

## **DKF26 WORKING CAPITAL MANAGEMENT**

### **Unit I**

Working capital concepts – components of Current Assets and Current Liabilities – Working Capital Policy – factors determining working capital requirements – Forecasting the working capital requirements – Operation cycle time analysis.

### **Unit II**

Cash Management – Rationale for cash – cash budgeting – Collection Methods – Cash Management models – Strategies for Marketable Securities – Receivables Management – Payables Management – Credit analysis – studying the impact of credit policy changes – Cost of Trade Credit.

### **Unit III**

Inventory Management – types of inventory – inventory cost – determining inventory levels – inventory Management Systems.

### **Unit IV**

Control of working capital – ratios used in control in working capital – use of ratios, Fund flow cash flow analysis in working capital control.

### **Unit V**

Financing working capital needs – money market bank finance; the frame work, assessment and – bank finance – Factoring monetary policy of RBI – its implications on working capital finance – industry – Recommendations of various committees.

### **References:**

1. Working capital – Lesile R. Howard.Vadonalds Evans Ltd.
2. Guide to Working Capital Management – Keith V.Smith, McGraw Hill.
3. Books on Financial Management.

## UNIT – I

### INTRODUCTION

Working capital, also known as short term capital, working capital is a financial metric which represents operating liquidity available to a business. Along with fixed assets such as plant and equipment, working capital is considered a part of operating capital. It is calculated as current assets minus current liabilities. If current assets are less than current liabilities, an entity has a working capital deficiency, also called a working capital deficit. Net working capital is working capital minus cash (which is a current asset). It is a derivation of working capital that is commonly used in valuation techniques such as DCFs (Discounted cash flows).

### **Working Capital = Current Assets – Current Liabilities**

A company can be endowed with assets and profitability but short of liquidity if its assets cannot readily be converted into cash. Positive working capital is required to ensure that a firm is able to continue its operations and that it has sufficient funds to satisfy both maturing short-term debt and upcoming operational expenses. The management of working capital involves managing inventories, accounts receivable and payable and cash.

Current assets and current liabilities include three accounts which are of special importance. These accounts represent the areas of the business where managers have the most direct impact:

- i) A (current asset)
- ii) Inventory (current assets), and
- iii) Accounts payable (current liability)

The current portion of debt (payable within 12 months) is critical, because it represents a short-term claim to current assets and is often secured by long term assets. Common types of short-term debt are bank loans and lines of credit.

An increase in working capital indicates that the business has either increased current assets (that is has increased its receivables, or other current assets) or has decreased current liabilities, for example has paid off some short-term creditors.

Implications on M&A: The common commercial definition of working capital for the purpose of a working capital adjustment in an M&A transaction (ie for a working capital adjustment mechanism in a sale and purchase agreement) is equal to:

Current Assets - Current Liabilities excluding deferred tax assets/liabilities, excess cash, surplus assets and/or deposit balances.

Cash balance items often attract a one-for-one purchase price adjustment.

## **DEFINITION AND CLASSIFICATION OF WORKING CAPITAL**

Working capital refers to the circulating capital required to meet the day to day operations of a business firm. Working capital may be defined by various authors as follows:

According to Weston & Brigham - "Working capital refers to a firm's investment in short term assets, such as cash amounts receivables, inventories etc.

Working capital means current assets. —Mead, Baker and Malott

"The sum of the current assets is the working capital of the business" —J.S.Mill

Working capital is defined as "the excess of current assets over current liabilities and provisions". But as per accounting terminology, it is difference between the inflow and outflow of funds. In the Annual Survey of Industries (1961), working capital is defined to include "Stocks of materials, fuels, semi-finished goods including work-in-progress and finished goods and by-products; cash in hand and bank and the algebraic sum of sundry creditors as represented by (a) outstanding factory payments e.g. rent, wages, interest and dividend; b) purchase of goods and services; c) short-term loans and advances and sundry debtors comprising amounts due to the factory on account of sale of goods and services and advances towards tax payments".

The term "working capital" is often referred to "circulating capital" which is frequently used to denote those assets which are changed with relative speed from one form to another i.e., starting from cash, changing to raw materials, converting into work-in-progress and finished products, sale of finished products and ending with realization of cash from debtors. Working capital has been described as the "life blood of any business which is apt because it constitutes a cyclically flowing stream through the business".

## **CONCEPT OF WORKING CAPITAL**

There are two concepts of working capital. These are:

### **1. Gross working capital: (Total Current Assets)**

The gross working capital, simply called as working capital refers to the firm's investment in current assets. Current assets are the assets, which can be converted into cash within an accounting year or operating cycle. Thus, Gross working capital, is the total of all current assets. It includes

1. Inventories (Raw materials and Components, Work-in-Progress, Finished Goods, Others).
2. Trade Debtors.
3. Loans and Advance.

4. Cash and Bank Balances.
5. Bills Receivables.
6. Short-term Investment.

## **2. Net Working Capital: (Total Current Assets – Total Current Liabilities)**

Net working capital refers to the difference between current assets and current liabilities. Current liabilities are those claims of outsiders, which are expected to mature for payment within an accounting year. Net working capital may be positive or negative. A positive net working capital will arise when current assets exceed current liabilities and a negative net working capital will arise when current liabilities exceed current assets i.e. there is no working capital, but there is a working capital deficit. It includes

1. Trade Creditors
2. Bills Payable.
3. Accrued or Outstanding Expenses.
4. Trade Advances
5. Short Term Borrowings (Commercial Banks and Others)
6. Provisions
7. Bank Overdraft

“Working Capital represents the amount of current assets that have not been supplied by current, short term creditors.”

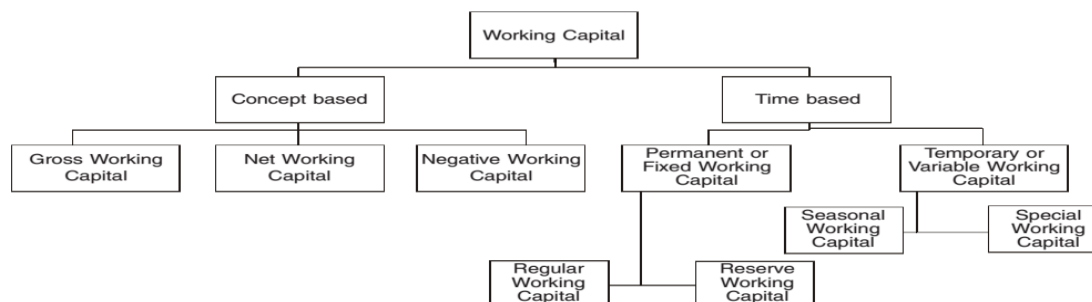
“Gross working capital refers to the amount of funds invested in current assets that are employed in the business process while, Net Working Capital refers to the difference between current assets and current liabilities.”

“Working Capital is the excess of current assets that has been supplied by the long-term creditors and the stockholders.”

The two concepts of working capital, gross working capital and net working capital are exclusive. Both are equally important for the efficient management of working capital. The gross working capital focuses attention on two aspects How to optimize investment in current assets? and How should current assets be financed? While, net working capital concept is qualitative. It indicates the liquidity position of the firm and suggests the extent to which working capital needs may be financed by permanent sources of funds.

## WORKING CAPITAL MAY BE CLASSIFIED IN TWO WAYS

- a) Concept based working capital
- b) Time based working capital



**Fig. 1.1 Classification of Working Capital**

### Concepts of working capital

- 1. Gross Working Capital:** It refers to the firm's investment in total current or circulating assets.
- 2. Net Working Capital:**

The term "Net Working Capital" has been defined in two different ways:

- i) It is the excess of current assets over current liabilities. This is, as a matter of fact, the most commonly accepted definition. Some people define it as only the difference between current assets and current liabilities. The former seems to be a better definition as compared to the latter.
- ii) It is that portion of a firm's current assets which is financed by long-term funds.

- 3. Permanent Working Capital:** This refers to that minimum amount of investment in all current assets which is required at all times to carry out minimum level of business activities. In other words, it represents the current assets required on a continuing basis over the entire year. Tandon Committee has referred to this type of working capital as "Core current assets".

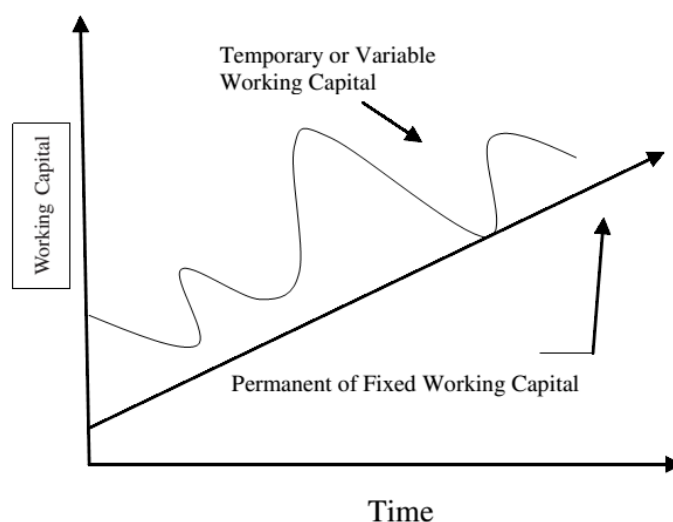
The following are the characteristics of this type of working capital:

1. Amount of permanent working capital remains in the business in one form or another. This is particularly important from the point of view of financing. The suppliers of such working capital should not expect its return during the life-time of the firm.
2. It also grows with the size of the business. In other words, greater the size of the business, greater is the amount of such working capital and vice versa

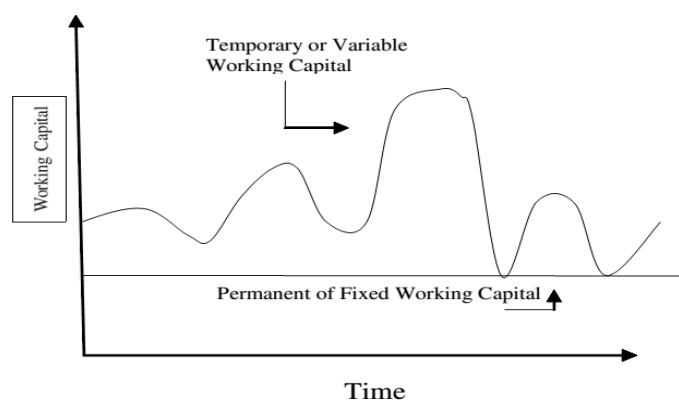
Permanent working capital is permanently needed for the business and therefore it should be financed out of long-term funds.

- 4. Temporary Working Capital:** The amount of such working capital keeps on fluctuating from time to time on the basis of business activities. In other words, it represents additional current assets required at different times during the operating year. For example, extra inventory has to be maintained to support sales during peak sales period. Similarly, receivable also increase and must be financed during period of high sales. On the other hand investment in inventories, receivables, *etc.*, will decrease in periods of depression.

Suppliers of temporary working capital can expect its return during off season when it is not required by the firm. Hence, temporary working capital is generally financed from short-term sources of finance such as bank credit



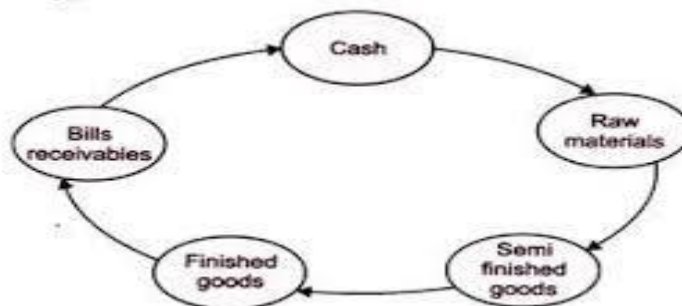
**Fig. 1.2 Temporary Working Capital**



**Fig. 1.3 Temporary Working Capital**

**5. Negative Working Capital:** This situation occurs when the current liabilities exceed the current assets. It is an indication of crisis to the firm.

### WORKING CAPITAL CYCLE



**Fig. 1.4 Working Capital Cycle**

The determination of WC helps in forecast, control & management of WC. The duration of WC may vary depending upon the nature of business. The duration of operating cycle (WC cycle) for the purpose of estimating WC is equal to the sum of duration of each of above events less the credit period allowed by the supplier. For ex.- A co. holds raw material on an average for 60 days, it gets credit from supplier for 15 days, production process needs 15 days, finished products are held 30 days & 30 days is the total WC cycle. So,  $60+15+30+30-15=120$  days.

### REQUIREMENTS OF WORKING CAPITAL

There are no set rules or formula to determine the working capital requirements of the firms. A large number of factors influence the working capital need of the firms. All factors are of different importance and also importance change for the firm over time. Therefore, an analysis of the relevant factors should be made in order to determine the total investment in working capital. Generally the following factors influence the working capital requirements of the firm:

1. Nature and size of the business
2. Seasonal fluctuations
3. Production policy
4. Taxation
5. Depreciation policy
6. Reserve policy
7. Dividend policy

8. Credit policy:
9. Growth and expansion
10. Price level changes
11. Operating efficiency
12. Profit margin and profit appropriation

## **KINDS OF WORKING CAPITAL**

The working capital in certain enterprise may be classified into the following kinds.

### **1. Initial working capital**

The capital, which is required at the time of the commencement of business, is called initial working capital. These are the promotion expenses incurred at the earliest stage of formation of the enterprise which include the incorporation fees. Attorney's fees, office expenses and other preliminary expenses.

### **2. Regular working capital**

This type of working capital remains always in the enterprise for the successful operation. It supplies the funds necessary to meet the current working expenses i.e. for purchasing raw material and supplies, payment of wages, salaries and other sundry expenses.

### **3. Fluctuating working capital**

This capital is needed to meet the seasonal requirements of the business. It is used to raise the volume of production by improvement or extension of machinery. It may be secured from any financial institution which can, of course, be met with short term capital. It is also called variable working capital.

### **4. Reserve margin working capital**

It represents the amount utilized at the time of contingencies. These unpleasant events may occur at any time in the running life of the business such as inflation, depression, slump, flood, fire, earthquakes, strike, lay off and unavoidable competition etc. In this case greater amount of capital is required for maintenance of the business.

### **5. Permanent and Temporary Working Capital**

The Operating Cycle creates the need for Current Assets (Working Capital). However the need does not come to an end once the cycle is completed. It continues to exist. To explain the continuing need of current assets, a distinction should be drawn between temporary and permanent working capital.

Business Activity does not come to an end after the realization of cash from customers. For a company, the process is continuing, and hence, the need for regular supply



of working capital. However, the, magnitude of Working Capital required is not constant but fluctuating.

To carry on a business, a certain minimum level of working capital is necessary on a continuous and uninterrupted basis. For all practical purposes, this requirement has to be met permanently as with other fixed assets. This requirement is referred to as permanent or fixed working capital.

Any amount over and above the permanent level of working capital is temporary, fluctuating or variable working capital. The position of the required working capital is needed to meet fluctuations in demand consequent upon changes in production and sales as a result of seasonal changes. Both kinds of working capital are necessary to facilitate the sales proceeds through the Operating Cycle.

### **6. Long Term working capital**

The long-term working capital represents the amount of funds needed to keep a company running in order to satisfy demand at lowest point. There may be many situations where Demand may fluctuate considerably. It is not possible to retrench the work force or instantly sell all the inventories whenever demand declines Due to temporary reasons. Therefore the value, which represents the long-term working capital, stays with the business process all the time. It is for all practical purpose as permanent as fixed assets. In other words, it consists of the minimum current assets to be maintained at all times. The size of the permanent working capital varies directly with the size of Operation of a firm.

### **7. Short term working capital**

Short-term capital varies directly with the level of activity achieved by a company. The Volume of Operation decides the quantum of Short-term working capital. It also changes from one firm to another; from cash to inventory from inventory to debtors and from debtors back to cash. It may not always be gain fully employed. Temporary Working capital should be obtained from such sources, which will allow its return when it is not in use.

### **8. Gross Working Capital**

Gross working capital refers to the firm's investment in current assets. Current assets are those assets which can be converted in to cash with in an accounting year and includes cash short term securities, debtors bills receivable and stock.

### **9. Net Working Capital**

Net working capital refers to the difference between current asset and Current liabilities. Current liabilities are those claims of outsiders, which are expected to mature for payment within accounting year and include creditors, bills payable and outstanding

expenses. Net Working capital can be positive or negative. A positive net working capital will arise when current assets exceed current liabilities.

The Gross working capital concept focuses attention on two aspect of current assets management.

1. How to optimize investment in current assets?
2. How should current assets be finance?

Both the question is the most decision making action of the management. It should be give due consideration before taking decision. Both Net and Gross working capital is important and they have equal significance from management point of view.

The consideration of the level of investment in current assets should avoid two danger points – Excessive and Inadequate investment in current assets. Investment in Current assets should be just adequate, not more or less, to the need of the business firm. Excessive investment in current assets should be avoided because it impairs the firm's profitability as idle investment earns nothing on the other hand, inadequate amount of working capital can threaten solvency of the business because its inability to meet its current obligation. It should realize that the working capital needs of the firm may be fluctuation with changing business activity. This may cause excess or shortage of working capital frequently. The management should be prompt to initiate an action and correct imbalances.

Another aspect of the Gross working capital points to the need of arranging funds to finance current assets. Whenever a need for working capital fund arises due to the increasing level of business activity or for any other reason financing arrangement should not be allowed to remain idle, but should be invested in short term securities. Thus the finance manager should have knowledge of the sources of fund as well as investment of idle fund.

Net Working capital is qualitative concept. It indicates the liquidity position of the firm and suggests the extent to which working capital needs may be finance by permanent source of fund. A weak solvency of the company and makes it unsafe and unsound.

Net working capital concept also covers the question of judicious mix of long term and short term funds for financing current assets. For every firm, there is a minimum amount of net Working capital which is permanent. Therefore, a portion of working capital should be finance with the permanent sources of fund such as share capital, debenture, and long-term debt, preference share capital or retail earning. Management must decide the extent to which current assets should be financed with Equity capital and/or borrowed capital. So we can say that both Gross and net working capital are equally important for the efficient management of working capital.

The objective of working capital management is to maintain the optimum balance of each of the working capital components. This includes making sure that funds are held as cash in bank deposits for as long as and in the largest amounts possible, thereby maximizing the interest earned. However, such cash may more appropriately be "invested" in other assets or in reducing other liabilities.

### **NATURE OF WORKING CAPITAL**

Working Capital Management is concerned with the problems that arise in attempting to manage the Current Assets, the Current Liabilities and the inter-relationship that exists between them. The term Current Assets refers to those Assets which in the ordinary course of business can be, or will be, converted into Cash within one year without undergoing a diminution in value and without disrupting the operations of the firm. The Major Current Assets are Cash, Marketable Securities, Accounts Receivables and Inventory.

Current Liabilities are those Liabilities, which are intended at their inception, to be paid in the ordinary course of business, within a year out of the current assets or the earnings of the concern. The basic Current Liabilities are Accounts Payable, Bills Payable, Bank Overdraft and outstanding expense. The goal of Working Capital Management is to manage the firm's Assets and Liabilities in such a way that a satisfactory level of working capital is maintained. This is so because if the firm cannot maintain a satisfactory level of working capital, it is likely to become insolvent and may even be forced into bankruptcy.

The Current Assets should be large enough to cover its current liabilities in order to ensure a reasonable margin of safety. Each of the current assets must be managed efficiently in order to maintain the liquidity of the firm while not keeping too high a level of any one of them. Each of the short term sources of financing must be continuously managed to ensure that they are obtained and used in the best possible way. The interaction between current assets and current liabilities is, therefore, the main theme of the theory of management of working capital.

Many organisations that are profitable on paper are forced to cease trading due to an inability to meet short-term debts when they fall due. In order to remain in business it is essential that an organisation successfully manages its working capital. Too often however, this is an area which is ignored. This article will look at the items which comprise working capital, and using live examples will consider the level of working capital required by businesses operating in different industries.

The definition of working capital is fairly simple; it is the difference between an organisation's current assets and its current liabilities. Of more importance is its function

which is primarily to support the day-to-day financial operations of an organisation, including the purchase of stock, the payment of salaries, wages and other business expenses, and the financing of credit sales.

As the cycle indicates, working capital comprises a number of different items and its management is difficult since these are often linked. Hence altering one item may impact adversely upon other areas of the business. For example, a reduction in the level of stock will see a fall in storage costs and reduce the danger of goods becoming obsolete. It will also reduce the level of resources that an organisation has tied up in stock. However, such an action may damage an organization's relationship with its customers as they are forced to wait for new stock to be delivered, or worse still may result in lost sales as customers go elsewhere.

Extending the credit period might attract new customers and lead to an increase in turnover. However, in order to finance this new credit facility an organisation might require a bank overdraft. This might result in the profit arising from additional sales actually being less than the cost of the overdraft.

Management must ensure that a business has sufficient working capital. Too little working capital will result in cash flow problems. Problems can be highlighted by an organisation exceeding its agreed overdraft limit, failing to pay suppliers on time, and being unable to claim discounts for prompt payment. In the long run, a business with insufficient working capital will be unable to meet its current obligations and will be forced to cease trading even if it remains profitable on paper.

On the other hand, if an organisation ties up too much of its resources in working capital it will earn a lower than expected rate of return on capital employed. Again this is not a desirable situation.

### **IMPORTANCE OF WORKING CAPITAL**

Working capital is one of the important measurements of the financial position. The words of H. G. Guthmann clearly explain the importance of working capital. "Working Capital is the life-blood and nerve centre of the business." In the words of Walker, "A firm's profitability is determined in part by the way its working capital is managed." The object of working capital management is to manage firm's current assets and liabilities in such a way that a satisfactory level of working capital is maintained. If the firm cannot maintain a satisfactory level of working capital, it is likely to become insolvent and may even be forced into bankruptcy. Thus, need for working capital to run day-to-day business activities smoothly can't be overemphasized.

1. It helps measure profitability of an enterprise. In its absence, there would be neither production nor profit.
2. Without adequate working capital an entity cannot meet its short-term liabilities in time.
3. A firm having a healthy working capital position can get loans easily from the market due to its high reputation or goodwill.
4. Sufficient working capital helps maintain an uninterrupted flow of production by supplying raw materials and payment of wages.
5. Sound working capital helps maintain optimum level of investment in current assets.
6. It enhances liquidity, solvency, credit worthiness and reputation of enterprise.
7. It provides necessary funds to meet unforeseen contingencies and thus helps the enterprise run successfully during periods of crisis.

### **COMPONENTS OF WORKING CAPITAL**

Working capital is composed of various current assets and current liabilities, which are as follows:

#### **1. Current Assets:**

These assets are generally realized within a short period of time, i.e. within one year.

Current assets include:

- (a) Inventories or Stocks
  - (i) Raw materials
  - (ii) Work in progress
  - (iii) Consumable Stores
  - (iv) Finished goods
- (b) Sundry Debtors
- (c) Bills Receivable
- (d) Pre-payments
- (e) Short-term Investments
- (f) Accrued Income and
- (g) Cash and Bank Balances

#### **2. Current Liabilities:**

Current liabilities are those which are generally paid in the ordinary course of business within a short period of time, i.e. one year. Current liabilities include:

- (a) Sundry Creditors
- (b) Bills Payable

- (c) Accrued Expenses
- (d) Bank Overdrafts
- (e) Bank Loans (short-term)
- (f) Proposed Dividends
- (g) Short-term Loans
- (h) Tax Payments Due

## WORKING CAPITAL POLICIES

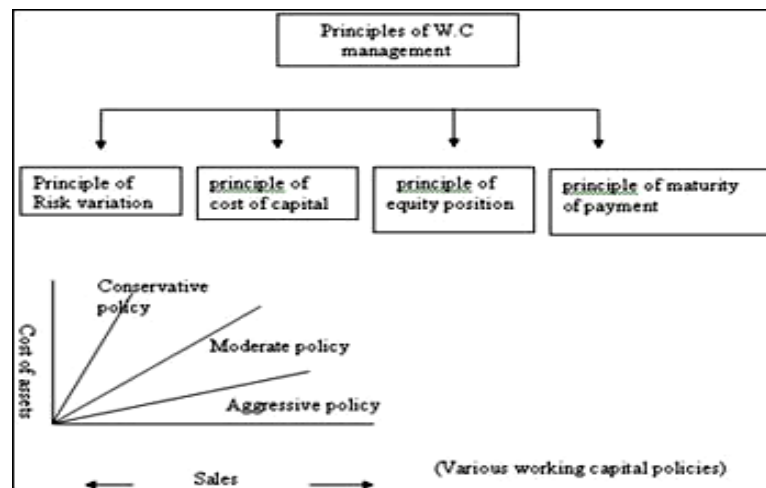


Fig. 1.5 Working Capital Policies

### 1. Principles of Risk variation

- i) Here risk refers to the inability of a firm to meet its obligation, when they become due for payment.
- ii) There is a definite inverse relationship between the degree of risk & profitability.
- iii) A management prefers to minimize risk by maintaining a higher level of current assets or working capital.

### 2. Principles of cost of capital

- i) Generally, higher the risk lower is the cost & lowers the risk, higher is the cost.
- ii) A sound working capital management should always try to achieve a proper balance b/w these two.

### 3. Principles of equity position

- i) It is concerned with planning the total investment in Current Asset.
- ii) Every rupee invested in the current assets should contribute to the net worth of the firm.

The level of Current Asset may be measured with the help of two ratios

- i) Current assets as a % of total assets.
- ii) Current assets as a % of total sales.

#### **4. Principle of maturity of payment**

- i) It is concerned with planning the sources of finance for working capital.
- ii) A firm should make every effort to relate maturities of payment to its flow of internally generated funds.
- iii) Working capital financing policy basically deals with the sources and the amount of working capital that a company should maintain.
- iv) A firm is not only concerned about the amount of current assets but also about the proportions of short-term and long-term sources for financing the current assets. There are several working capital investment policies a firm may adopt after taking into account the variability of its cash inflows and outflows and the level of risk.

#### **Hedging Policy**

- i) One of the policies by which a firm finances its working capital needs is the hedging policy, also known as matching policy. This policy works in an arrangement where the current assets of the business are used perfectly to match the current liabilities.
- ii) As per this approach, fixed and permanent current assets are financed through long-term sources and fluctuating current assets are financed through short-term sources.
- iii) This policy is a medium risk proposition and requires a good amount of attention. For example, if a bank loan is due to be paid after six months, the company will ensure that sufficient amount of cash will be available to repay the loan on the date of maturity even though it may or may not currently have sufficient cash.
- iv) In case of a growth firm, the amount of fixed assets and permanent current asset go on increasing with the passage of time but the volume of fluctuating current assets change with the change in production level. In Figure 8.1, Line A and Line B is upward slopped indicating that they go on increasing with the passage of time and as per hedging principle they are financed through long-term sources like equity and long-term debt.

- v) Fluctuating current assets, which are shown by the curved Line C, should be financed through short term sources.

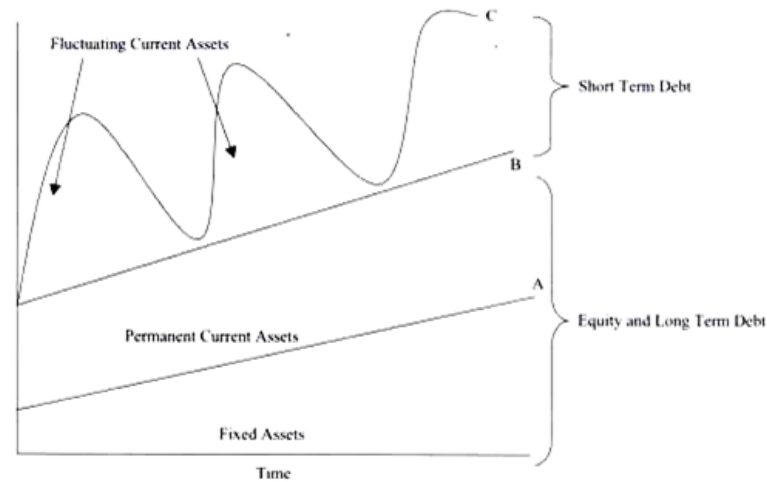


FIGURE 8.1 Hedging/Matching Policy

Fig. 1.6 Hedging/Matching Policy

#### Conservative Policy:

- i) As the name suggests, this policy tries to avoid the risk involved in financing of current assets. Here, relatively high proportions of long-term sources are to be used for financing current assets. The firm not only matches the current assets with current liabilities but also keeps some excess amount to meet any uncertainty.
- ii) This is the lowest risk working capital policy and fails to ensure optimum utilization of funds. Hence it cuts down the expected returns of the shareholders. This policy is illustrated in Figure 8.2. Line A denotes the fixed assets and Line B denotes the permanent working capital, which is financed through long-term sources. Certain portion of fluctuating current assets, which is shown by dashed Line C, is also financed by long-term sources. Under this policy some part of fluctuating current assets is financed through short-term sources.



