less liquid (from the point of their convertibility into cash quickly and without transaction losses) than cash and receivables. The logic of this ratio is that if there is one rupee in cash and receivables for every rupee in current liabilities the firm's liquidity is quite satisfactory. Thus, the 1-to-1 acid test ratio became the vogue in measuring liquidity.

The acid test ratio also suffers from the same weakness as the current ratio because it is also a quantitative rather than qualitative standard. It does not take into account the collectibility of the receivables, nor the fact that the period of credit offered may be longer than the credit received. "The acid-test ratio failed to pass its own acid test, for there were for too many companies with 1-to-1, or better, current ratios which ended in failure and too many 'sub-standard' companies (less than 1-to-1) which performed beautifully and became outstandingly successful organisations. The trouble lay in over-simplification in a failure to recognise that working capital does not just exist but is influenced by other forces within the financial structure of a company." 62

In spite of their weaknesses, the current ratio and the acid-test ratio have not lost their significance in financial analysis. They should be employed keeping three major points in mind viz.

(i) they should be subjected to qualitative tests. The major components of current assets, viz. inventories and receivables, must be carefully analysed to determine their quality;

(ii) they are subject to the influence of other financial forces which can depress or revive them; and

(iii) no standards like a 2:1 current ratio or a 1:1 quick ratio can be prescribed as the bench mark. Each industry has its own peculiar problems reflected in its own specific averages.

3. **Ratio of current liabilities to net-worth**

This ratio is computed by dividing all current liabilities (including those instalments of long-term debt due within a year) by the tangible net-worth of the company. Net worth may be defined as the excess of total tangible assets over total debt (current and long-term). The operating freedom of a firm is conditioned by the relative stake of the creditors in contrast with that of the owners. A high proportion of debt which is current in nature carries with it the risk of danger to a firm's operating freedom. Therefore, the ratio of current-liabilities to net-worth is an important
indicator of a firm's operating freedom. A high value of this ratio is likely to impose considerable limitations on the actions of the management by trade creditors and financial institutions.

4. **Ratio of inventory to working capital**

   Inventory accounts for a large percentage of working capital and is also subject to major downward revaluations. There is a need therefore to measure the dependence of working capital on the inventory values. The inventory to working capital ratio provides such measurement. To compute this ratio, the book value of the inventory is divided by the net working capital which is determined by subtracting current liabilities from current assets.

5. **Ratio of accounts receivables to working capital**

   This ratio measures the dependence of working capital on trade receivables. Since accounts receivables show trends of increasing volume in recent times in businesses, their importance in the working capital structure has also increased and this ratio helps in determining this importance. The ratio is expressed as \( \frac{\text{Accounts Receivables}}{\text{Net Working Capital}} \).

6. **Ratio of long-term liabilities to working capital**

   Many firms resort to borrowing on a long-term basis for the purpose of augmenting their deficient working capital in order to gain time to generate profit and restore the overall...
financial balance. The ratio of long-term liabilities to working capital helps to measure three specific aspects of the debt structure of a firm viz.

(i) it indicates whether long-term debt has been used to fulfill its principal purpose i.e. replenishment of working capital. If this ratio is greater than 100 percent, it can be concluded that funds from long-term debt has been diverted to acquisition of fixed assets or that continuing operating losses have been camouflaged,

(ii) it points out the possibility of future long-term financing by the company. A high percentage for this ratio would generally indicate that a firm has either exhausted or is about to reach the limit of this form of debt. Conversely a low percentage for this ratio would point out the potential availability of long-term financing under the assumption that the firm has assets of the type which would support long-term loans, and

(iii) it directs the attention of management to the existence of long-term financing as such.

The ratio of long-term liabilities to working capital is computed by dividing the long-term liabilities by the working capital.

(7) Ratio of net sales to working capital

This ratio indicates the demands made upon working capital in supporting the sales volume of the firm as there
is a direct relationship between the volume of sales and the amount of working capital. Higher the level of sales in relation to available working capital, the greater would be the strain which a firm faces in satisfying its trade and bank creditors. Therefore, when this ratio is found to be disproportionately high, it can be concluded that severe working capital deficiencies exist. The ratio is computed by dividing net sales by working capital and expressed as "number of times."