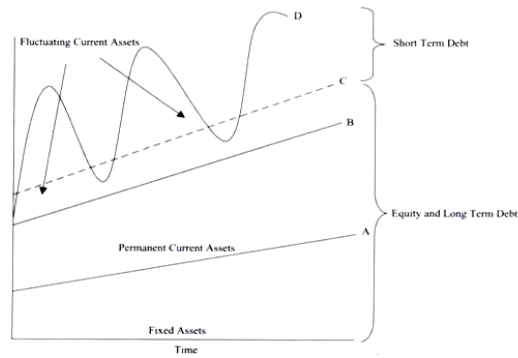


FIGURE 8.2 Conservative Policy

Fig. 1.7 Conservative Policy

### Aggressive Policy

- i) Aggressive working capital financing policy is a risky policy that requires maximum amount of investment in current assets. Fluctuating as well as permanent current assets under this policy will be financed through short-term debt. In this policy debt is collected on time and payments to the creditors are made as late as possible.
- ii) This policy has been illustrated in Figure 8.3. According to this approach long-term sources are used to finance the fixed assets, which are shown by Line A; but a portion of permanent current assets, shown by the dotted Line B, is also financed through long-term sources. The remaining part of permanent current assets, depicted by Line C, and the entire amount of fluctuating current assets, shown by the curved Line D, are financed by short-term debt.

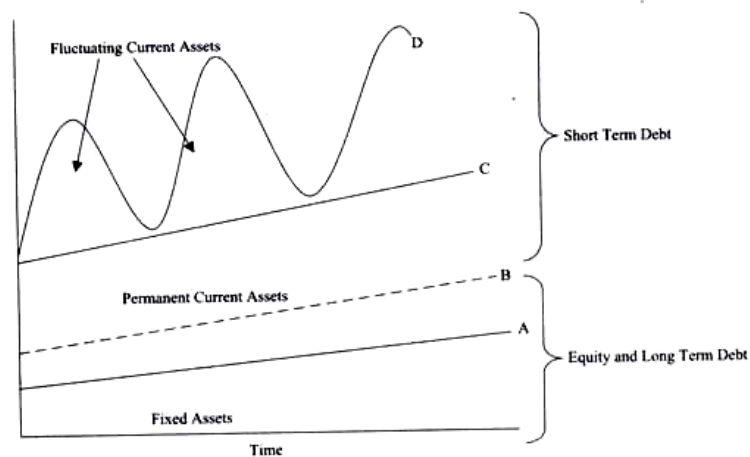


FIGURE 8.3 Aggressive Policy

Fig. 1.8 Aggressive Policy

## **DETERMINANTS OF WORKING CAPITAL**

The factors influencing the working capital decisions of a firm may be classified as two groups, such as internal factors and external factors. The internal factors includes, nature of business size of business, firm's product policy, credit policy, dividend policy, and access to money and capital markets, growth and expansion of business etc. The external factors include business fluctuations, changes in the technology, infrastructural facilities, import policy and the taxation policy etc. These factors are discussed in brief in the following lines.

### **I. Internal Factors**

#### **1. Nature and size of the business**

The working capital requirements of a firm are basically influenced by the nature and size of the business. Size may be measured in terms of the scale of operations. A firm with larger scale of operations will need more working capital than a small firm. Similarly, the nature of the business - influence the working capital decisions. Trading and financial firms have less investment in fixed assets. But require a large sum of money to be invested in working capital. Retail stores, business units require larger amount of working capital, where as, public utilities need less working capital and more funds to invest in fixed assets.

#### **2. Firm's production policy**

The firm's production policy (manufacturing cycle) is an important factor to decide the working capital requirement of a firm. The production cycle starts with the purchase and use of raw material and completes with the production of finished goods. On the other hand production policy is uniform production policy or seasonal production policy etc., also influences the working capital decisions. Larger the manufacturing cycle and uniform production policy – larger will be the requirement of working capital. The working capital requirement will be higher with varying production schedules in accordance with the changing demand.

#### **3. Firm's credit policy**

The credit policy of a firm influences credit policy of working capital. A firm following liberal credit policy to all customers require funds. On the other hand, the firm adopting strict credit policy and grant credit facilities to few potential customers will require less amount of working capital.

#### **4. Availability of credit**

The working capital requirements of a firm are also affected by credit terms granted by its suppliers – i.e. creditors. A firm will need less working capital if liberal credit terms are available to it. Similarly, the availability of credit from banks also influences the working

capital needs of the firm. A firm, which can get bank credit easily on favorable conditions will be operated with less working capital than a firm without such a facility.

### **5. Growth and expansion of business**

Working capital requirement of a business firm tend to increase in correspondence with growth in sales volume and fixed assets. A growing firm may need funds to invest in fixed assets in order to sustain its growing production and sales. This will, in turn, increase investment in current assets to support increased scale of operations. Thus, a growing firm needs additional funds continuously.

### **6. Profit margin and dividend policy**

The magnitude of working capital in a firm is dependent upon its profit margin and dividend policy. A high net profit margin contributes towards the working capital pool. To the extent the net profit has been earned in cash, it becomes a source of working capital. This depends upon the dividend policy of the firm. Distribution of high proportion of profits in the form of cash dividends results in a drain on cash resources and thus reduces company's working capital to that extent. The working capital position of the firm is strengthened if the management follows conservative dividend policy and vice versa.

### **7. Operating efficiency of the firm**

Operating efficiency means the optimum utilisation of a firm's resources at minimum cost. If a firm successfully controls operating cost, it will be able to improve net profit margin which, will, in turn, release greater funds for working capital purposes.

### **8. Co-ordinating activities in firm**

The working capital requirements of a firm is depend upon the co-ordination between production and distribution activities. The greater and effective the co-ordinations, the pressure on the working capital will be minimized. In the absence of co-ordination, demand for working capital is reduced.

## **II. External Factors**

### **1. Business fluctuations**

Most firms experience fluctuations in demand for their products and services. These business variations affect the working capital requirements. When there is an upward swing in the economy, sales will increase, correspondingly, the firm's investment in inventories and book debts will also increase. Under boom, additional investment in fixed assets may be made by some firms to increase their productive capacity. This act of the firm will require additional funds. On the other hand when, there is a decline in economy, sales will come down and consequently the conditions, the firm try to reduce their short-term borrowings.

Similarly the seasonal fluctuations may also affect the requirement of working capital of a firm.

## **2. Changes in the technology**

The technological changes and developments in the area of production can have immediate effects on the need for working capital. If the firm wish to install a new machine in the place of old system, the new system can utilise less expensive raw materials, the inventory needs may be reduced there by working capital needs.

## **3. Import policy**

Import policy of the Government may also effect the levels of working capital of a firm since they have to arrange funds for importing goods at specified times.

## **4. Infrastructural facilities**

The firms may require additional funds to maintain the levels of inventory and other current assets, when there is good infrastructural facilities in the company like, transportation and communications.

## **5. Taxation policy**

The tax policies of the Government will influence the working capital decisions. If the Government follow regressive taxation policy, i.e. imposing heavy tax burdens on business firms, they are left with very little profits for distribution and retention purpose. Consequently the firm has to borrow additional funds to meet their increased working capital needs. When there is a liberalised tax policy, the pressure on working capital requirement is minimised. Thus the working capital requirements of a firm is influenced by the internal and external factors.

## **FORECASTING THE WORKING CAPITAL REQUIREMENTS**

"Working capital is the life blood & controlling nerve centre of a business." No business can be successfully run without an adequate amount of working capital.

- i) To avoid the shortage of working capital at once, an estimate of working capital requirement should be made in advance.
- ii) But estimation of working capital requirements is not an easy task & a large no. of factors has to be considered before starting this.

### **Factors requiring consideration while estimating working capital**

- i) The average credit period expected to be allowed by suppliers.
- ii) Total costs incurred on material, wages.
- iii) The length of time for which raw material are to remain in stores before they are issued for production.

- iv) The length of the production cycle (or) work in process.
- v) The length of sales cycle during which finished goods are to be kept waiting for sales.
- vi) The average period of credit allowed to customers
- vii) The amount of cash required to make advance payment

Estimating working capital needs is critical when starting up a new business, and when going through a period of growth and expansion. By understanding the cycles a business goes through, and assigning some numbers to them, it is possible to come up with a realistic estimate of how much working capital you should have on hand. And, when a business is experiencing financial difficulties, an analysis of these cycles and the impact they have on cash flow and resources enables taking the necessary steps to turn the situation around.

### **WORKING CAPITAL CYCLE AND CASH CONVERSION CYCLE**

A production environment, whether large or small, may serve as a good example for defining the different stages a business operation goes through, from the time commitments are made for raw materials, supplies, and services, until payment is received from the customer for the final product sold.

Working capital includes inventory, payables, and receivables, so the working capital cycle covers the period from when commitments are first made until payment is received from the customer. The working capital cycle may differ from the cash conversion cycle, since goods and services may be purchased on credit; certain expenses such as salaries, wages, and utilities accrue during the period; and sales to the customer may be on credit terms. So, the cash conversion cycle is the time from payment of accruals to collection of receivables. It is the amount of time cash is tied up in the cycle, and not available for other purposes.

Throughout the process, incremental costs will continue to be added and will need to be financed with working capital until payment is received and the cycle is complete. For example, at the start of the production period the costs are in raw materials. As production begins, costs for labor, supplies, and overhead are added. When finished goods are placed in inventory, storage costs may be incurred. And the sale of the products to customers may involve shipping costs, commissions, or other selling expenses. Working capital requirements increase as the business cycle progresses.

## 1. Ongoing Cycles

Another point to take into consideration is that cycles are ongoing. Purchases and collections may be made every day during the period, so the cycle for one particular product overlaps with the cycle for another product.

The cycle is constantly repeating itself, and at any given point in time, each individual cycle will be at a different stage of completion. The idea is to come up with a way to determine average balances for inventory, payables and receivables in order to determine an overall estimate of working capital needs.

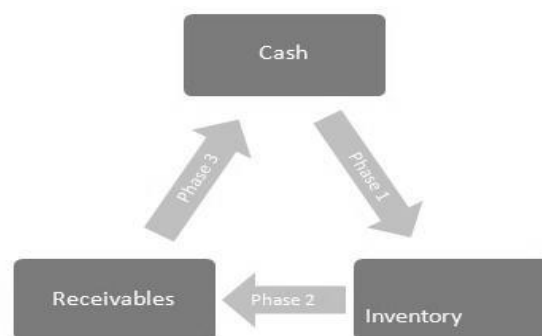
## 2. Operating Cycle

In practical life, Sales never convert into Cash instantly; there is invariably a lag between the sale of goods and the receipt of cash. There is, therefore, a need of working capital in the form of current assets to deal with the problem arising out of the lack of immediate realization of cash against goods sold. Therefore, sufficient working capital is necessary to sustain sales activity. Technically, this is referred to as Operating or Cash Cycle.

The Operating cycle can be said to be at the heart of the need of working capital. The continuing flow from cash to suppliers, to inventory, to accounts receivable and back to cash is what is called the operating cycle. In other words, the term cash cycle refers to the length of time necessary to complete the following cycle of events:-

- i) Conversion of Cash into Inventory
- ii) Conversion of Inventory into Receivables
- iii) Conversion of Receivables into Cash

The operating cycle which is a continuous process has been shown in the following figure.



**Fig. 1.9 Operating Cycle**

## **The Operating Cycle Consists of 3 Phases**

### **1. Phase 1**

In Phase 1, Cash gets converted into Inventory. This includes purchase of Raw Material, Conversion of Raw Material into Work-in-Progress, Finished Goods and finally the transfer of goods to stock at the end of the manufacturing process. In the case of Trading Companies, this phase is shorter as there would be no manufacturing activity and cash is directly converted into Inventory. This Phase is of course totally absent in the case of Service Organizations.

### **2. Phase 2**

In Phase 2 of the cycle, the Inventory is converted into Receivables as Credit Sales are made to customers. Firms which do not sell on Credit obviously don't have the Phase 2 of the operating Cycle.

### **3. Phase 3**

The Last Phase i.e. Phase 3 of the Operating Cycle, represents the stage when Receivables are collected. This phase completes the operating cycle. Thus, the firm has moved from cash to inventory, to receivables and to cash again.

## **3. Breaking down the Cycle**

The entire process starts with the receipt of raw materials. If they are purchased on credit, there is a commitment, in terms of accounts payable, but a cash disbursement has not yet been made. So in effect, the time from when a purchase commitment is made until the time the supplier is paid is really financing that the business is gaining, and serves to reduce the need for other sources of financing.

If production is not started immediately, there will be a period of time when raw materials are in inventory. Once production starts, the raw materials will enter the next phase - the work-in-process inventory, where additional costs such as labor and utilities will be added. The work-in process period ends when the products are completed and the production cycle ends with the finished goods inventory.

It may turn out that products are not sold immediately upon completion, so there is a period when finished products remain in inventory pending their sale. And when sales are made, there may be a delivery period involved, and the sales may be on credit terms, so the process enters the final period in which accounts receivable are pending payment. Once collection is made and payment is received from the customer, the cycle is complete.

So, the overall business cycle can be broken down as follows:

- i) Number of days raw materials are in inventory

- ii) Minus number of days of accounts payable to suppliers
- iii) Plus number of days in work-in-process
- iv) Plus number of days products are in finished goods inventory
- v) Plus collection period from customers
- vi) Equals cash conversion period.

Once these periods are defined, calculations can be made to begin to develop an estimate of working capital needs.

### **ESTIMATION OF WORKING CAPITAL REQUIREMENTS**

<b>I. Current Assets:</b>	<b>Amount</b>	<b>Amount</b>	<b>Amount</b>
Minimum Cash Balance		****	
Inventories:			
Raw Materials	****		
Work-in-Progress	****		
Finished Goods	****	****	
Receivables			
Debtors	****		
Bills	****	****	
Gross Working Capital (CA)		****	****
<b>II. Current Liabilities :</b>	<b>Amount</b>	<b>Amount</b>	
Creditors for purchases	****		
Creditors for Wages	****		
Creditors for Overheads	****		
Total Current Liabilities (CL)	****	****	
Excess of CA over CL		****	
+ Safety Margin		****	
<b>Net Working Capital</b>		****	



**Example: 1**

From the following data, compute the duration of operating cycle for each of the two years and comment on the increase/decrease:

	<b>Year 1</b>	<b>Year 2</b>
Stock:	Rs.	Rs.
Raw materials	20,000	27,000
Work-in-progress	14,000	18,000
Finished goods	21,000	24,000
Purchases	96,000	1,35,000
Cost of goods sold	1,40,000	1,80,000
Sales	1,60,000	2,00,000
Debtors	32,000	50,000
Creditors	16,000	18,000

Assume 350 Days per year for computational purposes.

**Solution****Calculation of Operating Cycle**

	<b>Year 1</b>	<b>Year 2</b>
<b>1. Raw Material Stock</b>	$20/96 \times 360 = 75$ Days	$27/135 \times 360 = 72$ Days
	(Average Raw Material/Total Purchase x 360)	
<b>2. Creditors period</b>	$16/96 \times 360 = 60$ days	$18/135 \times 360 = 48$ days
	(Average Creditor/Total Purchase) x 360	
<b>3. Work-in-progress</b>	$14/140 \times 360 = 36$ days	$18/180 \times 360 = 36$ days
	(Average Work-in-progress/Total cost of goods sold) x 360	
<b>4. Finished goods</b>	$21/140 \times 360 = 54$ days	$24/180 \times 360 = 48$ days
	(Average Finished goods/Total cost of goods sold) x 360	
<b>5. Debtors</b>	$32/160 \times 360 = 72$ days	$50/200 \times 360 = 90$ days
	(Average Debtors/Total Sales) x 360	
<b>Net operating cycle</b>	177 days	198 days

This is an increase in length of operating cycle by 21 days i.e., 12% increase approximately.

Reasons for increase are as follows:

Debtors taking longer time to pay (90-72)

18 days

Creditors receiving payment earlier (60-48)

12 days

	30 days
Finished goods turnover lowered (54-48)	6 days
Raw material stock turnover lowered (75-72)	<u>3 days</u>
Increase in Operating Cycle	<u>21 days</u>

**Example: 2**

A proforma cost sheet of a company provides the following particulars:

Elements of Cost	Amount per unit Rs.
Raw Material	80
Direct Labour	30
Overheads	60
Total Cost	170
Profit	30
Selling Price	200

The following further particulars are available:

Raw materials are in stock on an average for one month. Materials are in process on an average for half a month. Finished goods are in stock on an average for one month. Credit allowed by suppliers is one month. Credit allowed to customers is two months. Lag in payment of wages is 1½ weeks. Lag in payment of overhead expenses is one month. One-fourth of the output is sold against cash. Cash in hand and at bank is expected to be Rs.25,000.

You are required to prepare a statement showing the working capital needed to finance a level of activity of 1,04,000 units of production.

You may assume that production is carried on evenly throughout the year, wages and overheads accrue similarly and a time period of 4 weeks is equivalent to a month.

**Solution**

Statement Showing the Working Capital Needed		
Current Assets	Rs.	Rs.
Minimum cash balance		25,000
(i) Stock of raw materials (4 weeks)		
1,60,000 x 4		6,40,000
(ii) Work-in-Process (2 weeks):		
Raw materials 1,60,000 x 2	3,20,000	
Direct Labour 60,000 x 2	1,20,000	
Overheads 1,20,000 x 2	2,40,000	6,80,000
(iii) Stock of Finished goods (4 weeks):		
Raw Materials 1,60,000 x 4	6,40,000	
Direct Labour 60,000 x 4	2,40,000	

Overheads 1,20,000 x 4	4,80,000	13,60,000
(iv) Sundry Debtors (8 weeks):		
Raw materials 1,60,000 x 3/4 x 8	9,60,000	
Direct Labour 60,000 x 3/4 x 8	3,60,000	
Overheads 1,20,000 x 3/4 x 8	7,20,000	20,40,000
		47,45,000
Less Current Liabilities:		
(i) Sundry Creditors (4 weeks)		
1,60,000 x 4	6,40,000	
(ii) Wages outstanding (1-1/2 weeks): 60,000 x	90,000	
(iii) Lag in payment of overheads (4 weeks)		
1,20,000 x 4	4,80,000	12,10,000
<b>Net Working Capital Needed</b>		<b>35,35,000</b>

#### Working Notes:

- i) It has been assumed that a time period of 4 weeks is equivalent to one month.
- ii) It has been assumed that direct labour and overheads are in process, on average, half a month.
- iii) Profit has been ignored and debtors have been taken at cost.
- iv) Weekly calculations have been made as follows:
  - (a) Weekly average of raw materials =  $1,04,000 \times 80/52 = 1,60,000$
  - (b) Weekly labour cost =  $1,04,000 \times 30/52 = 60,000$
  - (c) Weekly Overheads =  $1,04,000 \times 60/52 = 1,20,000$

#### Example: 3

From the following information you are required to estimate the net working capital:

	<b>Cost per unit Rs.</b>
Raw Materials	400
Direct labour	150
Overheads (excluding depreciation)	300
Total Cost	<u>850</u>
Additional Information:	<u>30</u>
Selling-Price	Rs.1,000 per unit
Output	52,000 units per annum
Raw Material in stock	average 4 weeks
Work-in-process:	
(assume 50% completion stage with full material consumption)	average 2 weeks
Finished goods in stock	average 4 weeks
Credit allowed by suppliers	average 4 weeks
Credit allowed to debtors	average 8 weeks
Cash at bank is expected to be	Rs.50,000

Assume that production is sustained at an even pace during the 52 weeks of the year. All sales are on credit basis. State any other assumption that you might have made while computing.

### Solution

<b>Statement Showing Net Working Capital Requirements</b>		
Current Assets :	<b>Rs.</b>	<b>Rs.</b>
Minimum cash balance		50,000
Stock of Raw Materials (4 weeks)		
$52,000 \times 400 \times (4/52)$		16,00,000
Stock of work-in-progress (2 weeks)		
Raw material $52,000 \times 400 \times (2/52)$	8,00,000	
Direct labour (50% completion)		
	1,50,000	
Overheads (50% completion)		
	3,00,000	12,50,000
Stock of Finished goods (4 weeks)		
$52,000 \times 850 \times (4/52)$		34,00,000
Amount blocked in Debtors at cost (8 weeks)		
		68,00,000
$52,000 \times 850 \times (8/52)$		
<b>Total Current Assets</b>		<b>1,31,00,000</b>
<b>Less: Current Liabilities:</b>		
Creditors for raw materials (4 weeks)		
$52,00,000 \times 400 \times (4/52)$		16,00,000
<b>Net Working Capital Required</b>		<b>1,15,00,000</b>

### Example: 4

Texas Manufacturing Company Ltd. is to start production on 1<sup>st</sup> January, 1995. The prime cost of a unit is expected to be Rs.40 out of which Rs.16 is for materials and Rs.24 for labour. In addition, variable expenses per unit are expected to be Rs.8 and fixed expenses per month Rs.30, 000. Payment for materials is to be made in the month following the purchases. One-third of sales will be for cash and the rest on credit for settlement in the following month. Expenses are payable in the month in which they are incurred. The selling price is fixed at Rs.80 per unit. The number of units manufactured and sold are expected to be as under:

January	900
February	1,200
March	1,800
April	2,100

May	2,100
June	2,400

Draw up a statement showing requirements of working capital from month to month, ignoring the question of stocks.

### Solution

#### Statement Showing Requirement of Working Capital

	January Rs.	February Rs.	March Rs.	April Rs.	May Rs.	June Rs.
Payments:						
Materials	-	14,400	19,200	28,800	33,600	33,600
Wages	21,600	28,800	43,200	50,400	50,400	57,600
Fixed Expenses	30,000	30,000	30,000	30,000	30,000	30,000
Variable Expenses	7,200	9,600	14,400	16,800	16,800	19,200
	58,800	82,800	1,06,800	1,26,000	1,30,800	1,40,400
Receipts:						
Cash Sales	24,000	32,000	48,000	56,000	56,000	64,000
Debtors	-	48,000	64,000	96,000	1,12,000	1,12,000
	24,000	80,000	1,12,000	1,52,000	1,68,000	1,76,000
Working Capital Required Payments- Receipts)	34,800	2,800	-	-	-	-
Surplus	-	-	5,200	26,000	37,200	35,600
Cumulative Requirements of Working Capital	34,800	37,600	32,400	6,400	-	-
Surplus Working Capital	-	-	-	-	30,800	66,400

#### Working Notes:

- i) As payment for material is made in the month following the purchase, there is no payment for material in January. In February, material payment is calculated as  $900 \times 16 = \text{Rs.}14,400$  and in the same manner for other months.
  - ii) Cash sales are calculated as:  
For January  $900 \times 80 \times 1/3 = \text{Rs.}24,000$  and in the same manner for other months.
  - iii) Receipts from debtors are calculated as: For Jan. – Nil because cash from debtors is collected in the month following the sales.  
For Feb. –  $900 \times 80 \times 2/3 = \text{Rs.}48,000$   
For March –  $1200 \times 80 \times 2/3 = \text{Rs.}64,000$ , and so on.
-

## UNIT II

### INTRODUCTION

Cash management is one of the most important areas in the day-to-day management of the firm's deals with the management of working capital, which is defined as all the short-term assets used in daily operations. This consists primarily of cash, marketable securities, accounts receivable and inventory. The balances in these accounts can be highly volatile as they respond very quickly to changes in the firm's operating environment.

A highly liquid firm has sufficient cash to pay its bills at all times. An illiquid firm is unable to pay its bills when due.

Cash is the most important current asset for the operations of the business. It is the basic input needed to keep the business running on a continuous basis. It is the money, which the firm can disburse immediately without any restriction. The term cash includes coins, currency, cheques held by the firm and balances in its bank accounts.

In common parlance the term cash refers to all money items and sources that are immediately available to help in paying firms obligations. In the balance sheet, cash assets include deposits in financial institutions and cash equivalent in money market funds or marketable securities. All highly liquid short-term securities are treated as cash. Investment in government and corporate securities are treated as cash because they may be liquidated through a short call notice.

J.M.Keyens postulated three motives for holding cash viz-Transactional motive, Precautionary motive, and Speculative motive. These can be said to form the basis for cash management in business enterprise. Cash is the oil that lubricates the wheel of business. Inadequate cash slows down the production and on the other hand carrying cash is expensive since it is a non earning asset. A firm that holds cash beyond its minimum requirement is lowering its potential earning. As per J.M.Keyens opinion "Cash is the most important current asset. It is the cash, which keeps a business going. It is the hub around which all other financial matters center." No one can deny the fact that cash is the blood inside the business enterprise. Healthy circulation of cash in the entire business operation is the basis of business solvency. Cash is the basic input needed to keep the business running on a continuous basis. It is the ultimate output expected to be realized by selling the services or product manufactured by the firm. Ultimately every transaction in a business results either in an inflow or an outflow of cash.

Effective management of cash is the key determinant of efficient working capital management. There should be sufficient cash with a firm all the time to meet the needs of the

business. Both excess and inadequate cash may degenerate a firm into a state of technical insolvency and even lead to its liquidation. It will eventually disrupt the firm's manufacturing operation. Excessive cash remains idle, without contributing anything towards the firm's profitability.

Holding of cash balance has an implicit cost in the form of its opportunity cost. The larger the idle cash, the greater will be its opportunity cost in the form of loss of interest which could have been earned either by investing in some interest bearing securities or by reducing the burden of interest charges by paying off the past loans. The carrying of cash and near cash reserves beyond the irreducible needs cuts assets turnover and rate of return. If the cash balance with a firm at any time is surplus or deficit, it is obvious that the finances are mismanaged. Today, when cash, like any other asset of the company, is a tool for profits; the emphasis is on right amount of cash at right time, at the right place and at the right cost.

### **MEANING OF CASH MANAGEMENT**

Cash Management is concerned with minimizing unproductive balances, investing temporarily cash advantageously and to making the best possible arrangement to meeting planned and unexpected demand on the firm's cash. It involves managing of cash flows in and out of the firm i.e. cash flows within the firm and cash balances held by the firm at a point of time.

It is necessary for business to maintain a certain amount of cash in hand or bank, always even if the other current assets are at a sustained figure. Cash is both beginning and the end of the working capital cycle – cash, inventories, receivables and cash. Working capital cycle – cash, inventories, receivables and cash.

Cash is the basic input needed to keep a business running on a continuous basis. It is also the ultimate output expected to be realized by selling the services or product manufactured by an enterprise.

Cash Management assumes more importance than other current assets because cash is the most significant and the least productive asset that a firm holds. The aim of Cash Management should be to maintain adequate cash position to keep the firms operations in profitable manner. There are two primary reasons for a firm to hold cash.

1. To meet the needs of day-to-day transactions.
2. To protect the firm against uncertainties characterizing its cash flow.

Proper cash management is required for smooth running and maximum profitability of the business.

It is clear that cash is like blood stream in the human body, gives vitality and strength to a business enterprise. It is necessary that the management of business enterprise should provide sufficient coverage to their currently maturing obligations in the form of enough cash and near cash assets, high and stable cash flows and sound profit margin. The first function of cash management increases the turnover of working capital cycle to bringing down the size of cash, the function reduces the problem of financing the working capital. Trade creditors, banks and external agencies provide finance.

Cash Management involves managing the monies of the firm in order to attain maximum cash availability and maximum cash income. Idle Cash management is concerned with minimizing unproductive cash balances, investing temporarily excess cash advantageously, and to making the best possible arrangements for meeting planned and to making the best possible arrangements for meeting planned and unexpected demand on the firm's cash flows within the firm, and cash balances held by the firm at a point of time.

Cash management must be thought of in terms of the overall liquidity needs of the firm, specifically its current assets and liabilities. In order to reduce the influence of uncertainties with regard to cash needs and to ensure adequate liquidity, firms have to gauge the need for protective liquidity. Firms have to gauge the need for protective liquidity. The efforts involved for this purpose usually take the form of:

Assessment of the probabilities or odds that each of these will develop within a given period in future, such as 5 years. Assessment of the probabilities and developments creating cash drains will occur at the same time.

Assessment of the likely amount of cash drain that will result if each of the contingencies develops. An important policy decision regarding cash management is : what should be the optimal amount of cash balance to consider the form impact of the following factors :

1. The philosophy of the management regarding liquidity and risk of insolvency.
2. The expected cash inflows and outflows based on the cash budget forecasts encompassing long-range and short-range cash needs.
3. The size of sales in relation to fixed asset investment.
4. The degree of deviation between the expected and actual net cash flows.
5. The maturity structure of the firm's liabilities.
6. The firm's ability to borrow at short notice in the event of emergency.
7. Efficient planning and control of cash.
8. The status of the firm's receivables and inventory



9. The credit position of the firm.
10. The nature of business.

### **CASH MANAGEMENT DEALS WITH THE FOLLOWING**

- a) Cash inflows and outflows
- b) Cash flows within the firm
- c) Cash balances held by the firm at a point of time.

Cash Management needs strategies to deal with various facets of cash. Following are some of its facets.

#### **1. Cash Planning**

Cash planning is a technique to plan and control the use of cash. A projected cash flow statement may be prepared, based on the present business operations and anticipated future activities. The cash inflows from various sources may be anticipated and cash outflows will determine the possible uses of cash.

#### **2. Cash Forecasts and Budgeting**

A cash budget is the most important device for the control of receipts and payments of cash. A cash budget is an estimate of cash receipts and disbursements during a future period of time. It is an analysis of flow of cash in a business over a future, short or long period of time. It is a forecast of expected cash intake and outlay.

The short-term forecasts can be made with the help of cash flow projections. The finance manager will make estimates of likely receipts in the near future and the expected disbursements in that period. Though it is not possible to make exact forecasts even then estimates of cash flow will enable the planners to make arrangement for cash needs. A financial manager should keep in mind the sources from where he will meet short-term needs. He should also plan for productive use of surplus cash for short periods.

The long-term cash forecasts are also essential for proper cash planning. These estimates may be for three, four, five or more years. Long-term forecasts indicate company's future financial needs for working capital, capital projects, etc.

Both short term and long term cash forecasts may be made with help of following methods.

- i) Receipts and Disbursements method
- ii) Adjusted net income method

#### **i) Receipts and Disbursements method**

In this method the receipt and payment of cash are estimated. The cash receipts may be from cash sales, collections from debtors, sale of fixed assets, receipts of dividend or other

income of all the items; it is difficult to forecast the sales. The sales may be on cash as well as credit basis. Cash sales will bring receipts at the time of sales while credit sale will bring cash later on. The collections from debtors will depend upon the credit policy of the firm. Any fluctuation in sales will disturb the receipts of cash. Payments may be made for cash purchases, to creditors for goods, purchase of fixed assets etc.

The receipts and disbursements are to be equalled over a short as well as long periods. Any shortfall in receipts will have to be met from banks or other sources. Similarly, surplus cash may be invested in risk free marketable securities. It may be easy to make estimates for payments but cash receipts may not be accurately made.

## **ii) Adjusted Net Income Method**

This method may also be known as sources and uses approach. It generally has three sections: sources of cash, uses of cash and adjusted cash balance. The adjusted net income method helps in projecting the company's need for cash at some future date and to see whether the company will be able to generate sufficient cash. If not, then it will have to decide about borrowing or issuing shares etc. in preparing its statement the items like net income, depreciation, dividends, taxes etc. can easily be determined from company's annual operating budget. The estimation of working capital movement becomes difficult because items like receivables and inventories are influenced by factors such as fluctuations in raw material costs, changing demand for company's products. This method helps in keeping control on working capital and anticipating financial requirements.

## **OBJECTIVES OF CASH MANAGEMENT**

A firm has to meet day to day obligations, the salary and wage bills have to be paid to the workers on prescribed dates, likewise electricity and telephone bills, tax dues, interest and various other charges must be met on the due dates, payments to suppliers of goods is to be made in time to get the benefit of cash discount and to get future supplies. Non payments and delays in payment cause many problems and sometime financial loss to a concern. Therefore all concern needs sufficient availability of cash to be able to pay off their obligations as and when they fall due.

Current obligations are generally met out of cash inflows generated by a concern during the course of its operations. It may induce a concern to operate its business sufficiently on nil cash balance basis and thereby avoid the cost of holding idle cash. However in spite of best efforts, estimated inflows and outflows do not tally with the actual. Due to lack of perfect synchronization in the inflows and outflows, concern finds that desirable cash

balances are not available. According to cash holding motives discussed above, an industrial unit may keep cash to accomplish the following objectives:-

1. To meet contingencies
2. To meet current obligations
3. To deserve benefit from favorable market conditions
4. To meet installment commitments under long term contracts
5. To make advantage of speculative gains and
6. To minimize funds committed to cash balance.

These are conflicting and mutually contradictory and the task of Cash Management is to reconcile them.

### **FUNCTIONS OF CASH MANAGEMENT**

Cash Management must aim to reduce the required level of cash but minimize the risk of being unable to discharge claims against the company as they arise. Since cash itself is not an asset capable of causing the profit differential for the firm. It is desirable that cash balance be minimized as much as possible, the maintenance of adequate cash balances in an obvious requirement as a firm's solvency is to be maintained. Cash management consists basically of having a sufficient quantity of cash yet maintaining a balance at lowest figure adequate to meet current obligations." Moreover, another important function which Cash Management now-a-days seeks to undertake is to maximize its profits by investing the surplus cash in some marketable securities. The function of Cash Management, starts when a customer writes a cheque to pay the firm on its accounts receivables, and it ends when a supplier, an employee or the government releases collected funds from the firm on an account payable or accrual.

Functions of Cash Management in brief are:-

1. collection and up keeping of cash and securities
2. control of payment i.e. providing requisite cash at the proper time and place to meet financial obligations.
3. Maintenance of adequate supply of cash to meet projected cash requirements, cash budget and day to day demands.
4. Maintenance of sound banking relations.

### **CASH CONTROL TECHNIQUES**

1. Cash budgeting
2. Ratio analysis
3. Fund flow statement

4. Financial reports
5. Linear programming
6. Goal programming
7. Simulation technique and
8. Portfolio management.

### **1. Cash Budgeting**

Cash budget is a time phased schedule of cash receipt and disbursements, and show the estimated cash inflows and outflows over a certain period. it is a tool of planning cash need of a business concern and serves as a cash control device. The cash budget report aims at ascertaining deviation of actual operations from budgeted ones and making it possible to compare actual with estimated cash balances at the end of plan period. There is a marked difference between the actual and projected balances. The cash budget for the succeeding period should be revised and included in the report.

### **2. Ratio analysis**

It involves the use of accounting ratios rather than obsolete figures as an index of financial performance of a business concern. The analysis and interpretation of ratios does not only evaluate and control the over all financial performance of a concern, but also the different facts of its financial activities.

### **3. Fund Flow Statement**

The analysis of financial statements through the preparation of the statements of changes in financial position of a business concern provides a very useful tool for financial planning and control. Such statements explain the charges in such or working capital and are accordingly called “Cash flow statement” and “funds flow statement”. These statement are prepared periodically to show the changes in a concern’s cash position and charges in its net working capital position, they provide evaluating techniques to the management to know the sources and uses of a concern’s fund over a period of time

### **4. Financial Reports**

Cash reports provide a comparison of actual develops with forecast on a continual basis. Among the several types of cash reports, the important ones are (i) the daily cash report, (ii) the daily treasury report, and (iii) the monthly cash report. The daily cash report, as the name implies, shows the cash picture on a daily basis. An amplification of the daily cash report and the daily treasury report provides a comprehensive picture of changes in cash, marketable securities, debtors and creditors. The monthly cash report shows the picture of cash changes on a monthly basis.

## **NATURE OF CASH**

For some persons, cash means only money in the form of currency (cash in hand). For other persons, cash means both cash in hand and cash at bank. Some even include near cash assets in it. They take marketable securities too as part of cash. These are the securities which can easily be converted into cash.

Cash itself does not produce goods or services. It is used as a medium to acquire other assets. It is the other assets which are used in manufacturing goods or providing services. The idle cash can be deposited in bank to earn interest.

A business has to keep required cash for meeting various needs. The assets acquired by cash again help the business in producing cash. The goods manufactured or services produced are sold to acquire cash. A firm will have to maintain a critical level of cash. If at a time it does not have sufficient cash with it, it will have to borrow from the market for reaching the required level.

There remains a gap between cash inflows and cash outflows. Sometimes cash receipts are more than the payments or it may be vice-versa at another time. A financial manager tries to synchronize the cash inflow and cash outflows.

## **MOTIVES FOR HOLDING CASH**

The firm's needs for cash may be attributed to the following needs: Transactions motive, Precautionary motive and Speculative motive. These motives are discussed as follows:

### **1. Transaction Motive**

A firm needs cash for making transactions in the day-to-day operations. The cash is needed to make purchases, pay expenses, taxes, dividend, etc. The cash needs arise due to the fact that there is no complete synchronization between cash receipts and payments. Sometimes cash receipts exceed cash payments or vice-versa. The transaction needs of cash can be anticipated because the expected payments in near future can be estimated. The receipts in future may also be anticipated but the things do not happen as desired. If more cash is needed for payments than receipts, it may be raised through bank overdraft. On the other hand if there are more cash receipts than payments, it may be spent on marketable securities.

### **2. Precautionary Motive**

A firm is required to keep cash for meeting various contingencies. Though cash inflows and cash outflows are anticipated but there may be variations in these estimates. For example a debtor who was to pay after 7 days may inform of his inability to pay; on the other

hand a supplier who used to give credit for 15 days may not have the stock to supply or he may not be in a position to give credit at present. In these situations cash receipts will be less than expected and cash payments will be more as purchases may have to be made for cash instead of credit. Such contingencies often arise in a business. A firm should keep some cash for such contingencies or it should be in a position to raise finances at a short period.

### **3. Speculative Motive**

The speculative motive relates to holding of cash for investing in profitable opportunities as and when they arise. Such opportunities do not come in a regular manner. These opportunities cannot be scientifically predicted but only conjectures can be made about their occurrence. The price of shares and securities may be low at a time with an expectation that these will go up shortly. Such opportunities can be availed of if a firm has cash balance with it.

## **METHODS OF CASH CONTROL**

Cash is the absolute liquid form of asset. It consists of demand deposits and currency. Cash is also known as an idle or non-earning asset. So, the goal of cash management is to minimize the amount of cash in the business. But this minimum balance of cash should be enough to perform normal activities of business and meet the unexpected cash needs of the concern. A company holds cash to take care of its transaction needs, contingency needs, and opportunity needs. It needs cash to carry out regular business operations. Cash Management will be successful only if cash collections are accelerated and disbursements, as far as possible are delayed. There are following methods to keep check on cash management. These are as follows:

### **1. Maintaining lockboxes**

A lockbox is a post office box that a company maintains at its bank. The lockbox is kept to accelerate the cash flow. Cheques are mailed to the lockbox, where the bank collects them. The bank is authorized to deposit the cheques into one of the company's bank accounts, and the bank then sends the organization an acknowledgement detailing the day's deposits, so cheques can be recorded in the company's books. Maintaining lockboxes ensures that the cheques a company receives are safely deposited into the company's bank accounts.

### **2. Float**

A Float is the money arising from time lag in payment of cheques issued by the firm and/or delay in the collection of cheques issued by others in favour of the concern. The net float is the difference between the collection float and the disbursement float. Thus, a float originates from the delay

between the time drawer writes a cheque and the time the payee actually receives the proceeds of the cheque. There are many sources of delay or float. First a cheque issued by a firm may take some time to reach the payee. This delay is known as mail float. Second, the payee of the cheque may take time to process the cheque internally and deposit it in the bank. Such delay is called processing float. Third, some amount of time is also consumed in clearing the cheque through the banking system. In other words, some delay takes place between the time a cheque is deposited and the time the cash is available to be spent. This delay is known as a clearing float. Therefore, delay in the transit, processing, or clearing of cheque cause a float. The firm should identify the various sources of the float and accordingly plan and make efforts to take advantage of each source so that the availability of its usable funds will increase. Moreover, it can be said that float is one of the natural hurdle, and every business unit should deal with such type of hurdle carefully in order to receive its dues from its customers as soon as possible.

### **3. Using bank accounts**

An organization should use separate bank accounts for various business processes, such as a disbursement account and a payroll account. Although this practice means that the organization will have many bank accounts to track, doing so organization is provided with record-keeping devices that help management to trace cash transactions. Being able to track cash transactions enables management to control how cash is used within the organization.

### **4. Utilizing electronic funds transfer**

Electronic funds transfer, or EFT, is the computer-based transfer of funds between two companies' accounts that doesn't involve any physical exchange of funds. EFT is becoming an effective method for making payments because it eliminates the cheque writing process and the errors that may attach to this process. EFT also reduces bank charges for cheque processing for the company.

### **5. Concentration banking**

Under this method multiple collection centers are opened at different places for collecting the cash from different places quickly. In this system, customers in a particular area instructed to send their cheques to specific collection centre. After receiving the cash, the collection centre can immediately deposit the cheques into local bank, and it will not take more time in converting them into cash. It reduces mailing float and bank float.

## **METHODS OF SLOWING CASH OUTFLOWS**

A company can keep cash by effectively controlling disbursements. The objective of controlling cash outflows is slow down the payments as far as possible. Following methods can be used to delay disbursements:

### **1. Paying on Last Date**

The disbursements can be delayed on making payments on the last due date only. It is credit is for 10 days then payment should be made on 10<sup>th</sup> day only. It can help in using the money for short periods and the firm can make use of cash discount also.

### **2. Payments through Drafts**

A company can delay payments by issuing drafts to the suppliers instead of giving cheques. When a cheque is issued then the company will have to keep a balance in its account so that the cheque is paid whenever it comes. On the other hand a draft is payable only on presentation to the issuer. The receiver will give the draft to its bank for presenting it to the buyer's bank. It takes a number of days before it is actually paid. The company can economise large resources by using this method.

### **3. Adjusting Payroll Funds**

Some economy can be exercised on payroll funds also. It can be done by reducing the frequency of payments. If the payments are made weekly then this period can be extended to a month. Secondly, finance manager can plan the issuing of salary cheques and their disbursements. If the cheques are issued on Saturday then only a few cheque may be presented for payment, even on Monday all cheques may not be presented.

### **4. Centralisation of Payments**

The payments should be centralised and payments should be made through drafts or cheques. When cheques are issued from the main office then it will take time for the cheques to be cleared through post. The benefit of cheque collecting time is availed.

### **5. Inter-bank Transfer**

An efficient use of cash is also possible by inter-bank transfers. If the company has accounts with more than one bank then amounts can be transferred to the bank where disbursements are to be made. It will help in avoiding excess amount in one bank.

### **6. Making use of Float**

Float is a difference between the balance shown in company's cash book (Bank column) and balance in passbook of the bank. Whenever a cheque is issued, the balance at bank in cashbook is reduced. The party to whom the cheque is issued may not present it for payment immediately. If the party is at some other station then cheque will come through



post and it may take a number of days before it is presented. Until the time; the cheques are not presented to bank for payment there will be a balance in the bank. The company can make use of this float if it is able to estimate it correctly.

### **DETERMINING OPTIMUM CASH BALANCE**

A firm has to maintain a minimum amount of cash for settling the dues in time. The cash is needed to purchase raw materials, pay creditors, day-to-day expenses, dividend etc.

An appropriate amount of cash balance to be maintained should be determined on the basis of past experience and future expectations. If a firm maintains less cash balance then its liquidity position will be weak. If higher cash balance is maintained then an opportunity to earn is lost. Thus, a firm should maintain an optimum cash balance, neither a small nor a large cash balance.

There are basically two approaches to determine an optimal cash balance, namely, (i) Minimising Cost Models and (ii) Preparing Cash Budget. Cash budget is the most important tool in cash management.

### **CASH BUDGET**

Cash budget is the most significant device to plan for and control cash receipts and payments. A cash budget is a summary statement of the firm's expected cash inflows and outflows over a projected time period. It gives information on the timing and magnitude of expected cash flows and cash balances over the projected period. This information helps the financial manager to determine the future cash needs of the firm, plan for the financing of these needs and exercise control over the cash and liquidity of the firm.

The time horizon of a cash budget may differ from firm to firm. A firm whose business is affected by seasonal variations may prepare monthly cash budgets. Daily or weekly cash budgets should be prepared for determining cash requirements if cash flows show extreme fluctuations. Cash budget for longer intervals may be prepared if cash flows are relatively stable.

Cash forecasts are needed to prepare cash budgets. Cash forecasting may be done on short or long – term basis. Generally, forecasts covering periods of one year or less are considered short – term; those extending beyond one year are considered long – term.

#### **1. Short – term Cash Forecasts**

It is comparatively easy to make short – term cash forecasts. The important functions of carefully developed short term cash forecasts are:

- a) To determine operating cash requirements.
- b) To anticipate short – term financing

c) To manage investment of surplus cash.

The short – term forecasts helps in determining the cash requirements for a predetermined period to run a business. If the cash requirements are not determined, it would not be possible for the management to know how much cash balance is to be kept in hand, to what extent bank financing be depended upon and whether surplus funds would be available to invest in marketable securities.

To know the operating cash requirements, cash flow projections have to be made by a firm.

It is well – known that, for their temporary financing needs, most companies depend upon banks. One of the significant roles of the short – term forecasts is to pinpoint when the money will be needed and when it can be repaid. With such forecasts in hand, it will not be difficult for the financial manager to negotiate short – term financing arrangements with banks. This in fact convinces bankers about the ability of the management to run its business.

The third function of the short – term cash forecasts is to help in managing the investment of surplus cash in marketable securities. Carefully and skillfully designed cash forecasts helps a firm to (i) select securities with appropriate maturities and reasonable risk, (ii) avoid over and under – investing and (iii) maximize profits by investing idle money.

Short – run cash forecasts serve many other purposes. For example, multi divisional firms use them as a tool to coordinate the flow of funds between their various divisions as well as to make financing arrangements for these operations. These forecasts may also be useful in determining the margins or minimum balances to be maintained with banks. Still other uses of these forecasts are

1. Planning reductions of short and long – term debt.
2. Scheduling payments in connection with capital expenditures programmes.
3. Planning forward purchases of inventories.
4. Checking accuracy of long – range cash forecasts.
5. Taking advantage of cash discounts offered by suppliers.
6. Guiding credit policies.

## **2. Short – term Forecasting Methods**

Two most commonly used methods of short – term cash forecasting are:

1. The receipt and disbursements method
2. The adjusted net income method.

The receipts and disbursements method is generally employed to forecast for limited periods, such as week or a month. The adjusted net income method, on the other hand, is

preferred for longer durations ranging from a few months to year. Both methods have their pros and cons. The cash flows can be compared with budgeted income and expense items if the receipts and disbursements approach is followed. On the other hand, the adjusted income approach is appropriate in showing a company's working capital and future financing needs.

### 1. Receipts and disbursements method

Cash flows in and out in most companies on a continuous basis. The prime aim of receipts and disbursements forecasts is to summarize these flows during a predetermined period. In case of those companies where each item of income and expense involves flow of cash, this method is favoured to keep a close control over cash.

#### Example: 1

On the basis of the following information, prepare cash budget for Marshall Manufacturing Company for the first six months of 2010:

1. Prices and costs are assumed to remain unchanged.
2. Credit sales are 75 per cent of total sales.
3. The 60 per cent of credit sales are collected after one month, 30 per cent after two months and 10 per cent after three months.
4. Actual and forecast sales are as follows:

Actual	Rs.('000)	Forecast	Rs.('000)
Oct.2009	1,20,000	Jan.2010	60,000
Nov.2009	1,40,000	Feb.2010	80,000
Dec.2009	1,60,000	Mar.2010	80,000
		Apr. 2010	1,20,000
		May.2010	1,00,000
		June.2010	80,000
		July.2010	1,20,000

5. The company expects a profit margin of 20 per cent.
6. Anticipate sales of each month are purchased and paid in the preceding month.
7. The anticipated operating expenses are as below:

	Rs (thousand)		Rs (thousand)
Jan.	12,000	Apr	20,000
Feb.	16,000	May	16,000
Mar.	20,000	June	14,000

8. Interest on 12 per cent debenture, Rs. 100 million is to be paid in each quarter.
9. An advance tax of Rs. 20 million is due in April.
10. A purchase of equipment of Rs. 12 million is to be made in June.
11. The company has a cash balance of Rs 40 million at 31 December 2009, which is the minimum balance to be maintained. Funds can be borrowed in multiples of Rs. 2 million on a monthly basis at 18 per cent annum.
13. Rent is Rs. 0.80 million per month.

**Table 3.1 Cash Budget**

	Actual 2009			Forecast 2010					
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
<b>A. Cash Receipts (Rs. In thousand)</b>									
Total Sales	1,20,000	1,40,000	1,60,000	60,000	80,000	80,000	1,20,000	1,00,000	80,000
Credit Sales	90,000	1,05,000	1,20,000	45,000	60,000	60,000	90,000	75,000	60,000
Cash sales collection	30,000	35,000	40,000	15,000	20,000	20,000	30,000	25,000	20,000
1 month 60%	-	54,000	63,000	72,000	27,000	36,000	36,000	54,000	45,000
2 month 30%	-	-	27,000	31,500	36,000	13,500	18,000	18,000	27,000
3 month 10%	-	-	-	9,000	10,500	12,000	4,500	6,000	6,000
Total Receipt (A)				<b>1,27,500</b>	<b>93,500</b>	<b>81,500</b>	<b>88,500</b>		<b>98,000</b>
<b>B. Cash Payments (Rs. thousand)</b>									
Purchases				64,000	64,000	96,000	80,000	64,000	96,000
Rent				800	800	800	800	800	800
Operating Exps.				12,000	16,000	20,000	20,000	16,000	14,000
Equipment				-	-	-	-	-	12,000
Interest				-	-	3,000	-	-	3,000
Advance tax				-	-	-	20,000	-	-
Total payment (B)				<b>76,800</b>	<b>80,800</b>	<b>119,800</b>	<b>120,800</b>	<b>80,800</b>	<b>125,800</b>
<b>C. Cash Balance (Rs. thousand)</b>									
Net cash balance (A) – (B)				50,700	12,700	(38,300)	(32,300)	22,200	(27,800)
Total cash				90,700	103,400	65,100	32,800	63,000	27,080
Beginning of month borrowings*				-	-	-	8,000	-	14,000
Interest on borrowings				-	-	-	-	(120)	-
Repayment of borrowings				-	-	-	-	(8000)	-
Total end of month cash balance				<b>90,700</b>	<b>103,400</b>	<b>65,100</b>	<b>40,800</b>	<b>54,880</b>	<b>41,080</b>

\* To maintain minimum cash balance of Rs.40,000 the company will borrow.

In table 3.1 cash inflows are estimated in accordance with the company's total sales and collection policy. For example, of the total sales of Rs. 60 million for January, 25 per cent (Rs.15 million) are collected as cash sales in January, 60 per cent of credit sales (60% of Rs 45 million = Rs.27 million) are collected in February; 30% (Rs. 135 million) in March and remaining 10 per cent (Rs. 4.5 million) in April. Similarly, the sales of other months are broken.

Section B of Table 3.1 shows all anticipated cash payments. Anticipated sales for each month are purchased and paid in the preceding month. As the profit margin is 20 per cent, the cost of purchases will be 80 per cent of sales. Thus, for the month of February, purchases equal to 80 percent of its anticipated sales of Rs. 80 million (i.e., Rs 64 million purchases) will be made and paid in January. Other items of cash outflows shown are rent, wages and salaries, taxes, capital expenditures and interest on debt. The quarterly payment of interest will be made in March and June. In order to maintain a minimum cash balance of Rs 40 million, Rs. 8 million will have to be borrowed in the month of April. Interest at 18 per cent on this amount will be paid only in May.

The difference between total receipts and total payments gives us the net cash flow. To this is added the beginning of month's balance to get the total cash balance in a particular month. In April, the total balance is Rs. 32.8 million; therefore, to maintain the minimum requirements of Rs. 40 million, a borrowing of Rs. 8 million will be made. In May, there is a cash balance of Rs. 62.88 million after paying interest of Rs.0.12 million; therefore, Rs.8 million can be repaid without impairing the minimum cash balance requirement. Again, Rs. 14 million will have to be borrowed in June to maintain cash balance at Rs 40 million.

The virtues of the receipt and payment methods are:

1. It gives a complete picture of all the items of expected cash flows.
2. It is a sound tool of managing daily cash operations.

This method, however, suffers from the following limitations:

1. It reliability is reduced because of the uncertainty of cash forecasts. For example, collections may be delayed, or unanticipated demands may cause large disbursements.
2. It fails to highlight the significant movements in the working capital items.

## **2. Adjusted net income method**

This method of cash forecasting involves the tracing of working capital flows. It is sometimes called the sources and uses approach. Two objectives of the adjusted net income approach are: (i) to project the company's need for cash at a future date and (ii) to show

whether the company can generate the required funds internally, and if not, how much will have to be borrowed or raised in the capital market.

As regards the form and content of the adjusted net income forecast, it resembles the cash flow statement discussed previously. It is, in fact, a projected cash flow statement based on pro forma financial statements. It generally has three sections: sources of cash, uses of cash and the adjusted cash balance. This procedure helps in adjusting estimated earnings on an accrual basis to a cash basis. It also helps in anticipating the working capital movements.

In preparing the adjusted net income forecasts items such as net income, depreciation, taxes, dividends etc., can easily be determined from the company's annual operating budget. Normally, difficulty is faced in estimating working capital changes; the estimates of accounts receivable (debtors) and inventory pose problem because they are influenced by factors such as fluctuations in raw material costs, changing demand for the company's products and possible delays in collections. Any error in predicting these items can make the reliability of forecast doubtful.

One popularly used method of projecting working capital is to use ratios relating accounts receivable and inventory to sales. For example, if the past experience tells that accounts receivable of a company range between 32 per cent to 36 per cent of sales, an average rate of 34 per cent can be used. The difference between the projected figure and that on the books will indicate the expected increase or decrease in cash attributable to receivable.

The benefits of the adjusted net income method are:

1. It highlights the movements in the working capital items, and thus, helps to keep a control on a firm's working capital.
2. It helps in anticipating a firm's financial requirements.

The major limitation of this method is:

1. It fails to trace cash flows, and therefore, its utility in controlling daily cash operations is limited.

## **MANAGING CASH COLLECTIONS AND DISBURSEMENTS**

Once the cash budget has been prepared and appropriate net cash flow established, the financial manager should ensure that there does not exist a significant deviation between projected cash flows and actual cash flows. To achieve this, cash management efficiency will have to be improved through a proper control of cash collection and disbursement. The twin objectives in managing the cash flows should be to accelerate cash collections as much as possible and to decelerate or delay cash disbursements as much as possible.

### **Accelerating Cash Collections**

A firm can conserve cash and reduce its requirements for cash balances if it can speed up its cash collections. The first hurdle in accelerating the cash collection could be the firm itself. It may take a long time to process the invoice. Days taken to get the invoice buyers adds to order processing delay. In India, yet another problem is with regard to the extra time enjoyed by the buyers in clearing of bills; particularly, the government agencies take time beyond what is allowed by the sellers in paying bills. Cash collections can be accelerated by reducing the lag or gap between the time a customer pays bill and the time the cheque is collected and funds become available for the firm' use.

The amount of cheques sent by customer which are not yet collected is called collection or deposit float. Within this time gap, the delay is caused by the mailing time, i.e. the time taken by cheque in transit and the processing time, i.e., the time take by the firm in processing cheque for internal accounting purposes. This also depends on the processing time taken by the bank as well as the inter bank system to get credit in the desired account. The greater the firm's deposit float, the longer the time taken in converting cheques into usable funds. In India, these floats can assume sizeable proportions as cheques normally take a longer time to get realized than in most countries. An efficient financial manager will attempt to reduce the firm's deposit float by speeding up the mailing, processing and collection times. How can this be achieved? A firm can use decentralized collection system and lock – box system to speed up cash collections and reduce deposit float.

#### **Example: 2**

XY Ltd has a Rs. 1.20 lakh balance available in its bank account as well as this is the balance shown in its ledger. XY Ltd receives a cheque of Rs. 50,000 that it records in its books and deposits in the bank. It will take 3 days for the amount to be credited to XY Ltd's bank account. How much is the deposit (collection) float today?

#### **Solution:**

XY Ltd's book balances increases, but its bank balance remains unaltered until Rs.50,000 get credited. Thus, the float is a negative float of Rs. 50,000:

Deposit float = Balance available in bank – Balance in books

$$1,20,000 - 1,70,000 = - 50,000$$

#### **a) Decentralized collections**

A large firm operating over wide geographical areas can speed up its collections by following a decentralized collection procedure. A decentralized collection procedure, called concentration banking in USA, is a system of operating through a number of collection

centres, instead of a single collection center centralized at the firm's head office. The basic purpose of the decentralized collections is to minimize the lag between the mailing time from customers to the firm and the time when the firm can make use of the funds. Under decentralized collections, the firm will have a large number of bank accounts operated in the areas where the firm has its branches. All branches may not have the collection centres. The selection of the collection centre will depend upon the volume of billing. The collection centres will be required to collect cheques from customers and deposit in their local bank accounts. The collection centre will transfer funds above some predetermined minimum amount to a central or concentration bank account, generally at the firm's head office, each day. A concentration bank is one where the firm's has a major account – usually disbursement account. Funds can be transferred to a central or concentration bank by wire transfer or telex or fax or electronic mail. Decentralized collection procedures is, thus, a useful way to reduce float.