This ratio is however only an additional index despite its usefulness in assessing any working capital deficiency. It would only confirm other facts already revealed through other fundamental ratios such as those connecting sales to inventory, receivables, fixed assets, profit and net-worth as well as other ratios like working capital to inventory or receivables or long-term debt. Yet its sensitivity to changes in working capital makes it quite a valuable index as it highlights the need for operating funds to support the sales objectives of the company.

**Causal ratios**

The ratios described thus far are ratios which measure and study the effects of financial forces on the operations of a firm vis-a-vis working capital position and efficiency of management thereof. But the effects are necessarily due to some causes which can be appraised through a set of
appropriate ratios. Some of the causal ratios in the case of working capital are described below.

8. **Ratio of fixed assets to net worth**

   This is computed by dividing the depreciated value of fixed assets by the net worth. If a firm has an excessively high percentage of net worth committed to fixed assets, its working capital position will be greatly influenced. For example if a firm with a net worth of Rs.10,00,000 has invested Rs.20,00,000 in fixed assets, it means that it owns only 50% of its fixed assets. In the absence of any other form of debt financing, its working capital would be affected by Rs.10,00,000 which will reduce its current ratio and increase the other ratios connected with working capital. Excessive fixed assets thus adversely affect and distort many ratios relating to working capital such as the current ratios, net sales to working capital ratio, inventory to working capital ratio, accounts receivables to working capital ratio and long-term debt to working capital ratio.

9. **Collection period index**

   This ratio is a useful tool in the analysis of a firm's accounts receivables and in view of the importance of receivables in the management of working capital, it has gained popularity.

   The index is computed as follows: The total credit

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63. For an excellent treatment of financial ratios in their cause and effect relationship refer to Miller, Donald E, Op Cit.
sales of the firm in the year is divided by 365 to determine the credit sales per day. The total of all trade receivables such as accounts receivables, notes receivables, trade acceptances receivables, etc. is then divided by the credit sales per day to give the collection period in days. The index serves several purposes. It measures the internal credit-and-collection-efficiency, determines the probability of bad-debt to be written off and measures the firm's receivables position. A high collection period index would hamper the firm's bill paying ability. It can be further examined with an age wise analysis of the receivables in order to get an idea about the possibility of bad debt losses. On the other hand, a low index for collection period, as against its own credit period offered to debtors, is not necessarily a favourable proposition because it would be reflective of a severe or restrictive credit and collection policy or a negative sales outlook. Any write off of bad debt automatically causes a shrinkage in working capital and actual net worth, leading to depresses profit.

The collection period index will affect many other ratios pertaining to working capital, such as net sales to working capital, inventory to working capital and long-term debt to working capital.

10. **Ratio of net-sales-to-inventory**

This index serves as an indicator of the inventory turnover and merchandising efficiency of a company. It is
computed by dividing the annual net sales by the book value of the inventory and expressed as number of times. It provides the best measure to indicate the manner in which a firm's inventory turns and the merchandising efficiency. Just as the collection period index the net sales to inventory index also measures the quality of working capital.

**Statement of Sources and uses of Funds**

Another tool which can be used to help evaluate a firm's cash-flow position is to compute, from published accounts, a statement of sources and uses of funds (also called sources and application of funds statement or cash-flow statement, or funds statement). This statement shows the funds generated during a period from all sources e.g. profits before depreciation, capital issues, increases in current liabilities, decreases in current assets, proceeds from the sale of capital assets etc. and the total uses of funds e.g. increases in fixed assets and current assets, repayments of loan capital, dividends etc. The difference between the sources and uses represents the movements in the cash balance.

**Conclusion**

The overview of working capital theory and practices presented in the chapter shows that considerable advancements have been made in this area. This is as it should be considering the fact that working capital management constitutes a critical area in the overall financial management.