#### **b) Lock – box system**

Another technique of speeding up the mailing, processing and collection time which is quite mailing, processing and collection time which is quite popular in USA and European countries, and has been now introduced in the developing countries, is the lock – box system. Some foreign and Indian banks in India have started providing this service to individuals and firms in India. In case of the concentration banking, cheques are received by a collection centre and after processing, are deposited in the bank. Lock – box system helps the firm to eliminate the time between the receipt of cheques and their deposit in the bank. In the lock – box system, the firm establishes a number of collection centres, considering customer locations and volume of remittances. At each centre, the firm hires a post office box and instructs its customers to mail their remittances to the box. The firm's local bank is given the authority to pick up the mail several times a day and deposits the cheques in the firm's account. For the internal accounting purposes of the firm, the bank prepares detailed records of the cheques picked up.

Two main advantages of the lock – box system are: First, the bank handles the remittances prior to deposit at a lower cost. Second, the cheques are deposited immediately upon receipt of remittances and their collection process starts sooner than if the firm would have processed them for internal accounting purposes prior to their deposit. The firm can still process the cheques on the basis of the records supplied by the bank without delaying the collection. Thus, lock – box system eliminates the period between the time cheques are received by the firm and the time they are deposited in the bank for collection.



The lock – box system involves cost. For the services provided under a lock – box arrangement, banks charge a fee or require a minimum balance to be maintained. Whether a lock – box system should be used or not will depend upon the comparison between its cost and benefits. Generally the benefits will exceed if the average remittances are very large and the firm’s cost of financing is high.

### **CASH COLLECTION INSTRUMENTS IN INDIA**

The main instruments of collection used in India are:

1. Cheques
2. Drafts
3. Documentary bills
4. Trade bills and
5. Letter of credit

### **OPTIMUM CASH BALANCE: A FEW MODELS**

#### **1. Baumol’s Model**

This Model was suggested by W.J.Baumol in 1952. This model is similar to economic order quantity model of inventory management. This model is based on assumption that the firm uses cash at an already known rate per period and that this rate of use is constant. This model includes the holding cost of cash and transaction cost of marketable securities. The optimum cash balance,  $C^*$ , is obtained when the total cost is minimum. The formula for the optimum cash balance is as follows:

$$C^* = \sqrt{2cT/k}$$

Where,

$C^*$  = is the optimum cash balance

$c$  = is the cost per transaction

$T$  = is the total cash needed during the year and

$k$  = is the opportunity cost of holding cash balance.

The optimum cash balance will increase with increase in the per transaction cost and total funds required and will decrease with the opportunity cost.

The firm has to manage the holding cost as well as transaction cost. The adequate cash balance is found by controlling the transaction cost and holding cost in order to minimize the total cost of holding cash.

#### **Example: 3**

Advani Chemical Limited estimates its total cash requirement as Rs. 2 crore next year. The company’s opportunity cost of funds is 15 per cent per annum. The company will

have to incur Rs.150 per transaction when it converts its short – term securities to cash. Determine the optimum cash balance. How much is the total annual cost of the demand for the optimum cash balance? How many deposits will have to be made during the year?

**Solution**

$$C^* = \sqrt{2cT/k}$$

$$C^* = \frac{\sqrt{2 (150) (20,000,000)}}{0.15}$$

$$= \text{Rs. } 2,00,000$$

The annual cost will be:

$$\begin{aligned} \text{Total cost} &= 150 (20,000,000/200,000) + 0.15 (2,00,000/2) \\ &= 150 (100) + 0.15 (1,00,000) \\ &= 15,000 + 15,000 \\ &= \text{Rs. } 30,000 \end{aligned}$$

During the year, the company will have to make 100 deposits, i.e. converting marketable securities to cash.

**2. Miller-Orr Model**

Miller and Orr model is also known as Stochastic Model. This model has been developed by Miller and Orr in 1966. They have expanded the Baumol's Model which is not applicable if demand of cash is not constant. In case, the cash flow is uncertain, the Baumol's Model which is based on the inventory type model cannot be applied. If cash balances fluctuate randomly, then Miller-Orr Model can be used to set optimum cash balances. This model is based on assumptions that out of two assets i.e. marketable securities and cash, the latter has a marginal yield and without any delay in conversion of cash to marketable securities and marketable securities to cash. The formula for determining the distance between upper and lower control limits (called Z) is as follows:

$$Z = (3/4 \times \text{Transaction Cost} \times \text{Cash Flow Variance/Interest per day})^{1/3} \quad (1)$$

$$Z = (3/4 \times c\sigma^2 / I)^{1/3} \quad (2)$$

We can notice from Equation (2) that the upper and lower limits will be far off from each other (i.e. Z will be larger) if transaction cost is higher or cash flows show greater fluctuations. The limits will come closer as the interest increases. Z is inversely related to the interest rate. It is noticeable that the upper control limit is three times above the lower control limit and the return point lies between the upper and the lower limits. Thus,

$$\text{Upper Limit} = \text{Lower Limit} + 3 Z \quad (3)$$

$$\text{Return Point} = \text{Lower Limit} + Z \quad (4)$$

The net effect is that the firms hold the average cash balance equal to:

$$\text{Average Cash Balance} = \text{Lower Limit} + 4/3Z \quad (5)$$

The MO model is more realistic since it allows variation in cash balance within the lower and upper limits. The financial manager can set the lower limit according to the firm's liquidity requirement. The past data of cash flow behaviour can be used to determine the standard deviation of net cash flows. Once the upper and lower limits are set, managerial attention is needed only if the cash balance deviates from the limits. The actions under these situations are anticipated and planned in the beginning.

**Example: 4**

PKG Company has policy maintaining a minimum cash balance of Rs. 5,00,000. The standard deviation of the company's daily cash flows is Rs. 2,00,000. The annual interest rate is 14 per cent. The transaction cost of buying or selling securities is Rs 150 per transaction. Determine PKG's upper control limit and the return point as per the Miller – Orr model.

We can use Equation (2) for calculating the spread between upper and lower control limits (Z). Since the standard deviation of net cash flows is given on a daily basis, the annual interest rate is changed to daily basis.

$$\begin{aligned} \text{Or } Z &= \left[ \frac{3/4 \times 150 \times 2,00,000^2}{0.14/365} \right]^{1/3} \\ &= \text{Rs. } 227,227 \end{aligned}$$

The upper control limit and return point are as follows:

$$\begin{aligned} \text{Upper Limit} &= \text{Lower Limit} + 3Z \\ &= 5,00,000 + (3 \times 227,227) \\ &= \text{Rs. } 1,181,680 \end{aligned}$$

$$\begin{aligned} \text{Return Point} &= \text{Lower Limit} + Z \\ &= 5,00,000 + 227,227 \\ &= \text{Rs. } 727,227 \end{aligned}$$

$$\begin{aligned} \text{Av. Cash Balance} &= \text{Lower Limit} + 4/3Z \\ &= 5,00,000 + 4/3 (227,227) \\ &= \text{Rs. } 802,969 \end{aligned}$$

PKG will not allow the lower limit of cash balance of Rs.5,00,000. If the firm's cash balance touches this limit, it will sell marketable securities worth (Z) Rs. 227, 227 and restore return point to Rs. 727,227 cash balance level. On the other hand, if PKG's cash balance touches the upper limit of Rs. 1,181,680, it will spend the cash buying marketable securities

worth (2Z) Rs. 454, 454 and bring cash balance to the return point: Rs.1,181,680 – Rs.454,454 = Rs.727,227.

## **MARKETABLE SECURITIES**

Marketable securities are securities or debts that are to be sold or redeemed within a year. These are financial instruments that can be easily converted to cash such as government bonds, common stock or certificates of deposit.

### **WHAT ARE MARKETABLE SECURITIES?**

Marketable securities are unrestricted financial instruments which can be readily sold on a stock exchange or bond exchange. Marketable securities are often classified into two groups: marketable equity securities and marketable debt securities.

Marketable equity securities include shares of common stock and most preferred stock which are traded on a stock exchange and for which there are quoted market prices.

Marketable debt securities include government bonds and corporate bonds which are traded on a bond exchange and for which there are quoted market prices.

### **TYPES OF MARKETABLE SECURITIES**

Depending on the volume of money to be invested in near cash reserve in marketable securities, the finance manager takes his investment decision. But the most common forms of securities are:

1. Treasury bills
2. Commercial papers
3. Certificate of deposits
4. Bank deposits

#### **1. Treasury Bills**

Treasury bills (TBs) are short term government securities. The usual practice in India is to buy treasury bills at a discount and redeem them at par on maturity. The difference between the issue price and the redemption price, adjusted for the time value of money, is return on treasury bills. They can be bought and sold any time; thus they have liquidity. Also, they do not have the default risk.

#### **2. Commercial Papers**

Commercial papers (CPs) are short – term, unsecured securities issued by highly creditworthy large companies. They are issued with a maturity of three months to one year. CPs are marketable securities, and therefore, liquidity is not a problem.

### **3. Certificate of Deposits**

Certificates of deposits (CDs) are papers issued by banks acknowledging fixed deposits for a specified period of time. CPs are negotiable instruments that make them marketable securities.

### **4. Bank Deposits**

A firm can deposit its temporary cash in a bank for a fixed period of time. The interest rate depends on the maturity period. For example, the current interest rate for a 30 to 45 days deposit is about 3 per cent and for 180 days to one year is about 6 -7 percent. The default risk in most of the bank deposits is quite low.

## **INVESTMENT OF SURPLUS FUNDS**

There are sometimes surplus funds with the companies which are required after sometime. These funds can be employed in liquid and risk free securities to earn some income. There are number of avenues where these funds can be invested. The selection of securities or method of investment is very important. Some of these methods are discussed herewith:

### **1. Treasury Bills**

The treasury bills or T-Bills are the bills issued by the Reserve Bank of India for different maturity periods. These bills are highly safe investment and are easily marketable. These treasury bills usually have a very low level of yield and that too in the form of difference purchase price and selling price as there is no interest payable on these bills.

### **2. Bank Deposits**

All the commercial banks are offering short term deposits schemes at varying rate of interest depending upon the deposit period. A firm having excess cash can make deposit for even short period of few days only. These deposits provide full safety, facility of pre-mature retirement and a comfortable return.

### **3. Inter-Corporate Deposits**

A firm having excess cash can make deposit with other firms also. When company makes a deposit with another company, such deposit is known as inter corporate deposits. These deposits are usually for a period of three months to one year. Higher rate of interest is an important characteristic of these deposits.

### **4. Bill Discounting**

A firm having excess cash can also discount the bills of other firms in the same way as the commercial banks do. On the bill maturity date, the firm will get the money. However, the bill discounting as a marketable securities is subject to 2 constraints (i) the safety of this

investment depends upon the credit rating of the acceptor of the bill, and (ii) usually the premature retirement of bills is not available.

**Example: 5**

ABC Co. wishes to arrange overdraft facilities with its bankers during the period April to June, 1995 when it will be manufacturing mostly for stock. Prepare a cash budget for the above period from the following data, indicating the extent of the bank facilities the company will require at the end of each month:

a)	1995	Sales Rs.	Purchases Rs.	Wages Rs.
	February	1,80,000	1,24,800	12,000
	March	1,92,000	1,44,000	14,000
	April	1,08,000	2,43,000	11,000
	May	1,74,000	2,46,000	10,000
	June	1,26,000	2,68,000	15,000

b) 50 per cent of credit sales are realised in the month following the sales and remaining 50 per cent in the second month following. Creditors are paid in the month following the month of purchase.

c) Cash at bank on 1.4.1995 (estimated) Rs.25, 000

**Solution**

<b>Receipts</b>	<b>April</b>	<b>May</b>	<b>June</b>
Opening Balance	25,000	53000	(-) 51000
Sales	90,000	96,000	54000
Amount received from sales	96,000	54,000	87000
<b>Total Receipts</b>	<b>2,11,000</b>	<b>2,03,000</b>	<b>90000</b>
<b>Payments</b>			
Purchase	1,44,000	2,43,000	246000
Wages	14,000	11,000	10000
<b>Total Payments</b>	<b>1,58,000</b>	<b>2,54,000</b>	<b>256000</b>
Closing Balance (a-b)	53,000	(-)51,000	(-)1,66,000

Receivables represent amounts owed to the firm as a result of sale of goods or services in the ordinary course of business. These are claims of the firm against its customers and form part of its current assets. Receivables are also known as accounts receivables, trade receivables, customer receivables or book debts. The receivables are carried for the customers. The period

of credit and extent of receivables depends upon the credit policy followed by the firm. The purpose of maintaining or investing in receivables is to meet competition, and to increase the sales and profits.

### **MEANING AND OBJECTIVES OF RECEIVABLES MANAGEMENT**

Receivables management is the process of making decisions relating to investment in trade debtors. We have already stated that certain investment in receivables is necessary to increase the sales and the profits of a firm. But at the same time investment in this asset involves cost considerations also. Further, there is always a risk of bad debts too. Thus, the objective of receivables management is to take a sound decision as regards investment in debtors. In the words of Bolton, S.E., the objectives of receivables management is “to promote sales and profits until that point is reached where the return on investment in further funding of receivables is less than the cost of funds raised to finance that additional credit.”

### **COSTS OF MAINTAINING RECEIVABLES**

The allowing of credit to customers means giving funds for the customer’s use. The concern incurs the following cost on maintaining receivables:

#### **1. Cost of Financing Receivables**

When goods and services are provided on credit then concern’s capital is allowed to be used by the customers. The receivables are financed from the funds supplied by shareholders for long term financing and through retained earnings. The concern incurs some cost for collecting funds which finance receivables.

#### **2. Cost of Collection**

A proper collection of receivables is essential for receivables management. The customers who do not pay the money during a stipulated credit period are sent reminders for early payments. Some persons may have to be sent for collection these amounts. All these costs are known as collection costs which a concern is generally required to incur.

#### **3. Bad Debts**

Some customers may fail to pay the amounts due towards them. The amounts which the customers fail to pay are known as bad debts. Though a concern may be able to reduced bad debts through efficient collection machinery but one cannot altogether rule out this cost.

### **FACTORS INFLUENCING THE SIZE OF RECEIVABLES**

Besides sales, a number of other factors also influence the size of receivables. The following factors directly and indirectly affect the size of receivables.

### **1. Size of Credit Sales**

The volume of credit sales is the first factor which increases or decreases the size of receivables. If a concern sells only on cash basis as in the case of Bata Shoe Company, then there will be no receivables. The higher the part of credit sales out of total sales, figures of receivables will also be more or vice versa.

### **2. Credit Policies**

A firm with conservative credit policy will have a low size of receivables while a firm with liberal credit policy will be increasing this figure. If collections are prompt then even if credit is liberally extended the size of receivables will remain under control. In case receivables remain outstanding for a longer period, there is always a possibility of bad debts.

### **3. Terms of Trade**

The size of receivables also depends upon the terms of trade. The period of credit allowed and rates of discount given are linked with receivables. If credit period allowed is more then receivables will also be more. Sometimes trade policies of competitors have to be followed otherwise it becomes difficult to expand the sales.

### **4. Expansion Plans**

When a concern wants to expand its activities, it will have to enter new markets. To attract customers, it will give incentives in the form of credit facilities. The period of credit can be reduced when the firm is able to get permanent customers. In the early stages of expansion more credit becomes essential and size of receivables will be more.

### **5. Relation with Profits**

The credit policy is followed with a view to increase sales. When sales increase beyond a certain level the additional costs incurred are less than the increase in revenues. It will be beneficial to increase sales beyond the point because it will bring more profits. The increase in profits will be followed by an increase in the size of receivables or vice-versa.

### **6. Credit Collection Efforts**

The collection of credit should be streamlined. The customers should be sent periodical reminders if they fail to pay in time. On the other hand, if adequate attention is not paid towards credit collection then the concern can land itself in a serious financial problem. An efficient credit collection machinery will reduce the size of receivables.

### **7. Habits of Customers**

The paying habits of customers also have bearing on the size of receivables. The customers may be in the habit of delaying payments even though they are financially sound.



The concern should remain in touch with such customers and should make them realise the urgency of their needs.

## **DIMENSIONS OF RECEIVABLES MANAGEMENT**

Receivables management involves the careful consideration of the following aspects:

1. Forming of credit policy.
2. Executing the credit policy.
3. Formulating and executing collection policy.

### **1. Forming of Credit Policy**

For efficient management of receivables, a concern must adopt a credit policy. A credit policy is related to decisions such as credit standards, length of credit period, cash discount and discount period, etc.

#### **i) Quality of Trade Accounts of Credit Standards**

The volume of sales will be influenced by the credit policy of a concern. By liberalising credit policy the volume of sales can be increased resulting into increased profits. The increased volume of sales is associated with certain risks too. It will result in enhanced costs and risks of bad debts and delayed receipts. The increase in number of customers will increase the clerical work of maintaining the additional accounts and collecting of information about the credit worthiness of customers. There may be more bad debt losses due to extension of credit to less worthy customers. These customers may also take more time than normally allowed in making the payments resulting into tying up of additional capital in receivables. On the other hand, extending credit to only credit worthy customers will save costs like bad debt losses, collection costs, investigation costs, etc. The restriction of credit to such customers only will certainly reduce sales volume, thus resulting in reduced profits.

A finance manager has to match the increased revenue with additional costs. The credit should be liberalised only to the level where incremental revenue matches the additional costs. The quality of trade accounts should be decided so that credit facilities are extended only upto that level. The optimum level of investment in receivables should be where there is a trade off between the costs and profitability. On the other hand, a tight credit policy increases the liquidity of the firm. On the other hand, a tight credit policy increases the liquidity of the firm. Thus, optimum level of investment in receivables is achieved at a point where there is a trade off between cost, profitability and liquidity as depicted below:

### **ii) Length of Credit Period**

Credit terms or length of credit period means the period allowed to the customers for making the payment. The customers paying well in time may also be allowed certain cash discount. A concern fixes its own terms of credit depending upon its customers and the volume of sales. The competitive pressure from other firms compels to follow similar credit terms, otherwise customers may feel inclined to purchase from a firm which allows more days for paying credit purchases. Sometimes more credit time is allowed to increase sales to existing customers and also to attract new customers. The length of credit period and quantum of discount allowed determine the magnitude of investment in receivables.

### **iii) Cash Discount**

Cash discount is allowed to expedite the collection of receivables. The concern will be able to use the additional funds received from expedited collections due to cash discount. The discount allowed involves cost. The discount should be allowed only if its cost is less than the earnings from additional funds. If the funds cannot be profitably employed then discount should not be allowed.

### **iv) Discount Period**

The collection of receivables is influenced by the period allowed for availing the discount. The additional period allowed for this facility may prompt some more customers to avail discount and make payments. This will mean additional funds released from receivables which may be alternatively used. At the same time the extending of discount period will result in late collection of funds because those who were getting discount and making payments as per earlier schedule will also delay their payments.

## **2. Executing Credit Policy**

After formulating the credit policy, its proper execution is very important. The evaluation of credit applications and finding out the credit worthiness of customers should be undertaken.

### **i) Collecting Credit information**

The first step in implementing credit policy will be to gather credit information about the customers. This information should be adequate enough so that proper analysis about the financial position of the customers is possible. This type of investigation can be undertaken only upto a certain limit because it will involve cost.

The sources from which credit information will be available should be ascertained. The information may be available from financial statements, credit rating agencies, reports from banks, firm's records etc. Financial reports of the customer for a number of years will be helpful in determining the financial position and profitability position. The balance sheet will help in finding out the short term and long term position of the concern. The income statements will show the profitability position of concern. The liquidity position and current assets movement will help in finding out the current financial position. A proper analysis of financial statements will be helpful in determining the credit worthiness of customers. There are credit rating agencies which can supply information about various concerns. These agencies regularly collect information about business units from various sources and keep this information upto date. The information is kept in confidence and may be used when required.

Credit information may be available with banks too. The banks have their credit departments to analyse the financial position of a customer.

In case of old customers, business own records may help to know their credit worthiness. The frequency of payments, cash discounts availed, interest paid on over due payments etc. may help to form an opinion about the quality of credit.

## **ii) Credit Analysis**

After gathering the required information, the finance manager should analyse it to find out the credit worthiness of potential customers and also to see whether they satisfy the standards of the concern or not. The credit analysis will determine the degree of risk associated with the account, the capacity of the customer borrow and his ability and willingness to pay.

## **iii) Credit Decision**

After analysing the credit worthiness of the customer, the finance manager has to take a decision whether the credit is to be extended and if yes then upto what level. He will match the creditworthiness of the customer with the credit standards of the company. If customer's creditworthiness is above the credit standards then there is no problem in taking a decision. It is only in the marginal case that such decisions are difficult to be made. In such cases the benefit of extending the credit should be compared to the likely bad debt losses and then decision should be taken. In case the customers are below the company credit standards then they should not be outrightly refused. Rather they should be offered some alternative facilities. A customer may be

offered to pay on delivery of goods, invoices may be sent through bank. Such a course help in retaining the customers at present and their dealings may help in reviewing their requests at a later date.

#### iv) **Financing Investments in Receivables and Factoring**

Accounts receivables block a part of working capital. Efforts should be made that funds are not tied up in receivables for longer periods. The finance manager should make efforts to get receivables financed so that working capital needs are met in time. The quality of receivables will determine the amount of loan. The banks will accept receivable of dependable parties only. Another method of getting funds against receivables is their outright sale to the bank. The bank will credit the amount to the party after deducting discount and will collect the money from the customers later. Here too, the bank will insist on quality receivables only. Besides banks, there may be other agencies which can buy receivables and pay cash for them. This facility is known as **factoring**. The factoring may be with or without recourse. It is without recourse then any bad debt loss is taken up by the factor but if it is with recourse then bad debts losses will be recovered from the seller.

Factoring is collection and finance service designed to improve the cash flow position of the sellers by converting sales invoices into ready cash. The procedure of factoring can be explained as follows:

1. Under an agreement between the selling firm and factor firm, the latter makes an appraisal of the credit worthiness of potential customers and may also set the credit limit and term of credit for different customers.
2. The sales documents will contain the instructions to make payment directly to factor who is responsible for collection.
3. When the payment is received by the factor on the due date the factor shall deduct its fees, charges etc and credit the balance to the firm's accounts.
4. In some cases, if agreed the factor firm may also provide advance finance to selling firm for which it may charge from selling firm. In a way this tantamount to bill discounting by the factor firm. However factoring is something more than mere bill discounting, as the former includes analysis of the credit worthiness of the customer also. The factor may pay whole or a substantial portion of sales value to the selling firm immediately on sales being effected. The balance if any, may be paid on normal due date.

### **Benefits and Cost of Factoring**

A firm availing factoring services may have the following benefits:

- i) Better Cash Flows
- ii) Better Assets Management
- iii) Better Working Capital Management
- iv) Better Administration
- v) Better Evaluation
- vi) Better Risk Management

However, the factoring involves some monetary and non-monetary costs as follows:

#### **Monetary Costs**

- i) The factor firm charges substantial fees and commission for collection of receivables. These charges sometimes may be too much in view of amount involved.
- ii) The advance fiancé provided by factor firm would be available at a higher interest costs than usual rate of interest.

#### **Non-Monetary Costs**

- i) The factor firm doing the evaluation of credit worthiness of the customer will be primarily concerned with the minimization of risk of delays and defaults. In the process it may over look sales growth aspect.
- ii) A factor is in fact a third party to the customer who may not feel comfortable while dealing with it.
- iii) The factoring of receivables may be considered as a symptom of financial weakness.

**Factoring in India** is of recent origin. In order to study the feasibility of factoring services in India, the Reserve Bank of India constituted a study group for examining the introduction of factoring services, which submitted its report in 1988. On the basis of the recommendations of this study group the RBI has come out with specific guidelines permitting a banks to start factoring in India through their subsidiaries. For this country has been divided into four zones. In India the factoring is still not very common. The first factor i.e. The SBI Factor and Commercial Services Limited started working in April 1991. The guidelines for regulation of a factoring are as follows:

- (1) A factor firm requires an approval from Reserve Bank of India.
- (2) A factor firm may undertake factoring business or other incidental activities.
- (3) A factor firm shall not engage in financing of other firms or firms engaged in factoring.

### 3. Formulating and Executing Collection Policy

The collection of amounts due to the customers is very important. The collection policy is termed as strict and lenient. A strict policy of collection will involve more efforts on collection. Such a policy has both positive and negative effects. This policy will enable early collection of dues and will reduce bad debt losses. The money collected will be used for other purposes and the profits of the concern will go up. On the other hand a rigorous collection policy will involve increased collection costs. It may also reduce the volume of sales. A lenient policy may increase the debt collection period and more bad debt losses. A customer not clearing the dues for long may not repeat his order because he will have to pay earlier dues first, thus causing.

The objective is to collect the dues and not to annoy the customer. The steps should be like (i) sending a reminder for payments (ii) Personal request through telephone etc. (iii) Personal visits to the customers (iv) Taking help of collecting agencies and lastly (v) Taking legal action. The last step should be taken only after exhausting all other means because it will have a bad impact on relations with customers.

#### Example : 6

A company has prepared the following projections for a year

Sales	21000 units
Selling Price per unit	Rs.40
Variable Costs per unit	Rs.25
Total Costs per unit	Rs.35
Credit period allowed	One month

The company proposes to increase the credit period allowed to its customers from one month to two months. It is envisaged that the change in policy as above will increase the sales by 8%. The company desires a return of 25% on its investment. You are required to examine and advise whether the proposed credit policy should be implemented or not?

**Solution**

<b>Particulars</b>	<b>Present</b>	<b>Proposed</b>	<b>Incremental</b>
Sales (units)	21000	22680	1680
Contribution per unit	Rs.15	Rs.15	Rs.15
<b>Total Contribution</b>	Rs.3,15,000	Rs.3,40,000	Rs.25,200
<b>Variable cost @ Rs.25</b>	5,25,000	5,67,000	42,000
<b>Fixed Cost</b>	2,10,000	2,10,000	-----
	7,35,000	7,77,000	42,000
<b>Total Cost</b>	1 month	2 month	-----
	Rs.61250	Rs.1,29,500	Rs.68,250
<b>Credit period</b>			
Average debtors at co			

Incremental Return = Increased Contribution/Extra Funds

Blockage \* 100

= Rs.25,200/Rs.68,250\*100

=36.92%

**MANAGEMENT OF RECEIVABLES**

Tendency of taking goods and services on credit is progressively gaining significance in the way of livelihood of the Indians. Alternatively, customer credit has turned out to be the main selling factor. When customers wait for credit, trade units in turn wait for credit from their vendors to go with their investment in credit extended to customers. An effective administrative control requires suitable administration of liquid assets and inventory. These assets are an ingredient of working capital of the company. A well-organized utilization of fiscal sources is essential to keep away from financial problems. Receivables take place when a company sells its goods or services on credit and does not get cash immediately. It is an indispensable marketing instrument, performing as a link for the movement of products in the course of manufacturing and delivery stages to consumers. A company allows trade credit to defend its sales from the competitors and to be a focus for the possible customers to purchase its goods at favorable conditions. Trade credit creates receivable which the company is estimated to accumulate in the near future. The receivable arising out of credit has three unique features; first, it contains an aspect of risk which ought to be vigilantly analyzed. Second, it is based on monetary worth to the purchaser, the economic value in goods or

services passes instantly on the occasion of sale, whilst the seller expects an equal worth to be received afterwards. Third, it implies futurity. The cash disbursement for products or services received by the purchaser will be made by him in an upcoming period. The customers from whom receivable or book debts have to be collected in the future are called trade debtors or plainly as debtors and stand for the company's claim on asset.

Receivables occupy a considerable segment of current assets of several companies. In India, receivables, after inventories, comprise the main ingredient of current assets. They constitute about one-third of current assets. Allowing credit and creating receivables tantamount to the blocking of the company's sources. The gap between the date of sale and the date of receipt of payment has to be financed out of working capital. This necessitates the company to get funds from banks or other sources. Therefore, receivables represent investment. As considerable amounts are blocked-up in receivables, it requires vigilant investigation and appropriate management.

### **Factoring of receivables**

Receivable management is a focused activity, and requires a lot of time and hard work from financial executives of the company. Realization of receivables creates a trouble, mainly for small companies. Banks have the strategy of funding receivables. On the other hand, this help is obtainable for a limited time and the sellers of products and services have to tolerate the danger of non-payment by debtors. Work relating to receivable management may be assigned to a specialist of an organization for efficient and effective realization of receivables. This type of activity is called factoring. Factoring is a well-known method of administrating, funding and realizing receivables. In India some banks and financial institutes and their subsidiaries use it to make available factoring services to their clients.

### **METHODS OF RECEIVABLES CONTROL**

Receivables are originated at the time of credit sales of goods and services. It is the part of current assets. Sales on credit are unavoidable in current scenario of business. The basic different between cash sales and credit sales, is the time gap in the receipt of cash. Every company wants to convert its debtors into cash as soon as possible. Once the credit has been extended to a customer as per the company's credit policy, the next important step in the management of receivable is the control of these receivables. Merely setting of standards and formulating the credit policy is not sufficient; it should be implemented effectively to control the receivables. There are following techniques of receivables:



### **1. The collection procedure**

Once the firm formulates the credit policy and specify the terms of credit sales, it must develop a policy for dealing with delinquent or slow paying customers. Delinquent customers lead to bad debts and other costs associated with the repossession of goods, while the slow paying customers create more cash being tied up in receivables and the increased interest cost. The concern should frame a system under which the customer may be reminded a few days in advance about the bill becoming due. After the lapse of due date of payment, the firm should make statements, telephone calls, reminders, and even personal visit to the paying customer. One possible way of ensuring early payments from customers may be to charge interest on overdue balances.

### **2. Monitoring receivables**

In order to control the level of accounts receivables, the concern should apply regular checks and there should be a persistent monitoring system. A common method of monitoring the receivables is the collection period or number of days outstanding receivables. The average collection period may give an idea about the trend of total receivables. Another technique available for monitoring the debtors is known as ageing analysis. The quality of the receivables of a firm can be evaluated by looking at the age of receivables. The older the receivable, the lower is the quality and greater the likelihood of default. In the aging analysis, the total outstanding receivables on a particular day i.e. at the end of the month or a year are categorised into different groups together with percentage of total receivables that fall in each age group. Moreover, a basic shortcoming of the aging analysis is that it is influenced by the change in sales volume, though, by comparing the ageing schedule for different periods, the financial manager can have an idea of any required change in the collection procedure and can also point out those customers which require special attention.

### **3. Receivables turnover ratios**

Accounting information can be used in order to control the receivables. Receivables Turnover Ratio is one of the efficiency ratios and measures the number of times receivables are collected, on average, during the fiscal year. Receivables turnover ratio measures company's efficiency in collecting its sales on credit and collection policies. This ratio takes in consideration only the credit sales. If the cash sales are included, the ratio will be affected and may lose its importance as there will not be receivables. A high receivables turnover ratio implies that its extension of credit and collection of accounts receivable are efficient. Also, a high ratio reflects a short lapse of time between sales and the collection of cash, while a low

ratio means collection takes longer. The lower the ratio is the longer receivables are being held and the risk to not be collected increases. A low receivables turnover ratio reveals that the company should re-assess its credit policies in order to ensure the timely collection of credit sales that is not earning interest for the firm.

#### **4. Lines of credit**

Another control evaluates for receivables management is the line of credit which means to the maximum amount of particular customer may have as due to the firm at any time. To set up and finalise the lines of credit, firm can use risk-class approach under which numerous risk-classes are defined. Many customers are classified, on the basis of the history of the customers, into different groups strongest (risk free) to weakest (risk prone). A separate credit is developed for each such class. Each customer is placed in one or the other class. The need to make a separate decision on extending credit each time the customer wants to make a credit purchase is not required. The lines of credit should be reviewed timely and frequently for all the customers. This review of credit lines, however, need not mandatorily mean the credit lines should be changed. History of customers should be looked into properly and costs and benefits of extending credit term should be evaluated.

### **MANAGEMENT OF PAYABLES**

Purchases of goods and services create a commercial credit for both the sellers and the buyers. Account payables generally stand for a huge segment of company's liabilities. A considerable segment of procurement of products and services in a company are on more credit conditions to a certain extent than against cash payment. Whereas the seller of products and services is likely to recognize credit as a force for increasing sales or as a shape of non-price tool of competition, the purchaser is likely to look upon it as a loaning of products or inventory. The seller's credit is called as Accounts Payable, Trade Credit, Trade Bill, Trade Acceptance, Commercial Draft or Bills Payable depending on the character of credit granted. Trade credits or payables comprise the main part of current liabilities in a lot of business companies. And they are mainly funding the inventory which forms the most important chunk of current assets in a lot of companies.

#### **Stretching of payables**

It is usually understood that the payment to the seller is disbursed within due time. On the other hand, a company may put off payment ahead of due date. This kind of deferment is called stretching on the trade. The cost of stretching accounts payable is two-fold: the cost due to loss of cash discount and the likely worsening in the credit ranking. If a company stretches its payables exceptionally, so that its payables are considerably offending, its credit

rating will suffer. Seller will analyze the company with uneasiness and may be firm or quite stern on conditions of sale. Even though it is not easy to calculate, there is definitely an opportunity cost to a worsening in the company's quality of payment.

### **Effectual management of payables**

Significant points to be kept in mind for effectual management of payables are as under:-

1. Bargain and get the most positive credit conditions consistent with the existing business practice relating to the concerned merchandise line.
2. Where cash discount is obtainable for timely payments, take benefit of the offer and obtain the savings from that.
3. Where cash discount is not obtainable, clear up the payable on its due date and not in advance. It pays benefit of full credit time.
4. Do not extend payables outside the due date, except in unavoidable circumstances, as such delays in meeting obligations have unfavorable effects on purchaser's trustworthiness and may affect more rigorous credit conditions, refutation of credit or high prices on products and services purchased.
5. Maintain strong financial position and a good follow up of past record of transactions with the seller so that it would maintain his self-belief. The quantum and the conditions of credit are mostly impacted by seller's appraisal of buyer's fiscal wellbeing and capability to meet maturing commitments quickly.
6. During extreme aggressive position, seller may be eager to extend credit restrictions and times. Evaluate your power to negotiate and get the most excellent potential transaction.
7. Avoid tendency relating to diverting payables. Keep the self liquidating nature of payables and do not utilize the means acquired therefrom for purchasing fixed assets. Payables are intended to flow through current assets and quickly get transformed into cash from sales for meeting those short term commitments which are likely to mature in the near future.
8. Maintain a regular check on cases of negligence. Delays in finalization of payables within the stipulated time can be classified into age groups to spot delays by more than one month, two months, three months, etc. Once overdue payables are given main concern of concentration for payment, the negligence rate can be decreased or eliminated totally.

## **CREDIT ANALYSIS**

Credit analysis is the method by which one calculates the creditworthiness of a business or organization. In other words, It is the evaluation of the ability of a company to honor its financial obligations.

The objective of credit analysis is to look at both the borrower and the lending facility being proposed and to assign a risk rating. The risk rating is derived by estimating the probability of default by the borrower at a given confidence level over the life of the facility, and by estimating the amount of loss that the lender would suffer in the event of default.

Credit analysis involves a wide variety of financial analysis techniques, including ratio and trend analysis as well as the creation of projections and a detailed analysis of cash flows. Credit analysis also includes an examination of collateral and other sources of repayment as well as credit history and management ability.

Before approving a credit a company will look at all of these factors with the primary emphasis being the cash flow of the borrower. A typical measurement of repayment ability is the debt service coverage ratio. A credit analyst at a company will measure the cash generated by a business (before interest expense and excluding depreciation and any other non-cash or extraordinary expenses). The debt service coverage ratio divides this cash flow amount by the debt service (both principal and interest payments on all loans) that will be required to be met.

### **1. Competition**

Consideration should be given to the terms of credit your competitors are offering.

### **2. Financial Position**

The cost of granting credit is an important factor in determining the degree to which you are prepared to extend payment terms. Credit terms and period should always be compared with the cost of running an overdraft or any other loans obtained to finance credit.

### **3. Attitude to Risk & Bad Debts**

Each and every organization should be able to measure the risk involved in comparison to the profits made. A number of organizations tend to ignore this area in the name of business and each year you get the company's profits declining due to the provision of bad debts.

### **4. The Nature of the Product.**

The nature of the business dictates the credit periods offered e.g. in the food industry the credit period is shorter while in heavy industries the credit period is longer. E.g. – Supermarkets and plant industries.

## **5. Size of the Order**

The bigger the order the more the profits and this would warrant a longer credit as the cost of credit is supported by the profits.

## **6. Economic Climate**

Credit periods are also dictated by the position of the underlying domestic economy. E.g. – Is the country in a boom or suffering a recession the level of the interest rates. NB This is an area that need to be reviewed regularly to enable the company make appropriate changes to the credit policy

## **FACTORS TO CONSIDER BEFORE EXTENDING CREDIT TO CUSTOMERS**

### **1. Credit risk**

Define the amount of risk your business is willing to accept. Do you have the financial resources to support the transaction? As part of this assessment, you'll need to consider the possibility that you won't get paid at all.

### **2. Credit terms**

Decide how much credit you're willing to extend and how long you can afford to wait for payment. The terms can vary all the way from 10-day terms to 90 days or more. Requiring a certain percentage down can minimize your risk. Many companies do this on the first few purchase orders before they offer 100 percent financing.

### **3. Credit qualification**

Will you extend credit to both consumers and businesses? If so, how will you determine their creditworthiness? For consumers, you may ask for a simple credit application with references. Or you might take it a step further and run a credit check with a consumer credit agency. For business customers, you may want to ask for a credit application and check with a business credit agency. There are a variety of reports you can pull, and if you expect a large number of applications, you can even subscribe to a business credit bureau and get unlimited reports.

### **4. Credit policy**

Develop a credit policy that covers the entire process when extending credit to customers, from application submission all the way to past-due collections. The more details you have worked out ahead of time, the better your accountant, sales staff, and management team can facilitate your program.

### **5. Credit review**

Be sure to observe the number of purchases a particular customer makes after you extend credit by conducting a credit review every several months. After your review, you

may consider increasing the credit limit, especially if the customer requests it and has a solid payment record. By extending credit to customers, you can separate yourself from competitors, increase sales, and gain a greater market share. While there is risk involved, if you use the key factors outlined above as a guide, you can provide yourself some protection.

### **SETTING A CREDIT POLICY**

There are three steps a company must undergo when developing a credit policy:

1. Establish credit standards.
2. Establish credit terms.
3. Establish a collection policy.

Management must decide on credit standards, which involves decisions on how much credit risk to assume. These decisions play a large role in determining how much money a firm ties up in its receivables. A restrictive policy will most likely result in lower sales, but the firm will have a smaller investment in receivables and incur less bad-debt losses. Less restrictive policies will generate higher sales as well as a higher receivables balance, but the company will most likely incur more bad-debt losses and a high opportunity cost of holding capital in accounts receivables.

Another important factor in determining credit standards involves a company evaluating the credit worthiness, or credit score, of an individual or business. This refers to the risk that the buyer will default on extended credit by failing to make payments which it is obligated to do. Potential losses not only include the selling price, but can also include disruption to cash flows and increased collection costs. To reduce its risk, the seller may perform a credit check on the buyer or require the buyer to put up collateral against credit extended.

### **Other Facets of Credit Policies**

After establishing credit standards, the firm must decide on the length of the period that would be allowed before payment must be made and whether or not they will offer a discount for early payments. If a discount is offered, the amount of the discount must also be determined. There are many purposes for discounting, such as to move out-of-date stock, to reward valuable customers, as a sales promotion, or to reward behaviors that benefit the discount issuer. Some common types of discounts include:

- i) Prompt payment discount.
- ii) Preferred payment discount (such as cash over credit card).
- iii) Partial payment discount.
- iv) Seasonal discount (for orders placed in a slack period for example).

- v) Trade discount (usually given when the buyer agrees to perform some function).
- vi) Quantity discount.

The last step is to establish a collection policy. Collection policies vary widely among industries. Some companies do nothing when their customers don't pay. Others send out a reminder notifying customers that their payment is late. Some companies may even take legal action at the first late payment.

### **The Five C's of Credit**

- i) Character: Is the borrower trustworthy with a history of meeting its debt obligations?
- ii) Capacity: Will the borrower have enough cash flow to make its payments?
- iii) Capital: Does the borrower have enough capital to justify the loan?
- iv) Collateral: Does the borrower have any assets that can secure the loan?
- v) Conditions: How are both the borrower and the economy performing and how are they expected to perform?

### **TRADE CREDIT**

Trade credit refers to the credit that a customer gets from suppliers of goods in the normal course of business. In practice, the buying firms do not have to pay cash immediately for the purchases made. This deferral of payments is a short – term financing called trade credit. It is a major source of financing for firms. In India, it contributes to about one – third of the short – term financing. Particularly, small firms are heavily dependent on trade credit as a source of finance since they find it difficult to raise funds from banks or other sources in the capital markets.

Trade credit is mostly an informal arrangement, and is granted on an open account basis. A supplier sends goods to the buyer on credit which the buyer accepts, and thus, in effect, agrees to pay the amount due, as per sales the terms in the invoice. However, he does not formally acknowledge it as a debt; he does not sign any legal instrument. Once the trade links have been established between the buyer and the seller, they have each other's mutual confidence, and trade credit becomes a routine activity which may be periodically reviewed by the supplier. Open account trade credit appears as sundry creditors (known as accounts payable in USA) on the buyer's balance sheet.

Trade credit may also take the form of bills payable. When the buyer signs a bill – a negotiable instrument – to obtain trade credit, it appears on the buyer's balance sheet as bills payable. The bill has a specified future date, and is usually used when the supplier is less sure about the buyer's willingness and ability to pay, or when the supplier wants cash by discounting the bill from a bank. A bill is formal acknowledgement of an obligation to repay

the outstanding amount. In USA, promissory notes – a formal acknowledgement of an obligation with a promise to pay on a specified date – are used as an alternative to the open account, and they appear as notes payable in the buyer's balance sheet.

### **Credit Terms**

Credit terms refer to the conditions under which the supplier sells on credit to the buyer, and the buyer is required to repay the credit. These conditions include the due date and the cash discount (if any) given for prompt payment. Due date (also called net date) is the date by which the supplier expects payment. Credit terms indicate the length and beginning date of the credit period. Cash discount is the concession offered to the buyer by the supplier to encourage him to make payment promptly. The cash discount can be availed by the buyer if he pays by a certain date which is quite earlier than the due date. The typical way of expressing credit terms is, for example, as follows: '3/15. net 45'. This implies that a 3 per cent discount is available if the credit is repaid on the 15<sup>th</sup> day, and in case the discount is not taken, the payment is due by the 45<sup>th</sup> day.

### **Benefits and Costs of Trade Credit**

As stated earlier, trade credit is normally available to a firm; therefore, it is a spontaneous source of financing. As the volume of the firm's purchase increases, trade credit also expands. Suppose that a firm increases its purchases from Rs. 50,000 per day to 60,000 per day. Assume that these purchases are made on credit terms of 'net', and the firm makes payment on the 45<sup>th</sup> day. The average accounts payable outstanding (trade credit financed) will expand to Rs. 27 lakh (Rs.60,000 x 45) from Rs. 22.50 lakh (Rs. 50,000 x 45).

The major advantages of trade credit are as follows:

#### **1. Easy availability**

Unlike other sources of finance, trade credit is relatively easy to obtain. Except in the case of financially very unsound firms, it is almost automatic and does not require and negotiations. The easy availability is particularly important to small firms which generally face difficulty in raising funds from the capital markets.

#### **2. Flexibility**

Flexibility is another advantage of trade credit. Trade credit grows with the growth in firm's sales. The expansion in the firm's sales causes its purchases of goods and services to increase which is automatically financed by trade credit. In contrast, if the firm's sales reduce, purchases will decline and consequently trade credit will also decline.



### 3. Informality

Trade credit is an informal, spontaneous source of finance. It does not require any obligations and formal agreement. It does not have the restrictions which are usually parts of negotiated sources of finance.

Is trade credit a cost – free source of finance? It appears to be cost – free since it does not involve explicit interest charges. But in practice, it involves implicit cost. The cost of credit may be transferred to the buyer via the increased price of goods supplied to him. The user of trade credit, therefore, should be aware of the costs of trade credit to make use of it intelligently. The reasoning that it is cost free can lead to incorrect financing decisions.

The supplier extending trade credit incurs costs in the form of the opportunity cost of funds invested in accounts receivable and cost of any cash discount taken by the buyer. Does the supplier bear these costs? Most of the time he passes on all or part of these costs to the buyer implicitly in the form of higher purchase price of goods and services supplied. How much of the costs can he really pass on depends on the market supply and demand conditions. Thus if the buyer is in a position to pay cash immediately, he should try to avoid implicit costs of trade credit by negotiating lower purchase price with the supplier.

Credit terms sometimes include cash discount if the payment is made within a specified period. The buyer should take a decision whether or not to avail it. A trade off it is involved. If the buyer takes discount, he benefits in terms of less cash outflow, but then he foregoes the credit granted by the supplier beyond the discount period. In contrast, if he does not take discount, he avails credit for the extended period but pays more. The buyer incurs an opportunity cost when he does not avail cash discount. Suppose that the Nirmal Company is extended Rs.1,00,000 credit on terms of ‘2/15, net 45’. Nirmal can either pay less amount (1,00,000 – 0.02 x 1,00,000 = Rs. 98,000) by the end of the discount period i.e. the 15<sup>th</sup> day or the full amount (Rs.1,00,000) by the end of the credit period, i.e., the 45<sup>th</sup> day. If the firm foregoes cash discount and does not pay on the 15<sup>th</sup> day, it can use Rs. 98,000 for an additional period of 30 days, and implicitly paying Rs. 2,000 in interest. If a credit of Rs 98,000 is available for 30 days by paying Rs. 2,000 as interest, how much is the annual rate of interest? It can be found as follows:

$$\text{Implicit interest rate} = \frac{2000}{98,000} \times \frac{360}{30} = 0.245 \text{ or } 24.5\%$$

We can also use the following formula to calculate the implicit rate of interest:

Implicit interest rate:

$$\frac{\% \text{ Discount}}{100 - \% \text{ Discount}} \times \frac{360}{\text{Credit period} - \text{Discount period}} \quad (1)$$

Using data of our example, we obtain:

$$= \frac{2}{100 - 2} \times \frac{360}{45 - 15} = \frac{2}{98} \times \frac{360}{30} = 0.245 \text{ or } 24.5\%$$

As the example above indicates, the annual opportunity cost of foregoing cash discount can be very high. Therefore, a firm should compare the opportunity cost of trade credit with the costs of other sources of credit while making its financing decisions.

For meeting its financing needs, should a company stretch its accounts payable? When a firm delays the payment of credit beyond the due date, it is called stretching accounts payable. Stretching accounts payable does generate additional short – term finances, but it can prove to be a very costly source. The firm will have to forgo the cash discount and may also be required to pay penalty interest charges. Thus the firm will not only be charged higher implicit costs, but its creditworthiness will also be adversely affected. If the firm stretches accounts payable frequently, it may not be able to obtain any credit in future. It may also find it difficult to obtain finances from other sources once its creditworthiness is seriously damaged.

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## UNIT – III

### INTRODUCTION

Every enterprise needs inventory for smooth running of its activities. It serves as a link between production and distribution processes. There is, generally, a time lag between the recognition of need and its fulfilment. The greater the time – lag, the higher the requirements for inventory.

The investment in inventories constitutes the most significant part of current assets/working capital in most of the undertakings. Thus, it is very essential to have proper control and management of inventories. The purpose of inventory management is to ensure availability of materials in sufficient quantity as and when required and also to minimise investment in inventories.

### MEANING AND NATURE OF INVENTORY

In accounting language it may mean stock of finished goods only. In a manufacturing concern, it may include raw materials, work in process and stores, etc. Inventory includes the following things:

#### **(a) Raw Material**

Raw material form a major input into the organisation. They are required to carry out production activities uninterruptedly. The quantity of raw materials required will be determined by the rate of consumption and the time required for replenishing the supplies. The factors like the availability of raw materials and government regulations etc. too affect the stock of raw materials.

#### **(b) Work in Progress**

The work-in-progress is that stage of stocks which are in between raw materials and finished goods. The raw materials enter the process of manufacture but they are yet to attain a final shape of finished goods. The quantum of work in progress depends upon the time taken in the manufacturing process. The greater the time taken in manufacturing, the more will be the amount of work in progress.

#### **(c) Consumables**

These are the materials which are needed to smoothen the process of production. These materials do not directly enter production but they act as catalysts, etc. Consumables may be classified according to their consumption and criticality.

**(d) Finished goods**

These are the goods which are ready for the consumers. The stock of finished goods provides a buffer between production and market. The purpose of maintaining inventory is to ensure proper supply of goods to customers.

**(e) Spares**

Spares also form a part of inventory. The consumption pattern of raw materials, consumables, finished goods are different from that of spares. The stocking policies of spares are different from industry to industry. Some industries like transport will require more spares than the other concerns. The costly spare parts like engines, maintenance spares etc. are not discarded after use, rather they are kept in ready position for further use.

**PURPOSE/BENEFITS OF HOLDING INVENTORS**

There are three main purposes or motives of holding inventories:

1. **The Transaction Motive** which facilitates continuous production and timely execution of sales orders.
2. **The Precautionary Motive** which necessitates the holding of inventories for meeting the unpredictable changes in demand and supplies of materials.
3. **The Speculative Motive** which induces to keep inventories for taking advantage of price fluctuations, saving in re-ordering costs and quantity discounts, etc.

**RISK AND COSTS OF HOLDING INVENTORS**

The holding of inventories involves blocking of a firm's funds and incurrence of capital and other costs. It also exposes the firm to certain risks. The various costs and risks involved in holding inventories are as below:

**1. Capital costs**

Maintaining of inventories results in blocking of the firm's financial resources. The firm has, therefore, to arrange for additional funds to meet the cost of inventories. The funds may be arranged from own resources or from outsiders. But in both cases, the firm incurs a cost. In the former case, there is an opportunity cost of investment while in later case the firm has to pay interest to outsiders.

**2. Cost of Ordering**

The costs of ordering include the cost of acquisition of inventories. It is the cost of preparation and execution of an order, including cost of paper work and communicating with supplier. There is always minimum cost involve whenever an order for replenishment of good is placed. The total annual cost of ordering is equal to cost per order multiplied by the number of order placed in a year.

### **3. Cost of Stock-outs**

A stock out is a situation when the firm is not having units of an item in store but there is demand for that either from the customers or the production department. The stock out refer to demand for an item whose inventory level is reduced to zero and insufficient level. There is always a cost of stock out in the sense that the firm faces a situation of lost sales or back orders. Stock out are quite often expensive.

### **4. Storage and Handling Costs**

Holding of inventories also involves costs on storage as well as handling of materials. The storage costs include the rental of the godown, insurance charge etc.

### **5. Risk of Price Decline**

There is always a risk of reduction in the prices of inventories by the suppliers in holding inventories. This may be due to increased market supplies, competition or general depression in the market.

### **6. Risk of Obsolescence**

The inventories may become obsolete due to improved technology, changes in requirements, change in customer's tastes etc.

### **7. Risk Deterioration in Quality**

The quality of the materials may also deteriorate while the inventories are kept in stores.

## **INVENTORY MANAGEMENT**

It is necessary for every management to give proper attention to inventory management. A proper planning of purchasing, handling storing and accounting should form a part of inventory management. An efficient system of inventory management will determine (a) what to purchase (b) how much to purchase (c) from where to purchase (d) where to store, etc.

There are conflicting interests of different departmental heads over the issue of inventory. The finance manager will try to invest less in inventory because for him it is an idle investment, whereas production manager will emphasise to acquire more and more inventory as he does not want any interruption in production due to shortage of inventory. The purpose of inventory management is to keep the stocks in such a way that neither there is over-stocking nor under-stocking. The over-stocking will mean reduction of liquidity and starving of other production processes; under-stocking, on the other hand, will result in stoppage of work. The investments in inventory should be kept in reasonable limits.

## **OBJECTIVES OF INVENTORY MANAGEMENT**

The main objectives of inventory management are operational and financial. The operational objectives mean that the materials and spares should be available in sufficient quantity so that work is not disrupted for want of inventory. The financial objective means that investments in inventories should not remain idle and minimum working capital should be locked in it. The following are the objectives of inventory management:

1. To ensure continuous supply of materials spares and finished goods so that production should not suffer at any time and the customers demand should also be met.
2. To avoid both over-stocking and under-stocking of inventory.
3. To keep material cost under control so that they contribute in reducing cost of production and overall costs.
4. To minimise losses through deterioration, pilferage, wastages and damages.
5. To ensure perpetual inventory control so that materials shown in stock ledgers should be actually lying in the stores.
6. To ensure right quality goods at reasonable prices.
7. To maintain investments in inventories at the optimum level as required by the operational and sales activities.
8. To eliminate duplication in ordering or replenishing stocks. This is possible with help of centralising purchases.
9. To facilitate furnishing of data for short term and long term planning and control of inventory.
10. To design proper organisation of inventory. A clear cut accountability should be fixed at various levels of management.

## **TOOLS AND TECHNIQUES OF INVENTORY MANAGEMENT**

Effective Inventory management requires an effective control system for inventories. A proper inventory control not only helps in solving the acute problem of liquidity but also increases profits and causes substantial reduction in the working capital of the concern. The following are the important tools and techniques of inventory management and control:

1. Determination of Stock Levels.
2. Determination of Safety Stocks.
3. Determination of Economic Order Quantity
4. A.B.C. Analysis
5. VED Analysis
6. Inventory Turnover Ratios

7. Aging Schedule of Inventories

8. Just in Time Inventory

### **1. Determination of Stock Levels**

Carrying of too much and too little of inventories is detrimental to the firm. If the inventory level is too little, the firm will face frequent stock-outs involving heavy ordering cost and if the inventory level is too high it will be unnecessary tie-up of capital. Therefore, an efficient inventory management requires that a firm should maintain an optimum level of inventory where inventory costs are the minimum and at the same time there is not stock-out which may result in loss of sale or stoppage of production. Various stock levels are discussed as such.

#### **(a) Minimum Level**

This represents the quantity which must be maintained in hand at all times. If stocks are less than the minimum level then the work will stop due to shortage of materials. Following factors are taken into account while fixing minimum stock level:

##### **(i) Lead Time**

A purchasing firm requires some time to process the order and time is also required by supplying firm to execute the order. The time taken in processing the order and then executing it is known as lead time.

##### **(ii) Rate of Consumption**

It is the average consumption of materials in the factory. The rate of consumption will be decided on the basis past experiences and production plans.

##### **(iii) Nature of Material**

The nature of material also affects the minimum level. If material is required only against special orders of customer then minimum stock will not be required for such materials.

**Minimum stock level = Re-ordering level - (Normal consumption x Normal Re-order period).**

#### **(b) Re-ordering Level**

When the quantity of materials reaches at a certain figure then fresh order is sent to get materials again. The order is sent before the materials reach minimum stock level. Reordering level is fixed between minimum and maximum level. The rate of consumption, number of days required to replenish the stock and maximum quantity of material required on any day are taken into account while fixing reordering level.

**Re-ordering Level = Maximum Consumption x Maximum Re-order period.**

**(c) Maximum Level**

It is the quantity of materials beyond which a firm should not exceed its stocks. If the quantity exceeds maximum level limit then it will be overstocking. A firm should avoid overstocking because it will result in high material costs.

**Maximum Stock Level = Re-ordering Level+ Re-ordering Quantity-(Minimum Consumption x Minimum Re-ordering period).**

**(d) Danger Level**

It is the level beyond which materials should not fall in any case. If danger level arises then immediate steps should be taken to replenish the stock even if more cost is incurred in arranging the materials. If materials are not arranged immediately there is possibility of stoppage of work.

**Danger Level = Average Consumption x Maximum reorder period for emergency purchases.**

**(e) Average Stock Level**

The average stock level is calculated as such:

**Average Stock level = Minimum Stock Level + $\frac{1}{2}$  of re-order quantity**

## **2. Determination of Safety Stocks**

Safety stock is a buffer to meet some unanticipated increase in usage. It fluctuates over a period of time. The demand for materials may fluctuate and delivery of inventory may also be delayed and in such a situation the firm can face a problem of stock-out. The stock-out can prove costly by affecting the smooth working of the concern. In order to protect against the stock out arising out of usage fluctuations, firms usually maintain some margin of safety or safety stocks. Two costs are involved in the determination of this stock i.e. opportunity cost of stock-outs and the carrying costs. The stock out of raw materials cause production disruption resulting in higher cost of production. Similarly, the stock out of finished goods result into failure of firm in competition, as firm cannot provide proper customer service. If a firm maintains low level of safety frequent stock out will occur resulting in large opportunity cost. On the other hand larger quantity of safety stock involves higher carrying costs.

## **3. Economic Order Quantity (EOQ)**

A decision about how much to order has great significance in inventory management. The quantity to be purchased should neither be small nor big because costs of buying and



carrying materials are very high. Economic order quantity is the size of the lot to be purchased which is economically viable. This is the quantity of materials which can be purchased at minimum costs. Generally, economic order quantity is the point at which inventory carrying costs are equal to order costs. In determining economic order quantity it is assumed that cost of a managing inventory is made of solely of two parts i.e. ordering costs and carrying costs.

**(a) Ordering Costs:** These are costs that are associated with the purchasing or ordering of materials. These costs include:

- i) Inspection costs of incoming materials.
- ii) Cost of stationery, typing, postage, telephone charges etc.
- iii) Expenses incurred on transportation of goods purchased.

These costs are also known as buying costs and will arise only when some purchases are made.

**(b) Carrying Costs:** These are costs for holding the inventories. These costs will not be incurred if inventories are not carried. These costs include:

- i) The cost of capital invested in inventories. An interest will be paid on the amount of capital locked up in inventories.
- ii) Cost of storage which could have been used for other purposes.
- iii) Insurance Cost.
- iv) Cost of spoilage in handling of materials.

**Assumptions of EOQ:** While calculating EOQ the following assumptions are made.

- i) The supply of goods is satisfactory. The goods can be purchased whenever these are needed.
- ii) The quality to be purchased by the concern is certain.
- iii) The prices of goods are stable. It results to stabilise carrying costs.

Economic order quantity can be calculated with the help of the following formula:

where, A = Annual consumption in rupees.

S = Cost of placing an order.

I = Inventory carrying costs of one unit.

**Example 1:** The finance department of a Corporation provides the following information:

- i) The carrying costs per unit of inventory are Rs. 10

ii) The fixed costs per order are Rs. 20

iii) The number of units required is 30,000 per year.

Determine the economic order quantity (EOQ) total number of orders in a year and the time gap between orders.

**Solution:**

The economic order quantity may be found as follow

$$A = 30,000$$

$$S = \text{Rs.}20$$

$$I = \text{Rs.}10$$

$$\text{Now, EOQ} = \left( \frac{2 \times 30,000 \times 20}{10} \right)^{1/2} = 346 \text{ units}$$

So, the EOQ is 346 units and the number of orders in a year would be  $30,000/346 = 86.7$  or 87 orders. The time gap between two orders would be  $365/87 = 4.2$  or 4 days.

**4. A-B-C Analysis**

Under A-B-C analysis, the materials are divided into three categories viz, A, B and C. Past experience has shown that almost 10 per cent of the items contribute to 70 percent of value of consumption and this category is called 'A' Category. About 20 per cent of value of consumption and this category is called 'A' Category. About 20 per cent of the items contribute about 20 per cent of value of consumption and this is known as category 'B' materials. Category 'C' covers about 70 per cent of items of materials which contribute only 10 per cent of value of consumption. There may be some variation in different organisations and an adjustment can be made in these percentages.

The information is shown in the following diagram:

Class	No. of Items (%)	Value of Items (%)
A	10	70
B	20	20
C	70	10

A-B-C analysis helps to concentrate more efforts on category A since greatest monetary advantage will come by controlling these items. An attention should be paid in estimating requirements, purchasing, maintaining safety stocks and properly storing of 'A' category materials. These items are kept under a constant review so that substantial material cost may be controlled. The control of 'C' items may be relaxed and these stocks may be purchased for the year. A little more attention should be given towards 'B' category items and their purchase should be undertaken a quarterly or half-yearly intervals.

## 5. VED Analysis

The VED analysis is used generally for spare parts. The requirements and urgency of spare parts is different from that of materials. A-B-C analysis may not be properly used for spare parts. Spare parts are classified as Vital (V), Essential (E) and Desirable (D) The vital spares are a must for running the concern smoothly and these must be stored adequately. The non-availability of vital spares will cause havoc in the concern. The E type of spares are also necessary but their stocks may be kept at low figures. The stocking of D type of spares may be avoided at times. If the lead time of these spares is less, then stocking of these spares can be avoided.

## 6. Inventory Turnover Ratios

Inventory turnover ratios are calculated to indicate whether inventories have been used efficiently or not. The purpose is to ensure the blocking of only required minimum funds in inventory. The Inventory Turnover Ratio also known as stock velocity is normally calculated as sales/average inventory or cost of goods sold/average inventory cost.

## 7. Aging Schedule of Inventories

Classification of inventories according to the period (age) of their holding also helps in identifying slow moving inventories thereby helping in effective control and management of inventories. The following table show aging of inventories of a firm.

### AGING SCHEDULE OF INVENTORIES

Item Name/Code	Age Classification	Date of Acquisition	Amount (Rs.)	%age to total
011	0-15 days	June 25,2016	30,000	15
002	16-30 days	June 10, 2016	60,000	30
003	31-45 days	May 20,2016	50,000	25
004	46-60 days	May 5,2016	40,000	20
005	61 and above	April 12,2016	20,000	10
			2,00,000	100

## 8. Just in Time Inventory (JIT)

JIT is a modern approach to inventory management and goal is essentially to minimize such inventories and thereby maximizing the turnover. In JIT, firm keeps only enough inventory on hand to meet immediate production needs. The JIT system reduces inventory carrying costs by requiring that the raw materials are procured just in time to be placed into production. Additionally, the work in process inventory is minimized by eliminating the inventory buffers between different production departments. If JIT is to be

implemented successfully there must be high degree of coordination and cooperation between the suppliers and manufacturers and among different production centers.

### **RISK IN INVENTORY MANAGEMENT**

The main risk in inventory management is that market value of inventory may fall below what firm paid for it, thereby causing inventory losses. The sources of market value of risk depend on type of inventory. Purchased inventory of manufactured goods is subject to losses due to changes in technology. Such changes may sharply reduced final prices of goods when they are sold or may even make the goods unsaleable. There are also substantial risks in inventories of goods dependent on current styles. The ready-made industry is particularly susceptible to risk of changing consumer tastes. Agricultural commodities are a type of inventory subject to risks due to unpredictable changes in production and demand.

Moreover, all inventories are exposed to losses due to spoilage, shrinkage, theft or other risks of this sort. Insurance is available to cover many of these risks and if purchased is one of the costs of holding inventory. Hence, the financial manager must be aware of the degree of risk involve infirm investment in inventories. The manager must take those risks into account in evaluating the appropriate level of investment.

### **TYPES OF INVENTORY**

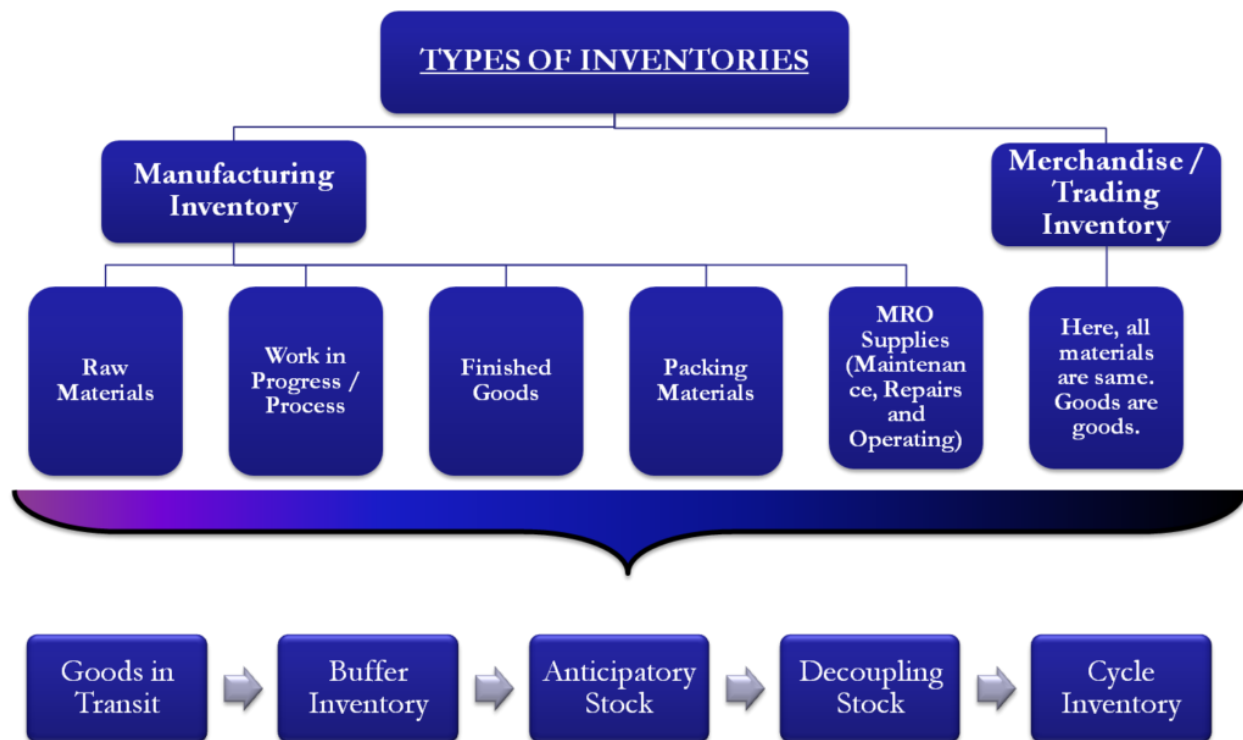
There are three types of businesses such as trading or merchandising, manufacturing, and service. Out of these, services are not inventorial. Here, the first classification of inventory is based on nature of business – Merchandise and Manufacturing Inventory.

#### **1.1 Merchandise Inventory**

It is the inventory of trading goods held by the trader.

#### **1.2 Manufacturing Inventory**

It is the inventory held for manufacturing and selling of goods. Based on the value addition or stage of completion, the manufacturing inventories are further classified into 3 types of inventory – Raw Material, Work-In-Progress, and Finished Goods. Another type is MRO inventories which are to support the whole manufacturing and administrating operation.



**Fig. 3.1 Types of Inventory**

### 1.3 Raw Materials

These are the materials or goods purchased by the manufacturer. Manufacturing process is applied on the raw material to produce desired finished goods. For example, aluminum scrap is used to produce aluminum ingots. Flour is used to produce bread. Finished goods for someone can be raw material for someone. For example, the aluminum ingot can be used as raw material by utensils manufacturer. The business importance of raw material as an inventory is mainly to protect any interruption in production planning. Other reasons can be availing price discount on bulk purchases, guard against market shortage situation, etc.

### 1.4 Work-In-Progress (WIP)

These are the partly processed raw materials lying on the production floor. They may or may not be saleable. These are also called semi-finished goods. It is unavoidable inventory which will be created in almost any manufacturing business. This level of this inventory should be kept as low as possible. Since a lot of money is blocked over here which otherwise can be used to achieve better returns. Speeding up the manufacturing process, proper production planning, customer and supplier system integration etc can diminish the levels of work in progress. Lean management considers it as waste.

### **1.5 Finished Goods**

These are the final products after manufacturing process on raw materials. They are sold in the market. There are two kinds of manufacturing industries. One, where the product is first manufactured and then sold. Second, where the order is received first and then it is manufactured as per specifications. In the first one, it is inevitable to keep finished goods inventory whereas it can be avoided in the second one.

### **1.6 Packing Material**

Packing material is the inventory used for packing of goods. It can be primary packing and secondary packing. Primary packing is the packing without which the goods are not usable. Secondary packing is the packing done for convenient transportation of goods.

### **1.7 MRO Goods**

MRO stands for maintenance, repair, and operating supplies. They are also called as consumables in various parts of the world. They are like a support function. Maintenance and repairs goods like bearings, lubricating oil, bolt, nuts etc are used in the machinery used for production. Operating supplies mean the stationery etc used for operating the business.

### **Other Types of Inventories are classified on various basis are as follows:**

Materially, there are 4 types of inventories only as explained above. Following types of inventories are either the reasons to hold those 4 basic inventory or business requirement for the same. Some of them are suitable strategies for certain businesses.

### **2. Goods in Transit**

Under normal conditions, a business transports raw materials, WIP, finished goods etc from one site to other for various purpose like sales, purchase, further processing etc. Due to long distances, the inventory stays on the way for days, weeks and even months depending on distances. These are called Inventory / Goods in Transit. Goods in transit may consist of any type of basic inventories.

### **3. Buffer Inventory**

Buffer inventory is the inventory kept or purchased for the purpose of meeting future uncertainties. Also known as safety stock, it is the amount of inventory besides the current inventory requirement. The benefit is smooth business flow and customer satisfaction and disadvantage is the carrying cost of inventory. Raw material as buffer stock is kept for achieving nonstop production and finished goods for delivering any size, any type of order by the customer.

#### **4. Anticipatory Stock**

Based on the past experiences, a businessman is able to foresee the future trends of the market and takes certain decisions based on that. Expecting a price rise, a spurt in demand etc some businessman invests money in stocking those goods. Such kind of inventory is known as anticipatory stock. It is normally the raw materials or finished goods and this strategy is executed by traders.

#### **5. Decoupling Inventory**

In manufacturing concern, plant and machinery should always keep running. The act of stopping machinery, costs to the entrepreneur in terms of additional set up costs, repairs, idle time depreciation, damages, trial runs etc. The reason for halt is not always demand of the product. It may be because of availability of input. In a production line, one machine/process uses the output of other machine/process. The speed of different machines may not always integrate with each other. For that reason, the stock of input for all the machines should be sufficient to keep the factory running. Such WIP inventory is called decoupling inventory.

#### **6. Cycle Inventory**

It is a type of inventory accumulated due to ordering in lots or sizes to avoid carrying the cost of inventory. In other words, it is the inventory to balance the carrying cost and holding cost for optimizing the inventory ordering cost as suggested by Economic Order Quantity (EOQ).

### **INVENTORY COST**

The cost of holding goods in stock. Expressed usually as a percentage of the inventory value, it includes capital, warehousing, depreciation, insurance, taxation, obsolescence, and shrinkage costs.

#### **TYPES OF INVENTORY COST**

Inventory must be viewed as a positive contributor to corporate profitability. To that end, management must determine when various items should be ordered, how much to order each time, and how often to order to meet customer needs while minimizing associated costs. There are three types of costs that must be considered in setting inventory levels:

##### **1. Holding\Carrying cost**

They are expenses such as storage, handling, insurance, taxes, obsolescence, theft, and interest on funds financing the goods. These charges increase as inventory levels rise. To minimize carrying costs, management makes frequent orders of small quantities. Holding costs are commonly assessed as a percentage of unit value, rather than attempting to derive

monetary value for each of these costs individually. This practice is a reflection of the difficulty inherent in deriving a specific per unit cost, for example, obsolescence or theft.

## **2. Ordering costs**

Ordering costs are those fees associated with placing an order, including expenses related to personnel in purchasing department, communications, and the handling of related paper work. Lowering these costs would be accomplished by placing small number of orders, each for a large quantity. Unlike carrying costs, ordering expenses are generally expressed as a monetary value per order.

## **3. Stock-out costs**

They include sales that are lost, both short and long term, when a desired item is not available; the costs associated with back ordering the missing item; or expenses related to stopping the production line because a component part has not arrived. These charges are probably the most difficult to compute, but arguably the most important because they represent the costs incurred by customers when an inventory policy falters. Failing to understand these expenses can lead management to maintain higher inventory levels than customer requirements may justify.

## **INVENTORY CONTROL SYSTEM DESIGN**

The process followed regarding the purchase, store and issue of material for controlling the production cost is called the inventory control system design. The purchase process of material includes the preparation of the requisition, selection of the suppliers, placing the purchase order, receipt and inspection of materials and payment of bills. Under storing, the structure and location of the store as well as recording of the inventory are included. Issue of material involves availing the inventories, evaluating the inventories and recording the issue. The main objectives of the inventory control systems design are as follow.

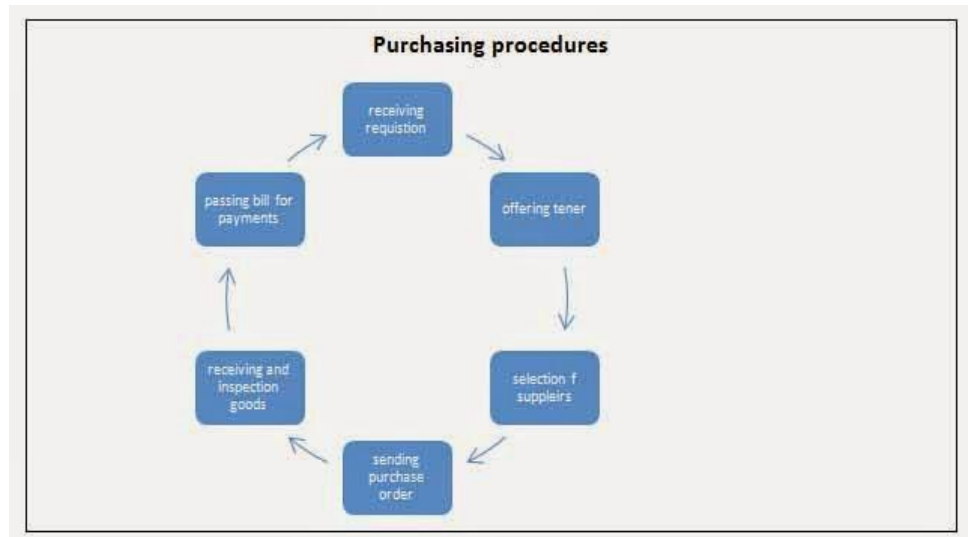
1. To purchase the inventory by the authorized persons.
2. To purchase the inventories according to the quality needed.
3. To avail the suitable and facilities for store keeping.
4. To stop the unauthorized use of materials.
5. To ensure that the materials as per the records reconcile with the materials that actually exist in store.

### **1. Purchasing procedures**

Material is a major component for any organization since it affects the production, quality of products, priced and sales. Thus, a systematic process is developed for the purchase



of materials; purchase includes the identification of the material to be purchased, selection of the appropriate suppliers, sending the purchase order, examination of the materials to ensure that they are as per purchase order and payment of bills. The department involved in the purchase of material is called the purchase department. The purchase procedures are mentioned below:



**Fig. 3.2 Purchasing Procedures**

**The purchase department performs the following activities.**

1. To avail the materials regularly.
2. To purchase qualitative materials in harmonized conditions.
3. To purchase the materials in economic order quantities and remove the over and under stocking of materials.
4. To maintain a cordial relationship with the suppliers.
5. To update and avail the information on supply, quality, price, purchase procedures, terms of payments, carriage process etc.

## **2. Receiving purchase requisition**

The first step of a purchase procedure is receiving the purchase requisitions. It is a request made by various departments to the purchase department for purchase the requirement materials. Such purchase requisition is verified by the chief of the concerned department in which the details about the materials like quantity, codes etc are mentioned. The specimen of the purchase requisition is given below:

<b>... Company limited</b>				
<b>Purchase requisition</b>				
<b>Department</b>				
From: .....			Purchase requisition No.....	
To. Purchase department			purchase order No.....	
Please order the items listed below.			Date .....	
Serial No.	Description of article	Store code no.	Quantity required	Remarks
Requested by .....			Approved by .....	
<b><u>For use in purchase department</u></b>				
Quotation invited on .....				
From: .....				
Other action .....			Purchase officers: .....	

**Fig. 3.3 Receiving purchase requisition**

### 3. Selection of suppliers

The second step of the purchase procedure is the selection of the appropriate suppliers. To look for the possible suppliers, quotations or tenders are invited. A tender involves the price, quality and other terms and conditions related to the materials. The form developed to get the required information regarding the materials to be purchased is called the tender form.

<b>... Company limited</b>						
<b>Tender form</b>						
Indent No. ....			Tender No. ....			
			Date .....			
To,						
.....						
Dear sir/madam,						
We are interested in purchase of the following materials. Please quote us your terms, conditions and delivery status. The tender closes on .....At.....and will be opened at ..... <u>On the next day.</u>						
Yours faithfully						
Purchase officer						
Serial No.	Description of the items	quality	quantity	price	Term of delivery	Other terms

**Fig. 3.4 Selection of suppliers**

After analyzing the tender forms received from all the probable suppliers, analysis is made to select the suppliers intending to supply the materials at the lowest price and the most favorable conditions. Beside these, the financial soundness, capacity to supply, reliability and continuity of the suppliers are also considered to select a supplier.

#### 4. Sending purchase order

After selecting the suitable suppliers, purchase order is sent to get the needed materials. It is a required made to the suppliers to send the material as per the stated price and quantity. The specimen of purchase order is as below.

**... Company limited**

No..... purchase order  
Date.....

To (suppliers) purchase requisition no. ....

Your quotation no. .... Dated .... Has been accepted. Please supply the following items of stores in accordance with the instructions mentioned therein and terms and listed on the reverse of this purchase order.

Serial No.	description	quantity	rate	Total cost	Delivery date	Remarks

Terms of delivery .....

Term of payment.....

Packing and dispatch instruction .....

**Fig. 3.5 Sending purchase order**

Each purchase order is made is 5 copies. The first copy is send to the suppliers, the second to the person or department demanding the purchase, the third to the department receiving the materials, the fourth to the accounts department and the final copy is kept purchase department itself.

#### 5. Receiving and inspecting materials

The fourth step of a purchase procedure is to received and inspect the materials send by the supplier. It has to be ensured that the materials are as per the purchase order and there is no damage during the carriage. After inspecting the materials, a report is prepared and the first copy of such report is send to the purchase department, the second to the account department and the third to the department receiving the materials. The specimen of an inspection form is as under:

**... Company limited**

**Materials inspection report**

No. .... Goods received note no. ....  
Date ..... Date .....

Purchase order no..... suppliers name.....

s.no.	description	Code no.	Quantity received	accepted	rejected	Remarks for rejection

Special remarks ..... Inspection .....

**Fig. 3.6 Materials Inspection Report**

Before storing the materials, a statement of the materials received is prepared which is called the goods receipt note in which the code, price and quantity of the materials are mentioned.

Stores (goods) received note						
Supplier's note.....				No. ....		
Purchase order No.....				date .....		
s.no.	description	Code no.	Quantity	date	amount	Remarks
Received by.....				Inspected by.....		
Storekeeper.....						
Store ledger posted by.....						

**Fig. 3.7 Stores (goods) received note**

## 6. Passing bill for payment

This is the last process of a purchase procedure. The final approval for the bill of materials to be paid to the suppliers and eventually the account section makes payment of the same.

### Example: 2

A manufacturing company has an expected usage of 50,000 units of certain product during the next year. The cost of processing an order is Rs 20 and the carrying cost per unit is Rs. 20 and the carrying cost per unit is Re.0.50 for one year. Lead time on an order is five days and the company will keep a reserve supply of two days' usage. You are required to calculate (a) the economic order quantity and (b) the order point (Assume 250 – day year)

### Solution

(a) The economic order quantity is

$$EOQ = \frac{\sqrt{2 AQ}}{C}$$

$$\frac{\sqrt{2 \times 50,000 \times 20}}{0.50}$$

$$\sqrt{40,00,000}$$

$$2,000 \text{ units}$$

(b) The order point is

$$\text{Daily usage} = 50,000 / 250 = 200 \text{ units}$$

$$\text{Reorder point} = \text{Safety stock} + \text{Lead time} \times \text{Usage}$$

$$= 2 (200) + 5 (200) = 400 + 1000 = 1400$$

**Example: 3**

A customer has been ordering 5,000 units at the rate of 1,000 units per order during last year. The production cost is Rs 12 per unit – Rs 8 for materials and labour and Rs 4 overhead cost. It costs Rs. 1,500 to set up for one run of 1,000 units and inventory carrying cost is 20% of the production cost. Since this customer may buy at least 5,000 units this year, the company would like to avoid making five different production runs. Determine the most economic production run.

**Solution**

The most economic run is

$$\begin{aligned}
 &= \sqrt{\frac{2 \times 5,000 \times 1,500}{12 \times 20\%}} \\
 &= \sqrt{\frac{2 \times 5,000 \times 1,500}{2.40}} \\
 &= \sqrt{\frac{1,500,000}{2.40}} \\
 &= \sqrt{6,250,000} \\
 &= 2,500 \text{ units.}
 \end{aligned}$$

**Example: 4**

A company is considering a selective inventory control using the following data:

Item	Units	Unit Cost (Rs)
1	6,000	4.00
2	61,200	0.05
3	16,800	2.10
4	3,000	6.00
5	55,800	0.20
6	22,680	0.50
7	26,640	0.65
8	14,760	0.40
9	20,520	0.40
10	90,000	0.10
11	29,940	0.30
12	24,660	0.50

Assuming the ABC analysis of selective control is indicated, arrange the data for presentation to the management.

**Solution**

	Item	Units	% of Total Units	Unit Cost (Rs)	Total Cost (Rs)	% of Total Cost
A	3	16,800	4.52	2.10	35,280	21.43
	1	6,000	1.61	4.00	24,000	14.58
	4	3,000	0.81	6.00	18,000	10.94
	7	26,640	7.16	0.65	17,316	10.52
			14.10%			57.47%
B	12	24,660	6.63	0.50	12,330	7.49
	6	22,680	6.10	0.50	11,340	6.89
	5	55,800	15.00	0.20	11,160	6.78
	10	90,000	24.19	0.10	9,000	5.47
	11	29,940	8.05	0.30	8,982	5.46
	9	20,520	5.51	0.40	8,208	4.99
			65.48%			37.08
C	8	14,760	3.97	0.40	5,904	3.59
	2	61,200	16.45	0.05	3,060	1.86
			20.42%			5.45

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## UNIT-IV

### WORKING CAPITAL-MEANING AND DEFINITIONS

Money is required equally for purchasing fixed assets as well as for operating functions of a company. For operating day-to-day business activities money is used for procuring raw materials, processing these into completed goods and finally handing over the same to the customers. The finance for meeting such working expenditure is frequently referred to as 'working capital'. Working capital also refers to the circulating capital essential to meet the routine operations of a company.

#### WORKING CAPITAL DEFINED BY SOME OF AUTHORS IS AS FOLLOW:

1. "Working capital refers to a firm's investment in short term assets such as cash amounts receivables, inventories etc".-- **Weston & Brigham**
2. "Working capital means current assets"--**Mead, Baker and Malott**
3. "The sum of the current assets is the working capital of the business". -- **J.S. Mill**
4. "Working capital is the amount of funds necessary to cover the cost of operating the enterprise. Working capital in a going concern is a revolving fund; it consists of cash receipts from sales which are used to cover the cost of current operations"-- **Johan A. Shubin**
5. "Working capital is made up of combination of several current assets, such as cash, inventory, and accounts receivable, and is used to identify a business's liquidity condition"-  
**Steve Martin.**
6. "Working capital, in simple term, is the amount of funds which a company must have to finance its day to day operations. It can be regarded as that proportion of company's total capital which is employed in short term operations"— **V.E.Ramamoorthy.**

Working capital is surplus of the current assets in excess of current liabilities and provisions. However as stated in accounting terminology, it is variation between the inflow and outflow of money. Working capital includes stocks of material, fuels, work in progress, completed commodities, by-products, cash in hand, bank balance, loan & advance and receivables. The term "**working capital**" is frequently referred to "**circulating capital**" which is often used to indicate those possessions which are altered with relative velocity from one form to another i.e. beginning from cash, altering to raw materials, converting into work in progress and completed goods, sale of finished goods and finally back to cash with receipt of cash from debtors. Working capital has been described as the "life blood" of any business which is appropriate since it constitutes a clockwork-like flowing watercourse throughout the business.

## **WORKING CAPITAL-CONCEPT**

There are two concepts of working capital, that is to say gross concept and net concept, which are elaborated as under

### **1. Gross working capital**

According to this concept, gross working capital refers to the company's outlay in current assets. Current assets are those assets which can be transformed into cash during an accounting period and comprise cash, short-term securities, receivable, loan & advance and inventory. The sum of current liabilities is not subtracted from the total of current assets. This concept views Working Capital and total of Current Assets as two identical terms. This concept is also treated as '**Current Capital**' otherwise '**Circulating Capital**'. One additional facet of the gross working capital points to the call for arranging finances to funding current assets. Whenever a requirement for working capital funds occurs owing to the escalating intensity of company operation or for any supplementary reason, funding arrangement ought to be made immediately. Similarly, if suddenly, some spare sources occur these should not be permitted to stay idle, but must be invested in temporary securities. Thus the financial executive is supposed to have information about the origin and sources, of working capital funds as well as alternative outlay where redundant sources may be for the time being, are invested.

### **2. Net working capital**

According to this concept, net working capital refers to the difference between current assets and current liabilities. Current liabilities are those claims of outsiders, which are likely to be paid within a financial year and usually comprise creditors, bills payable, bank loans and outstanding expenditure. Net working capital may be positive or negative. When current liabilities are in excess of current assets, then negative working capital arises. Net working capital is a qualitative concept. It shows the liquidity situation of the company and presages the level to which working capital requirements will possibly be financed by fixed sources of funds. Current assets supposed to be adequately in surplus of current liabilities to provide an edge or buffer for meeting obligations within the normal operating cycle of a company's operation. Sequentially to defend their interests, short-term creditors always like a company to preserve current assets at an upper level than current liabilities. However the eminence of current assets ought to be well thought-out in deciding the stage of current liabilities. However, the superiority of current assets ought to be measured in deciding the level of current assets vis-a-vis current liabilities. Poor liquidity situation poses a danger to the solvency of the company and makes it insecure. A negative working capital leads to



negative liquidity, and possibly will confirm to be dangerous for the company's goodwill. Too much liquidity is also not good. It possibly will be owing to negligence in management of current assets. Therefore, without delay and appropriate action ought to be taken by administration to get better and correct the imbalances in the liquidity position of a company. Net working capital concept also covers the query of well judged blend of long-term and short-term sources for funding current assets. For each company, there is a small amount of net working capital which is fixed. Therefore, a segment of the working capital ought to be funded with the equity share capital, debentures, long-term loans, preference share capital or plough back of profits. Administration may, therefore, take a decision to the extent by which current assets ought to be funded with equity capital and/or on loan capital. The two concepts of working capital-gross and net are not exclusive; relatively these have equivalent importance from the administration viewpoint. The gross working capital concept concentrates notice on aspects of current assets management as to how to optimize outlay in current assets and how to finance the current assets. The contemplation of the altitude of outlay in current assets should be just at optimal level, not more nor less, to the requirements of the company. Too much outlay in current assets ought to be avoided since it impairs the company's viability, as inoperative outlay produces nothing. Alternatively, insufficient amount of working capital can intimidate solvency of the company since its incapability to pay its current liabilities. It ought to be sensed that the working capital requirements of the company may be changeable with varying operational activities. It possibly will cause surplus or scarcity of working capital recurrently. The administration should be quick to kick off an action and set the imbalances right. In a nutshell it may be pertinent, to note that both gross and net concepts of working capital are evenly significant for the resourceful administration of working capital. There is no short cut way to decide the accurate quantity of gross or net working capital for any company. The data and problems of every company ought to be analyzed to decide the quantity of working capital. There is no precise regulation as to how current assets ought to be funded. It is not viable to put into practice, the financing of current assets by short-term funds only. Keeping in mind the parameters of the company, a well judged blend of long and short-term funds ought to be invested in current assets. In view of reality, those current assets occupy cost of funds; these ought to be put to creative use.

### **WORKING CAPITAL CONTROL**

Working Capital Control, Philip E Dunn Many members will be in some way involved with the control of Working Capital and its influence upon business success. Working capital is a key element in business success. Successful business is about investing

in the right ideas, the right equipment, and the right people. And to invest, businesses need capital – either from the owners, from retained profits or from others willing to advance credit or loans.

There are two types of capital need: for ‘fixed capital’ to invest in things such as buildings, plant and equipment; and ‘working capital’ principally to pay for stock and to cover the amount of credit extended to customers.

**Long Term capital**, as the name implies, tends not to vary in the short term but to move up (or down) in jumps when major investment decisions are made (or assets sold). Working capital, on the other hand, is much more fluid and fluctuates with the level of business. The working capital cycle links directly with the cash operating cycle.

**Working capital** comprises short term net assets; stock, debtors, and cash, less creditors. Working capital management then is to do with management of all aspects of both current assets and current liabilities, so as to minimise the risk of insolvency while maximising return on assets.

Even profitable companies fail if they have inadequate cash flow. Liabilities are settled with cash not profits. The primary objective of working capital management is to ensure that sufficient cash is available to:

- i. Meet day-to-day cash flow needs;
- ii. Pay wages and salaries when they fall due;
- iii. Pay creditors to ensure continued supplies of goods and services;
- iv. Pay government taxation and providers of capital – dividends; and
- v. Ensure the long term survival of the business entity.
- vi. Poor working capital management can lead to:
- vii. Over-capitalisation (and therefore waste through under utilisation of resources and hence poor returns); and
- viii. Overtrading (trying to maintain a level of sales which is higher than working capital can sustain – for businesses which extend credit terms, more sales means more debtors and higher working capital demands).

Characteristics of over-capitalisation are excessive stocks, debtors, and cash, low return on investment with long term funds tied up in non-earning short term assets. Overtrading leads to escalating debtors and creditors, and if unchecked, ultimately to cash starvation. Taking control of working capital means focusing on its main elements.

Control of the debtors element (the amount owed the business in the short term) involves a fundamental trade-off between the cost of providing credit to customers (which

includes financing bad debts and administration), and the additional net revenue that can be earned by doing so. The former can be kept to a minimum with effective credit control policies which will require:

- i. Setting and enforcing credit terms;
- ii. Vetting customers prior to allowing them credit;
- iii. Setting and reviewing individual credit limits;
- iv. Efficient invoicing and statement generation;
- v. Prompt query resolution;
- vi. Continuous review of debtors position (generating 'aged debtors' reports;
- vii. Effective chasing and collection procedures; and
- viii. Limits beyond which legal action will be pursued.

Before allowing credit to a new customer trade and bank references should be sought. Accounts can be asked for and analysed and a report including any county court judgements against the business and a credit score asked for from a credit rating business (such as Dun and Bradstreet). Salesmen's views can also be canvassed and the premises of the potential customer visited.

The extent to which all means are called upon will depend on the amount of the credit sought, the period, past experiences with this customer or trade sector, and the importance of the business that is involved. But this is not a one-off requirement. One classic fraud is to start off with small amounts of credit, with invoices being settled promptly, eventually building up to a huge order and a disappearing customer.

Credit checking, even for established customers, should therefore feature in regular procedures. When the creditworthiness of a new customer is established positive credit control calls for the setting of a credit limit, any settlement discounts, the credit period and credit charges (if any). Collection is a vital element of credit control and must include standard, polite and well constructed reminder letters, effective follow-up telephone or e-mail follow up. Use of collection agencies should be considered. As could factoring – in its most comprehensive form a loan facility based on outstanding invoices plus a sales ledger and debtors control service. Efficient control of debtors will assist cash flow, and help keep overdraft or other loan requirements down, and hence reduce interest costs. Debtors represent future cash – or they should do if property credit control policies are pursued. Likewise stock will eventually become cash, but in the meantime represents working capital tied up in the business. Keeping levels to the minimum required for efficient operations will keep costs down. This means controlling buying, handling, storing, issuing and recording stock. Inherent

in any system of inventory control is the concept of appropriate stock levels – normally expressed in physical units sometimes in monetary terms. The objective of establishing control levels is to ensure that excessive stocks are never carried (and working capital thereby sacrificed) but that they never fall below the level at which they can be replenished before they run out.

**The factors to be consider when establishing the control levels are:**

- i. Working capital available and the cost of capital;
- ii. Average consumption or production requirements;
- iii. Reordering periods – the time between raising an order and receiving delivery of goods;
- iv. Storage space available;
- v. Market conditions;
- vi. Economic order quantity (including discounts available for quantity);
- vii. Likely life of stock – bearing in mind the possibility of loss through deterioration or obsolescence; and
- viii. The cost of placing orders including generating and checking the necessary paperwork as well as physical checking and handling procedures
- ix. Control policies should include designating responsibility for raising and authorising orders, signing delivery notes and authorising payment of invoices. Four basic levels will need to be established for each line/category of stock. There are the:
  - x. Maximum level (achieved at the point a new order of stock is physically received);
  - xi. Minimum level – the level at point just prior to delivery of a new order (sometimes called buffer stocks – those held for short term emergencies);
  - xii. Reorder level – point at which a new order should be placed so that stocks will not all below the minimum level before delivery is received; and the
  - xiii. Reorder quantity or economic order quantity – the quantity of stock which must be reordered to replenish the amount held at the point delivery arrives up to the maximum level.

Once these controls are implemented an efficient system of recording receipts and issues is vital to exercise full control of inventories. Trade creditors, amounts owed by the business for supplies and services, are a plus in the working capital equation. The higher the figure, the more has been extended by others (usually at no cost) towards working capital needs. But there are limits to the good news. Firms that go beyond agreed credit limits run into trouble; they lose out of cash discounts, can incur interest charges, upset their suppliers

who may refuse future orders, may damage their credit rating, and even find themselves in court with additional costs and penalties to pay. Credit periods vary from industry to industry with usual terms ranging from 28 days to 90

Just as in credit control, a settlement policy has to be in place so that invoices are properly authorised for payment (after any queries have been answered and credits claimed), and so that they can be paid when due with appropriate discounts deducted. Again, an eye has to be kept on the overall position with appropriate reports generated. Cash is both the balancing figures between debtors, stock and creditors, and also the control element. It is not possible to extend credit, order stock or pay creditors if there is not the cash available to meet working capital demands. There are two levels of control. The first concerns efficient banking – making sure money received is banked as soon as possible, making payments the most efficient way, and ensuring any surplus balances are put to interest earning use. Here the liquidity, risk and return of investments must all come into play with the length of time before funds are needed playing an important role. More fundamental than this is cash flow control – making sure funds are available when needed. In the short term this is best achieved by preparation of weekly or monthly forecasts for comparison with actual results. If these forecasts indicate unacceptable balances or deficits are likely at some point it will be necessary to decide how these can be covered. Immediate solutions will include increased borrowing, rescheduling plans and payments, or even sale of an asset. Longer term cash flow control will embrace all aspects of the business including working capital and fixed capital control, capitalisation, trading and dividend policy. For example it may be able to improve cash flow by improvements in operating efficiency or higher sales prices, improved working capital control, or revised fixed asset investment plans.

Cash flow forecasts form an integral part of the budgeting process. The objectives of the cash budget are to:

- i. Integrate trading and capital expenditure budgets with cash plans;
- ii. Anticipate cash surpluses and deficits in time to generate plans to deal with these; and
- iii. Provide a facility for comparison between budget and actual outcomes.

Top level bookkeepers have an important part to play in all aspects of working capital control – through internal control procedures (such as invoice authorisation) and through reporting processes (such as production of ‘aged debtors’ lists and cash flow forecasts).

They can also bring analytical skills into play, typically by use of ratio analysis. Various ratios are considered important indicators of working capital strength (and can be applied internally or to potential customers).

A broad indication of a firm's short term ability to finance its continued trading can be obtained by applying the 'current ratio'. This is a straight comparison of current assets and current liabilities. If the latter should be less than the former, it is worth looking further. Many businesses operate this way when they start, often for long afterwards, sometimes always. Much will depend on the type of trade and the nature of both current liabilities and current assets. For example a large element of prepayments to creditors will mean they will not be repaid but will be earned over time. On the other hand, debtors escalating at a faster rate than sales growth could indicate poor credit control and possible bad debt problems. Generally when it comes to current assets, cash is the most valuable element (it is immediately available to settle bills), and debts are more valuable than stock (they are nearer to being turned into cash). Hence the tougher test – the 'acid test' – excludes the stock element from current assets. If current assets less the stock element total less than current liabilities the business, on the face of it, may not be able to settle its creditors as they fall due. And that suggests more finance might be needed, better working capital control will be required, or insolvency may be looming.

## **RATIOS USED IN CONTROL IN WORKING CAPITAL**

### **INTRODUCTION**

The role of working capital in business is akin to that of a heart in the human body. Funds are the life blood of business body. Just as the heart circulates the blood to various organs of the body, funds are rotated to various business activities through proper working capital management and any obstruction in the smooth rotation of funds, may cause serious problems in business operations. Funds may be generated from issue of shares long term and short term borrowings and ploughing back of the earnings of business and may be utilized to pay for purchase of raw material wages and overheads etc. A specialty of utilization of funds is that they are of recurring nature, so efficient working capital management requires a proper balance of generation and circulation of these funds without which either scarcity of funds will cause obstruction in the smooth functioning of the organization or excess funds will prevent the organization from conducting its business efficiently.

### **MEANING OF RATIO**

Ratio is a simple mathematical expression of relationship between two related items in quantitative form. It may be a number expressed in terms of another number. The relationship between two figures may be expressed as quotient or a rate of percentage i.e. say 2:1 or 2 times or 200% A ratio is a mathematical relationship between two quantities. It is of

major importance, for financial analysis. It engages qualitative measurement and precisely how adequate is one key item in relation to another.

The ratios however reveal the relationship in a more meaningful way so as to enable one to draw cogent conclusions from them. It also facilitates intra and inter- firm comparisons. Therefore, the rationale of ratio analysis lies in the fact that it makes related information comparable. A single figure by itself has no meaning, but when expressed in terms of a related figure, it yields significant inferences. Some of the important ratios useful

#### **a) Net Working Capital (NWC)**

NWC represents the excess of Current Assets over Current Liabilities. A firm should have adequate NWC for meeting the claims of creditors and meeting its day - to - day needs. The term Current Assets refers to assets which in the normal course of business get converted into cash over a short period, usually not exceeding one year. Current Liabilities are those liabilities which are required to be paid in a short period, normally a year.

Net working capital tells the business about how the assets are funded. In a narrow sense, the term working capital refers to the net working capital (NWC) or liquid surplus which is the difference between current assets and current liabilities. It is the excess of long term funds over long term uses. When the current assets exceed the current liabilities, the NWC is positive and when the current liabilities are more than the current assets, it would become negative. The net working capital should be higher than 1:1 to ensure sufficient liquidity and availability of working funds. Inadequate NWC entails liquidity constraints. The net working capital concept, however, is also important for following reasons:

- i) It is qualitative concept, which indicates the firm's ability to meet to its operating expenses and short-term liabilities.
- ii) It indicates the margin of protection available to the short term creditors.

#### **b) Current Ratio (CR)**

CR is defined as a ratio of current assets to current liabilities. If the ratio is 1, it means that the current asset and liabilities are equal. If it is more than one, it indicates that some long terms funds have been used to fund the current assets. If current ratio is 1, Net Working Capital is zero, and if it is less than one, NWC is negative. The CR can be worked out as:-

$$\text{Current Ratio: } \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Although there is no hard and fast rule, conventionally, a current ratio of 2:1 is considered satisfactory. In Indian conditions, 1.33 is considered as an acceptable current ratio. A persistent trend of poor current ratio (of less than 1) is a warning signal of impending sickness.

### c) Acid Test/Quick Ratio

The Acid Test Ratio is a more stringent measure of liquidity than the CR. It is expressed as a ratio of all the current assets excluding inventory to the current liabilities. It is also referred as Quick Ratio. The ratio is computed as:

$$\text{Acid Test Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}}$$

#### Quick Assets include

- Cash and bank balances
- Short term marketable securities
- Debtors/receivables

Generally, an Acid Test Ratio of 1:1 is considered satisfactory as a firm can meet its current claims.

### d) Cash Ratio

The severest measure of liquidity of a firm is the ratio of cash and marketable securities to that of current liabilities. The ratio is being computed as:-

$$\text{Cash Ratio} = \frac{\text{Cash + Marketable Securities}}{\text{Current Liabilities}}$$

Cash Ratio is the most stringent measure of the firm's liquidity. It denotes the extent to which cash and marketable securities are sufficient to meet current liabilities.

### e) Debt Equity Ratio

The relationship between borrowed funds and owner's capital is a popular measure of long term financial solvency of a firm. The DER is a financial ratio indicating the relative proportion of entity's equity and debt used to finance an entity's assets. It is also known as financial leverage ratio. The ratio is the key financial ratio and is used as a standard for judging a company's financial standing. It is also a measure of a company's ability to repay its obligations. When examining the health of a company, it is critical to pay attention to the DER. If the ratio is increasing, the company is being financed by creditors rather than from its own financial sources which may be a dangerous trend. The ratio is being calculated as:-

$$\text{Debt Equity Ratio} = \frac{\text{Total outside liabilities}}{\text{Tangible Net worth}}$$



Tangible Net worth is calculated as Capital + Free Reserve – intangible asset. Lower values of debt-to-equity ratio are favorable indicating less risk. Higher debt-to-equity ratio is unfavorable because it means that the business relies more on external lenders thus it is at higher risk, especially at higher interest rates. Optimal DER is considered to be about 1, i.e. liabilities = equity, but the ratio is very industry specific because it depends on the proportion of current and non-current assets.

Generally banks prefer a ratio below 3:1. In the case of SME the ratio can be relaxed to 4:1. In Medium scale Industries, it could be kept at 2:1 and large scale industries, it shall be 1:1. The main purpose of this ratio is to ascertain the relative financial stakes or skin in the business of the owner's vis-à-vis the creditors and banks.

#### **f) Funded Debt Equity Ratio**

Funded Debt Equity Ratio shows the relation between term liabilities and equity. It is computed as:-

$$\text{Funded Debt Equity Ratio} = \frac{\text{Total Term Liabilities}}{\text{Net Worth}}$$

Industry ratios should be used as norms for comparison. A funded debt equity ratio is relevant in the case of new projects. For financing a new project, the source is either equity or funded debt. Obviously the owners should have a reasonable stake in financing the enterprise.

#### **g) Debt Service coverage Ratio (DSCR)**

DSCR is a measure of the unit's capacity/ability to service its debt obligations. Higher the coverage safer is the unit from the bankers' perspective. It is worked out as:-

$$\text{DSCR} = \frac{\text{Net profit} + \text{Depreciation} + \text{Interest on Term Loan}}{\text{Interest on Term Loan} + \text{Installment}}$$

DSCR for a term loan is calculated for the years over which the loan is repayable. If the average DSCR over the life of the loan (i.e. the cumulative numerical divided by the cumulative denominator for the entire period of loan) is at a satisfactory level then the company is considered able to service the term loan. The ratio shall be minimum 1.5. If the average DSCR is satisfactory but in the initial years the ratio is less than 1.5, the bank may consider smaller term loan instalments for the earlier years and increase it in the later years.

#### **h) Gross Profit Ratio**

The ratio is used to find out the overall profitability of the firm. The ratio can be calculated as:-

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$$

The basic components for the calculation of gross profit ratio are gross profit and net sales. Net sales mean that sale minus sales returns. Gross profit would be the difference between net sales and cost of goods sold. Gross profit ratio may be indicated to what extent the selling prices of goods per unit may be reduced without incurring losses on operations. It reflects efficiency with which a firm produces its products. As the gross profit is found by deducting cost of goods sold from net sales, higher the gross profit better it is.

### **i) Net Profit Margin**

The ratio shows the relation between the final profits of the company to sales. For the purpose of this ratio, net profit is equal to gross profit minus operating expenses and income tax. This ratio is being computed as:-

$$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Net Sales}} \times 100$$

Net profit (NP) ratio is a useful tool to measure the overall profitability of the business. A high ratio indicates the efficient management of the affairs of business. There is no norm to interpret this ratio.

### **j) Retained profit/net profit**

This ratio is known as retention ratio or sometimes referred to as the plowback ratio or retained surplus ratio. This is the amount of retained earnings relative to total earnings. This indicates the percentage of net earnings not paid out as dividends, but retained by the unit to be reinvested in its core business or to pay debt. Such retention will go to improve the net worth. The ratio is calculated as:-

$$\text{Retained Profit/Net Profit Ratio} = \frac{\text{Net Income} - \text{Dividend}}{\text{Net Income}} \times 100$$

### **k) Interest Coverage Ratio (ICR)**

The interest coverage ratio (ICR) is a measure of a company's ability to meet its interest payments. Interest coverage ratio is equal to earnings before interest and taxes (EBIT) for a time period, often one year, divided by interest expenses for the same time period. ICR also known as Times Interest Earned Ratio (TIE), states the number of times a company is capable of bearing its interest expense obligation out of the operating profits earned during a period. The ratio is calculated as:-

$$\text{Retained Profit/Net Profit Ratio} = \frac{\text{EBIT}}{\text{Interest Obligation}}$$

The effect of taxation is normally ignored in the calculation. Lower the ICR, the higher the company's debt burden and the greater the possibility of bankruptcy or default. A higher ratio indicates a better financial health as it means that the company is more capable to meeting its interest obligations from operating earnings.

### **I) Return on Investment**

Return on investment (ROI) is performance measure used to evaluate the efficiency of investment. It compares the gains from investment directly to investment costs. The ratio is calculated as:-

$$\text{Retained Profit/Net Profit Ratio} = \frac{\text{Net profit after interest and tax}}{\text{Net Tangible Assets}}$$

The higher the measure, the better. ROI is an important ratio because of the underlying implication it holds for the growth prospects of the firm and its ability to attract capital.

### **M) Turnover Ratio**

Some of the turnover ratios are:

- Working Capital Turnover Ratio
- Inventory Turnover Ratio
- Debtors Turnover Ratio
- Creditors Turnover Ratio

#### **i) Working Capital Turnover Ratio**

The working capital turnover ratio is also referred to as net sales to working capital. It indicates a company's effectiveness in using its working capital. Working capital is defined as the total amount of current assets minus the total amount of current liabilities. While calculating the ratio, the average amount of working capital for the year is taken to that of net sales. Working capital turnover ratio is one of the few financial analysis tools you can use to determine the relationship between funds used to support operations and sales resulting from such operations. It can be calculated as:-

$$\text{Working capital Turnover} = \frac{\text{Net Sales}}{\text{Working Capital}}$$

This ratio indicates the number of times the working capital is turned over in a year. It measures the efficiency with which the working capital is used by the firm. A higher ratio indicates efficient utilisation and a low ratio indicates otherwise.

#### **ii) Inventory Turnover Ratio**

The inventory turnover ratio expresses the relationship between cost of goods sold and inventory. It measures the unit's efficiency in turning its inventory into sales. An

increasing ratio signifies better inventory management. It indicates the number of times, on an average, inventory is sold and replaced during the financial year. The ratio is calculated using the following formula:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

Inventory turnover ratio is used to measure the inventory management efficiency of a business. In general, a higher value of inventory turnover indicates better performance and lower value means inefficiency in controlling inventory levels.

The three components of inventory are raw material, stock-in-process, and finished goods. The turnover or number of days held is defined in terms of raw material consumption, cost of production, and cost of sales respectively to get more idea of the turnover inventory.

### iii) Debtors Turnover Ratio

Debtors' Turnover Ratio indicates the relationship between sales and debtors. It reflects the efficiency with which the debtors are turned over into cash. Improvement in the ratio speaks better receivables management. The debtors turnover ratio can be calculated by using the formula:-

$$\text{Debtors Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Trade Debtors}}$$

The Debtors' Velocity Ratio indicates the period of credit given by the unit to its customers in terms of days/weeks/months. It is being worked out as:-

Debtors Velocity = (Average Balance of Debtors ÷ Credit Sales during the year) \*

365 (\* 52 if result require in number of weeks/\*12 if required in months)

The ratio indicates the period of credit given by the company/firm to its customers in terms of days/weeks/months. A high ratio indicates efficient collections and low difficulty in debt realization. The ratio can be used as a measurement tool to know the speed of collection and efficiency of collection department. It will also enable to draw suitable policy for deciding the cash discount, profit planning, etc.

### iv) Creditors Turnover Ratio

Creditors' turnover ratio depicts the number of times average dues to the suppliers is settled. Higher the turnover, lower the payment period offered by the suppliers. The creditors' turnover ratio can be calculated as:

$$\text{Debtors Turnover Ratio} = \frac{\text{Net Credit Purchase}}{\text{Average creditors}}$$

The Creditors' Velocity Ratio indicates the period of credit received by the unit on its purchases from customers in terms of days/weeks/months. It is being worked out as:-

Creditors Velocity Ratio =  $(\text{Average Creditors} \div \text{Credit Purchases}) \times 365$  (or 52 if required in weeks or 12 if in months)

A low credit turnover ratio reflects liberal credit terms granted by suppliers, while a high ratio shows that accounts are to be settled rapidly.

## **FUND FLOW ANALYSIS IN WORKING CAPITAL CONTROL**

### **INTRODUCTION**

One of the most fundamental objectives of business is to make a profit. Long run survival requires that the business must be able to deal with any liquidity problems which arise in the short term. Basically any business must be concerned with making a profit and maintaining a solvent financial position. The financial statement of the business indicates assets, liabilities and capital on a particular date and also the profit or loss during a period. But it is possible that there is enough profit in the business and the financial position is also good and still there may be deficiency of cash or of working capital in business. If the management wants to find out as to where the cash is being utilized, financial statement cannot help.

In the other words, the profit and loss account and balance sheet statements are the common important accounting statements of a business organization. The profit and loss account provides the financial information relating to only a limited range of financial transactions entered into during an accounting period and which have impact on the profits to be reported. The balance sheet contains information relating to capital debt raised or assets purchased. Along with the information about the assets and liabilities as well as the profit and loss, it is equally important to know what funds became available during the accounting year and how such funds were applied. This information may be obtained by preparing a statement of source and application of funds. This statement demonstrates the movement of funds into and out of the business during the course during the accounting period.

### **CONCEPT OF "FUND"**

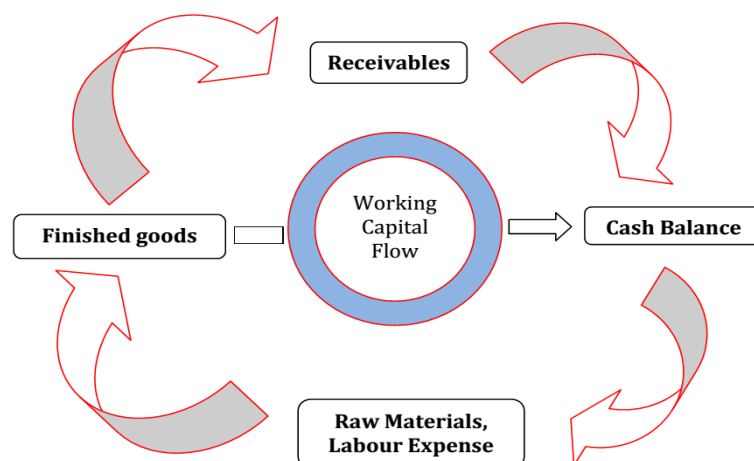
The term 'fund' has been defined and interpreted differently by different experts. Broadly the term 'fund' refers to all the financial resources of the company. On the other extreme, fund has been understood as 'cash' only. According to the **International Accounting Standard No. 7**, the term generally refers to cash, to working capital and to cash and cash equivalents (long term financial sources).

### a) Fund means cash

Under this concept, the term “funds” is used only in the sense of cash and bank balance. Here, only the changes in cash and bank are considered. Hence, the statement is called “Cash Flow statement. This statement aims at listing the various items which bring about changes in the cash balance between two balance sheet dates. Cash planning becomes useful for control purposes. Since cash is considered as short term assets, they are subjected to short term fluctuations. A delay in making payment to suppliers and a provision of one month’s credit for making a payment of land purchases may show sufficient cash flow. They may reflect a satisfactory position, but it is not a reality. Therefore, cash equivalent concept of fund is useful only for short term financial planning and not for long term. Thus cash and bank is one part of fund.

### b) Fund means Working Capital

Working capital is the excess of current assets over current liabilities. It means  $\text{working capital} = \text{Current assets} - \text{current liabilities}$ . It is an alternative measure of the changes in the financial position. All those transactions which increase or decrease working capital are included in this statement. It excludes all such items which do not affect the working capital. The working capital concept of funds is in conformity with normal accounting procedures. Hence, a funds flow statement based on this concept fits well with the other statements. Moreover, working capital is also a measure of short term liquidity of the firm. Therefore, an analysis of factors bringing about a change in the amount of net working capital is useful for decision making by shareholders, creditors and management. Due to these reasons, the working capital approach to funds is more useful than the cash approach. The operating cycle of working capital (working capital flow) is as follow:



**Fig. 4.1** The operating cycle of working capital (working capital flow)

### **C) Fund means total financial resources**

The term “funds” is very often used in the sense of useful financial resources also. Cash approach and working capital approach both are incomplete and inadequate to the extent that they omit a few major financial and investment transactions. Such items do not affect net working capital. But, if they are included, they would certainly provide qualitative information for the decision making, For example issuing equity shares and debentures for purchase of buildings or assets shall not have any effect on the working capital. But it is a significant financial transaction that should be disclosed. Therefore, this concept seems to be the best approach to disclose the changes in the financial position as compared to other concepts. It is in conformity with the statutory regulations and legal requirements.

### **CONCEPT OF FUND FLOW**

The term "Flow of Funds" refers to changes or movement of funds or changes in working capital in the normal course of business transactions. The changes in working capital may be in the form of inflow of working capital or outflow of working capital. In other words, any increase or decrease in working capital when the transactions take place is called as "Flow of Funds." If the components of working capital results in increase of the fund, it is known as Inflow of Fund or Sources of Fund. Similarly, if the components of working capital effects in decreasing the financial position it is treated as Outflow of Fund. For example, if the fund raised by way of issue of shares will be taken as a source of fund or inflow of fund. This transaction results in increase of the financial position. Like this, the fund used for the purchase of machinery will be taken as application or use of fund or outflow of fund, because it stands to reduce the fund position. Increase the funds while others decrease the funds. Some may not make any change in the funds position. In case a transaction results in increase of funds, it will be termed as a “sources of funds”. In case a transaction results in decrease of funds it will be taken as an application or use of funds. In case a transaction does not make any change in the funds position, it is said that it is a non-fund transaction.

#### **According to R.N. Anthony**

“Fund Flow is a statement prepared to indicate the increase in cash resources and the utilization of such resources of a business during the accounting period.”

#### **According to Smith Brown**

“Fund Flow is prepared in summary form to indicate changes occurring in items of financial condition between two different balance sheet dates.”

### **No Flow of Funds**

Some transactions may not make any movement or changes in the fund position. Such transactions are involved within the business concern. Like the transaction which involves both between current assets and current liabilities and between non-current assets and non-current liabilities and hence do not result in the flow of funds. For example, conversion of shares in to debenture. Such transaction involves between non-current accounts only and this activity does not effect in increase or decrease of the working capital position.

### **CONCEPT OF FUND FLOW STATEMENT**

It is a statement showing the movement of funds into and out of business. In other words it is a statement showing sources and application of fund. A fund flow statement deals with the financial resources required for running the business activities. It explains how were the funds obtained and how were they used. A fund flow statement matches the funds raised and funds applied during a particular period. The sources and applications of fund may be of capital as well as of revenue nature. A fund flow statements provide a meaningful link between the balance sheets at the beginning and at the end of the period and profit and loss account of the period. In view of recognized importance of capital inflows and outflows which often involve large amount of money should be reported to stake holders, the fund flow statement is devised.

In the words of **Dr. Shailesh Ransariya**, “Funds flow statement is a modern technique of analyzing financial statement. Fund flow statement shows as to where have the funds come from and where have they been used during the accounting period. It helps in analyzing the movement of funds of a firm between the two balance sheet dates.”

As per **Fouk** point of view “A statement of sources and applications of fund is a technical device deigned to analyze the changes in the financial condition of a business enterprise between two dates.”

In the words of **Anthony**, “The fund flow statement describes the sources from which additional funds were derived and the uses to which these sources were put.”

The **I.C.W.A.** in glossary of management accounting terms defines fund flow statement as “a statement prospective or retrospective, setting out the sources and applications of the funds of an enterprise. The purpose of this statement is to indicate clearly the requirement of funds and how they are proposed to be raised and the efficient utilization and application of the same.”



## MEANING OF FUNDS FLOW STATEMENT

Funds flow statement is a statement which discloses the analytical information about the different sources of a fund and the application of the same in an accounting cycle. It deals with the transactions which change either the amount of current assets and current liabilities (in the form of decrease or increase in working capital) or fixed assets, long-term loans including ownership fund.

It gives a clear picture about the movement of funds between the opening and closing dates of the Balance Sheet. It is also called the Statement of Sources and Applications of Funds, Movement of Funds Statement; Where Got—Where Gone Statement: Inflow and Outflow of Fund Statement, etc. No doubt, Funds Flow Statement is an important indicator of financial analysis and control. It is valuable and also helps to determine how the funds are financed. The financial analyst can evaluate the future flows of a firm on the basis of past data.

**This statement supplies an efficient method for the financial manager in order to assess the:**

- (a) Growth of the firm,
- (b) Its resulting financial needs, and
- (c) To determine the best way to finance those needs.

In particular, funds flow statements are very useful in planning intermediate and long-term financing.

### Objective of Preparing a Fund Flow Statement

The main purpose of preparing a Funds Flow Statement is that it reveals clearly the important items relating to sources and applications of funds of fixed assets, long-term loans including capital. It also informs how far the assets derived from normal activities of business are being utilized properly with adequate consideration.

Secondly, it also reveals how much out of the total funds is being collected by disposing of fixed assets, how much from issuing shares or debentures, how much from long-term or short-term loans, and how much from normal operational activities of the business.

Thirdly, it also provides the information about the specific utilization of such funds, i.e. how much has been applied for acquiring fixed assets, how much for repayment of long-term or short-term loans as well as for payment of tax and dividend etc.

Lastly, it helps the management to prepare budgets and formulate the policies that will be adopted for future operational activities.

## **SIGNIFICANCE AND IMPORTANCE OF FUNDS FLOW STATEMENT**

Since traditional reports (i.e. Income Statement/Profit and Loss Account, and Balance Sheet) are not very informative, a financial analyst has to depend on some other report—Funds Flow Statement. In other words, along with the traditional sources of information, some other sources of information are absolutely required in order to take the challenge offered by modern business.

Funds Flow Statement, no doubt, caters to the needs of management. This is because a Funds Flow Statement not only presents the Balance Sheet values for consecutive two years, it also ascertains the changes of working capital—which is a very important indicator. It not only reveals the source from which additional working capital has been financed but also, at the same time, the use of such funds. Moreover, from a projected funds flow statement the management can easily ascertain the adequacy or inadequacy of working capital, i.e., it helps in decision-making in a number of ways.

**The significance and importance of Funds Flow Statements may be summarized as:**

### **(a) Analysis of Financial Statement**

The traditional financial statements, viz. Profit and Loss Account and Balance Sheet, exhibit the result of the operation and financial position of a firm. Balance Sheet presents a static view about the resources and how the said resources have been utilized at a particular date with recording the changes in financial activities. But Funds Flow Statement can do so, i.e., it explains the causes of changes so made and effect of such change in the firm accordingly.

### **(b) Highlighting Answers to Various Perplexing Questions**

**Funds Flow Statement highlights answers of the following questions**

- i. Causes of changes in Working Capital;
- ii. Whether the firm sells any Non-Current Asset; if sold, how were the proceeds utilized?
- iii. Why smaller amount of dividend is paid in spite of sufficient profit?
- iv. Where did the net profit go?
- v. Was it possible to pay more dividend than the present one?
- vi. Did the firm pay-off its scheduled debts? If so, how, and from what sources?
- vii. Sources of increased Working Capital, etc.

**(c) Realistic Dividend Policy**

Sometimes it may so happen that a firm, instead of having sufficient profit, cannot pay dividend due to lack of liquid sources, viz. cash. In such a circumstance, Funds Flow Statement helps the firm to take decision about a sound dividend policy which is very helpful to the management.

**(d) Proper Allocation of Resources**

Resources are always limited. So, it is the duty of the management to make its proper use. A projected Funds Flow Statement helps the management to take proper decision about the proper allocation of business resources in a best possible manner since it highlights the future.

**(e) As a Future Guide**

A projected Funds Flow Statement acts as a business guide. It helps the management to make provision for the future for the necessary funds to be required on the basis of the problem faced. In other words, the future needs of the fund for various purposes can be known well in advance which is a very helpful guide to the management. In short, a firm may arrange funds on the basis of this statement in order to avoid the financial problem that may arise in future.

**(f) Appraising of the Working Capital**

A projected Funds Flow Statement, no doubt, helps the management to know about how the working capital has been efficiently used and, at the same time, also suggests how to improve the working capital position for the future on the basis of the present problem faced by it, if any

**Preparing Funds Flow Statement: Steps, Rules and Format****Steps for Preparing Funds Flow Statement**

**The steps involved in preparing the statement are as follows:**

1. Determine the change (increase or decrease) in working capital.
2. Determine the adjustments account to be made to net income.
3. For each non-current account on the balance sheet, establish the increase or decrease in that account. Analyze the change to decide whether it is a source (increase) or use (decrease) of working capital.
4. Be sure the total of all sources including those from operations minus the total of all uses equals the change found in working capital in Step 1.

### **General Rules for Preparing Funds Flow Statement**

**The following general rules should be observed while preparing funds flow statement:**

1. Increase in a current asset means increase (plus) in working capital.
2. Decrease in a current asset means decrease (minus) in working capital.
3. Increase in a current liability means decrease (minus) in working capital.
4. Decrease in a current liability means increase (plus) in working capital.
5. Increase in current asset and increase in current liability does not affect working capital.
6. Decrease in current asset and decrease in current liability does not affect working capital.
7. Changes in fixed (non-current) assets and fixed (non-current) liabilities affects working capital.

### **Format of Funds Flow Statement**

A funds flow statement can be prepared in statement form or 'T' form.

### Funds Flow Statement (Statement Form)

**A. Sources of Funds:**

- (i) Funds from Business Operations
- (ii) Sale of Fixed Asset
- (iii) Issue of Shares
- (iv) Issue of Debentures
- (v) Long-term borrowings

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Total Sources

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**B. Application of Funds:**

- (i) Loss from Business Operation
- (ii) Payment of Dividend
- (iii) Payment of Tax
- (iv) Purchase of Fixed Asset
- (v) Payment of Long-term Loans
- (vi) Redemption of Debentures
- (vii) Redemption of Preference Shares

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Total uses

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Not increase/decrease in Working Capital  
(Total sources minus Total uses)

### Funds Flow Statement ('T' Form)

Source of Funds	₹	Application of Funds	₹
(i) Funds from Business Operations		(i) Loss from Business Operations	
(ii) Sale of Fixed Assets		(ii) Payment of Dividend	
(iii) Issue of Shares		(iii) Payment of Tax	
(iv) Issue of Debentures		(iv) Purchase of Fixed Assets	
(v) Long-term Borrowings		(v) Payment of Long-term Loans	
(vi) Decrease in Working Capital (If application amount is more than the sources amount)		(vi) Redemption of Debentures	
		(vii) Redemption of Preference Shares	
		(viii) Increase in Working Capital (if sources are more than the application amount)	
<b>Total</b>		<b>Total</b>	

### Schedule of Changes in Working Capital

Many business enterprises prefer to prepare another statement, known as schedule of changes in working capital, while preparing a funds flow statement, on a working capital basis. This schedule of changes in working capital provides information concerning the changes in each individual current assets and current liabilities accounts (items).

This schedule is a part of the funds flow statement and increase (decrease) in working capital indicated by the schedule of changes in working capital will be equal to the amount of

changes in working capital as found by funds flow statement. The schedule of changes in working capital can be prepared by comparing the current assets and current liabilities at two periods.

**The format of schedule of changes in working capital is as follows:**

### Schedule of Changes in Working Capital

Items	As on	As on	Changes	
			Increase	Decrease
A. Current Assets:				
Cash Balance				
Bank Balance				
Accounts Receivable (Debtors)				
Marketable Securities				
Stock				
Prepaid Expenses				
B. Current Liabilities:				
Bank Overdraft				
Accounts payable (Creditors) outstanding expenses				
Total				
Net increase/decrease in working capital				

**Example: 1**

From the following information relating to A Ltd., prepare Funds Flow Statement:

(Rs. '000)					
	2003 Rs.	2004 Rs.		2003 Rs.	2004 Rs.
Share Capital	300	400	Cash	30	90
Reserve	100	50	Accounts Receivable	105	150
Retained Earnings	30	60	Inventories	150	195
Accounts Payable	45	135	Fixed Assets	190	210
	475	645		475	645

**Additional Information :**

(a) The company issued bonus shares for Rs. 50,000 and for cash Rs. 50,000.

(b) Depreciation written off during the year Rs. 15,000.

(B.Com. M.S.)

**SOLUTION :****SCHEDULE OF CHANGES IN WORKING CAPITAL**

	2003 Rs.	2004. Rs.	Changes in Working Capital	
			Increase Rs.	Decrease Rs.
Current Assets:				
Cash	30,000	90,000	60,000	—
Accounts Receivable	1,05,000	150,000	45,000	—
Inventories	1,50,000	1,95,000	45,000	—
	2,85,000	4,35,000		
Less: Current Liabilities:				
Accounts Payable	45,000	1,35,000	—	90,000
Working Capital	2,40,000	3,00,000		
Increase in Working Capital	60,000	—	—	60,000
	3,00,000	3,00,000	1,50,000	1,50,000

**FUND FLOW STATEMENT**  
for the year ended 31-12-2004

	Rs.		Rs.
Issue of Share	50,000	Purchase of Fixed Assets	35,000
Funds from Operation	45,000	Increase in Working Capital	60,000
	95,000		95,000

**Workings :****FIXED ASSETS A/C**

	Rs.		Rs.
To Balance b/d	1,90,000	By Adjusted P & L A/c (Depreciation)	15,000



To Cash (Purchase)	35,000	By Balance c/d	2,10,000
	2,25,000		2,25,000
<b>SHARE CAPITAL A/C</b>			
To Balance c/d	Rs. 4,00,000	By Balance b/d	Rs. 3,00,000
		By Cash	50,000
		By General Reserves (Bonus Shares)	50,000
	4,00,000		4,00,000
<b>ADJUSTED PROFIT &amp; LOSS A/C</b>			
To Fixed Assets (Depreciations)	Rs. 15,000	By Balance b/d	Rs. 30,000
To Balance c/d	60,000	By Fund from Operation	45,000
	75,000		75,000

**Example:2**

Ramco Cements presents the following information and you are required to calculate funds from operations:

**PROFIT AND LOSS ACCOUNT**

	<i>Rs.</i>		<i>Rs.</i>
To Operation Expenses	1,00,000	By Gross Profit	2,00,000
To Depreciation	40,000	By Gain on Sale of Plant	20,000
To Loss on Sale of Building	10,000		
To Advertisement Suspense Account	5,000		
To Discount Allowed	500		
To Discount on Issue of Shares written off	500		
To Goodwill written off	12,000		
To Net Profit	52,000		
	2,20,000		2,20,000



**SOLUTION :****CALCULATION OF FUND FROM OPERATIONS**

	<i>Rs.</i>	<i>Rs.</i>
Net Profit (given)		52,000
<i>Add</i> : Non-fund or non-operating items which have been debited to Profit & Loss A/c :		
Depreciation	40,000	
Loss on Sale of Building	10,000	
Advertisement written off	5,000	
Discount written off	500	
Goodwill written off	12,000	
		67,500
<i>Less</i> : Non-fund or non-operating items which have been credited to Profit & Loss A/c :		1,19,500
Gain on Sale of Plant	20,000	20,000
<b>FUNDS FROM OPERATIONS</b>		<b>99,500</b>

**Alternatively :****ADJUSTED PROFIT AND LOSS ACCOUNT**

	<i>Rs.</i>		<i>Rs.</i>
To Depreciation	40,000	By Opening Balance	—
To Loss on Sale of Building	10,000	By Gain on Sale of Plant	20,000
To Advertisement Suspense A/c	5,000	By Funds from Operations	99,500
		(Balancing figure)	
To Discount written off	500		
To Goodwill written off	12,000		
To Closing Balance	52,000		
	1,19,500		1,19,500

**Example: 3**

The Balance Sheets of National Co. as on 31st December, 2003 and 31st December 2004 are as follows:

- (1) Rs. 50,000 depreciation has been charged on Plant and Machinery during 2004.
- (2) A piece of Machinery was sold for Rs. 8,000 during the year 2004. It had cost Rs. 12,000; depreciation of Rs. 7,000 had been provided on it.

Prepare a Schedule of changes in Working Capital and a Statement showing the Sources and Application of Funds for 2004.

**SOLUTION :****SCHEDULE OF CHANGES IN WORKING CAPITAL**

Items	2003 Rs.	2004 Rs.	Changes in Working Capital	
			Increase Dr. Rs.	Decrease Cr. Rs.
<b>Current Assets :</b>				
Stock	1,00,000	75,000	—	25,000
Debtors	1,50,000	1,60,000	10,000	—
Cash	20,000	20,000	—	—
	2,70,000	2,55,000	—	—
<b>Current Liabilities :</b>				
Sundry Creditors	1,53,000	1,90,000	—	37,000
Bills Payable	40,000	50,000	—	10,000
Expenses O/S	7,000	5,000	2,000	—
	2,00,000	2,45,000		
Working Capital	70,000	10,000		
Net Decrease in Working Capital		60,000	60,000	
	70,000	70,000	72,000	72,000

**STATEMENT OF SOURCE AND APPLICATION OF FUNDS  
for the year ended 31st December 2000**

Sources	Rs.	Applications	Rs.
Funds from Operations (1)	1,27,000	Purchase of Land and Buildings	40,000
Issue of Shares	2,00,000	Purchase of Plant and Machinery (2)	3,55,000
Sale proceeds of Machinery	8,000		
Decrease in Working Capital	60,000		
	3,95,000		3,95,000

**Workings :****(1) ADJUSTED PROFIT AND LOSS ACCOUNT**

	Rs.		Rs.
To Plant & Machinery A/c (Depreciation of 2000)	50,000	By Balance b/d (Opening Balance)	1,00,000
To General Reserve (Transferred during 2000)	20,000	By Plant & Machinery (Profit on Sale)	3,000
To Balance c/d	1,60,000	By Funds from Operation (Balancing figure)	1,27,000
	2,30,000		2,30,000

**(2) PLANT AND MACHINERY ACCOUNT**

	Rs.		Rs.
To Balance b/d	5,00,000	By Bank (Sale of Machinery)	8,000
To Profit & Loss A/c (profit on sale)	3,000	By Profit & Loss A/c (Depreciation)	50,000
To Bank A/c (Purchase of Machinery & Plant (Balancing figure)	3,55,000	By Balance c/d	8,00,000
	8,58,000		8,58,000

**Example: 4**

From the following Balance Sheets of X Ltd. make out:

- (i) Statement of Changes in Working Capital  
(ii) Fund Flow Statement:

**BALANCE SHEETS**

<i>Liabilities</i>	<i>2003 Rs.</i>	<i>2004 Rs.</i>	<i>Assets</i>	<i>2003 Rs.</i>	<i>2004 Rs.</i>
Equity Share Capital	3,00,000	4,00,000	Goodwill	1,15,000	90,000
Redeemable Preference Share Capital	1,50,000	1,00,000	Land & Buildings	2,00,000	1,70,000
General Reserve	40,000	70,000	Plant	80,000	2,00,000
Profit & Loss	30,000	48,000	Debtors	1,60,000	2,00,000
Proposed Dividend	42,000	50,000	Stock	77,000	1,09,000
Creditors	55,000	83,000	Bills Receivable	20,000	30,000
Bills Payable	20,000	16,000	Cash in hand	15,000	10,000
Provision for Taxation	40,000	50,000	Cash at Bank	10,000	8,000
	6,77,000	8,17,000		6,77,000	8,17,000

**Additional Information :**

- (1) Depreciation of Rs. 10,000 and Rs. 20,000 have been charged on Plant and Land and Buildings respectively in 2004.
- (2) A dividend of Rs. 20,000 has been paid in 2004.
- (3) Income-tax of Rs. 35,000 has been paid during 2004. (B.Com. Hons. Delhi)

**SOLUTION :****STATEMENT OF CHANGES IN WORKING CAPITAL**

	<i>2003 Rs.</i>	<i>2004 Rs.</i>	<i>Changes in Working Capital</i>	
			<i>Increase Dr. Rs.</i>	<i>Decrease Cr. Rs.</i>
<b>Current Assets :</b>				
Debtors	1,60,000	2,00,000	40,000	—
Stock	77,000	1,09,000	32,000	—
Bills Receivable	20,000	30,000	10,000	—
Cash in hand	15,000	10,000	—	5,000
Cash at Bank	10,000	8,000	—	2,000
	2,82,000	3,57,000		



<i>Current Liabilities :</i>				
Creditors	55,000	83,000	—	28,000
Bills Payable	20,000	16,000	4,000	
	75,000	99,000		
Working Capital	2,07,000	2,58,000		
Increase in Working Capital	51,000	—	—	51,000
	2,58,000	2,58,000	86,000	86,000

### FUND FLOW STATEMENT

<i>Sources of Fund</i>	<i>Rs.</i>	<i>Application of Fund</i>	<i>Rs.</i>
Fund from Operation (c)	1,76,000	Purchase of Plant (a)	1,30,000
Issue of Equity Shares	1,00,000	Redemption of Preference Shares	50,000
Sale of Land and Buildings (b)	10,000	Payment of Dividend	20,000
		Payment of Income Tax	35,000
		Increase in Working Capital	51,000
	2,86,000		2,86,000

**Workings :**

#### (a) PLANT ACCOUNT

	<i>Rs.</i>		<i>Rs.</i>
To Balance b/d	80,000	By Profit & Loss A/c (Depreciation)	10,000
To Bank (Purchase of Plant) (Balancing figure)	1,30,000	By Balance c/d	2,00,000
	2,10,000		2,10,000

#### (b) LAND AND BUILDING ACCOUNT

	<i>Rs.</i>		<i>Rs.</i>
To Balance b/d	2,00,000	By Profit & Loss A/c (Depreciation)	20,000
		By Bank (Sale of Land & Buildings)	10,000
		By Balance c/d	1,70,000
	2,00,000		2,00,000

#### (c) ADJUSTED PROFIT AND LOSS ACCOUNT

	<i>Rs.</i>		<i>Rs.</i>
To General Reserve	30,000	By Balance b/d	30,000
To Dividend (d)	28,000	By Funds from Operations	1,76,000
To Provision for Taxation(e)	45,000		
To Goodwill	25,000		
To Depreciation :			
Plant	10,000		
Land	20,000		
To Balance c/d	48,000		
	2,06,000		2,06,000

**(d) PROPOSED DIVIDEND ACCOUNT**

To Bank A/c	Rs. 20,000	By Balance b/d	Rs. 42,000
To Balance c/d	50,000	By Profit & Loss A/c (Balancing figure)	28,000
	70,000		70,000

**(e) PROVISION FOR TAXATION ACCOUNT**

To Bank A/c	Rs. 35,000	By Balance b/d	Rs. 40,000
To Balance c/d	50,000	By Profit & Loss A/c (Balancing figure)	45,000
	85,000		85,000

**Example:5**

The following are the summarised Balance Sheets of a company as on 31st December 2003 and 2004:

<i>Liabilities</i>	<i>31-12-2003</i>	<i>31-12-2004</i>
	<i>Rs.</i>	<i>Rs.</i>
Equity Share Capital	2,00,000	2,40,000
8% Debentures	50,000	—
Securities Premium	—	10,000
General Reserve	30,000	50,000
Profit & Loss Account	48,000	68,000
Sundry Creditors	1,30,000	1,50,000
Proposed Dividend	20,000	24,000
<i>Provision for Depreciation:</i>		
Plant & Machinery	1,40,000	1,50,000
Furniture	6,000	4,000
<i>Assets</i>	<b>6,24,000</b>	<b>6,96,000</b>
Land and Buildings	1,05,000	1,50,000
Plant and Machinery (at cost)	2,90,000	3,20,000
Furniture (at cost)	9,000	10,000
Inventories	1,30,000	1,05,000
Sundry Debtors	75,000	85,000
Cash	15,000	26,000
	<b>6,24,000</b>	<b>6,96,000</b>

**Additional information is as follows:**

- (1) Furniture which cost Rs. 5,000, written down value Rs. 1,000 was sold during the year 2004 for Rs. 2,000.
- (2) Plant and Machinery which cost Rs. 20,000 and in respect of which Rs. 13,000 had been written off as depreciation was sold during the year for Rs. 3,000.
- (3) The dividend of 2003 was paid during 2004.

You are required to prepare (a) a Statement of changes in working capital during 2004 and (b) Funds flow statement for the year 2004.

**SOLUTION :****STATEMENT OF CHANGES IN WORKING CAPITAL**

	2003 Rs.	2004 Rs.	Effect on Working Capital	
			Increase Rs.	Decrease Rs.
<b>Current Assets :</b>				
Cash	15,000	26,000	11,000	—
Sundry Debtors	75,000	85,000	10,000	—
Inventories	1,30,000	1,05,000	—	25,000
	2,20,000	2,16,000		
<b>Current Liabilities :</b>				
Sundry Creditors	1,30,000	1,50,000	—	20,000
	1,30,000	1,50,000		
Working Capital	90,000	66,000		
Net decrease in Working Capital	—	24,000	24,000	—
	90,000	90,000	45,000	45,000

**FUNDS FLOW STATEMENT**  
for the year ended 31st December 2004

Sources	Rs.	Applications	Rs.
Issue of Share Capital	40,000	Redemption of Debentures	50,000
Securities Premium	10,000	Purchase of Land & Buildings	45,000
Sale of Furniture	2,000	Purchase of Plant and Machinery	50,000
Sale of Plant and Machinery	3,000	Purchase of Furniture	6,000
Funds from Operations	92,000	Dividend paid for	20,000
Net decrease in working capital	24,000		
	1,71,000		1,71,000

**Workings:****PROVISION FOR DEPRECIATION ON PLANT & MACHINERY**

	Rs.		Rs.
To Plant & Machinery (on sold machinery)	13,000	By Balance b/d	1,40,000
To Balance c/d	1,50,000	By Adjusted P & L A/c (Depreciation provided during the year) (Balancing figure)	23,000
	1,63,000		1,63,000

**PLANT AND MACHINERY ACCOUNT**

	Rs.		Rs.
To Balance b/d	2,90,000	By Cash (Sales)	3,000
To Cash (Purchase) (Balancing figure)	50,000	By Provision for Depreciation on Plant and Machinery	13,000
		By Adjusted P & L A/c (Loss on sale)	4,000
		By Balance c/d	3,20,000
	3,40,000		3,40,000



**PROVISION FOR DEPRECIATION ON FURNITURE A/C**

To Furniture A/c (Depreciation on furniture sold)	<i>Rs.</i> 4,000	By Balance b/d	<i>Rs.</i> 6,000
To Balance c/d	4,000	By Adjusted P & L A/c (Balancing figure)	2,000
	<u>8,000</u>		<u>8,000</u>

**FURNITURE ACCOUNT**

To Balance b/d	<i>Rs.</i> 9,000	By Cash (Sales)	<i>Rs.</i> 2,000
To Adjusted P & L A/c (Profit on Sale)	1,000	By Provisions for depreciation	4,000
To Cash (Purchase)	6,000	By Balance c/d	10,000
	<u>16,000</u>		<u>16,000</u>

**ADJUSTED PROFIT & LOSS ACCOUNT**

To Transfer to General Reserve	<i>Rs.</i> 20,000	By Balance b/d	<i>Rs.</i> 48,000
To Proposed Dividend (2000)	24,000	By Profit on Sale of Furniture	1,000
To Provision for Depreciation :		By Funds from Operations	92,000
Plant & Machinery	23,000		
Furniture	2,000		
To Loss on Sale of Plant	4,000		
To Balance c/d	68,000		
	<u>1,41,000</u>		<u>1,41,000</u>

**Example:6**

Following are the comparative Balance Sheets of Good Luck Co. as at 31st December:

<i>Liabilities</i>	<i>2003 Rs.</i>	<i>2004 Rs.</i>	<i>Assets</i>	<i>2003 Rs.</i>	<i>2004 Rs.</i>
Share Capital	10,00,000	11,00,000	Goodwill	50,000	40,000
Debentures	5,00,000	3,00,000	Land & Buildings	4,20,000	6,60,000
General Reserve	2,00,000	2,00,000	Plant and Machinery	6,00,000	8,00,000
Profit & Loss	1,10,000	1,90,000	Stock	2,50,000	2,10,000
Income Tax Provisions	40,000	1,10,000	Debtors	3,00,000	2,40,000
Creditors	50,000	40,000	Cash	3,00,000	24,000
Bills Payable	20,000	30,000	Preliminary Expenses	30,000	20,000
Provision for Doubtful Debts	30,000	24,000			
	19,50,000	19,94,000		19,50,000	19,94,000

**Additional Information :**

- (a) During the year 2004, a part of machinery costing Rs. 7,500 (Accumulated depreciation thereon being Rs. 2,500) was sold for Rs. 3,000.  
 (b) Dividend for Rs. 1,00,000 was paid during the year ended 31st December 2004.  
 (c) Income Tax Rs. 50,000 was paid during the year 2004.  
 (d) Depreciation for the year 2004 was provided as follows :

	<i>Rs.</i>
Land and Buildings	10,000
Plant and Machinery	50,000

You are required to prepare :

- (i) A schedule of change in Working Capital and  
 (ii) A Statement showing the Sources and Application of Funds. (CA M.Com. Utkal, Poona)

**SOLUTION :****SCHEDULE OF CHANGES IN WORKING CAPITAL**

<i>Items</i>	<i>2003 Rs.</i>	<i>2004 Rs.</i>	<i>Changes in Working Capital</i>	
			<i>Increase Dr. Rs.</i>	<i>Decrease Cr. Rs.</i>
<i>Current Assets :</i>				
Closing Stock	2,50,000	2,10,000	—	40,000
Debtors, less Provision	2,70,000	2,16,000	—	54,000
Cash	3,00,000	24,000	—	2,76,000
	8,20,000	4,50,000		



<i>Current Liabilities :</i>				
Creditors	50,000	40,000	10,000	—
Bills Payable	20,000	30,000	—	10,000
	70,000	70,000		
Working Capital	7,50,000	3,80,000		
Net Decrease in Working Capital	—	3,70,000	3,70,000	—
	7,50,000	7,50,000	3,80,000	3,80,000

### FUNDS FLOW STATEMENT

<i>Sources</i>	<i>Rs.</i>	<i>Applications</i>	<i>Rs.</i>
Funds from Operations (3)	3,82,000	Payment of Dividend	1,00,000
Sale of Machinery	3,000	Payment of Income Tax	50,000
Issue of Share Capital	1,00,000	Purchase of Land and Buildings (2)	2,50,000
Decrease in Working Capital	3,70,000	Purchase of Plant and Machinery (1)	2,55,000
		Redemption of Debentures	2,00,000
	8,55,000		8,55,000

Workings :

#### (1) PLANT AND MACHINERY ACCOUNT

	<i>Rs.</i>		<i>Rs.</i>
To Balance b/d	6,00,000	By Bank (Sales)	3,000
To Bank (Purchase)	2,55,000	By Profit & Loss A/c (Loss on Sale)	2,000
(Balancing figure)		By Profit & Loss A/c (Depreciation)	50,000
		By Balance c/d	8,00,000
	8,55,000		8,55,000

#### (2) LAND AND BUILDING ACCOUNT

	<i>Rs.</i>		<i>Rs.</i>
To Balance b/d	4,20,000	By Profit & Loss A/c (Depreciation)	10,000
To Bank (Purchase)	2,50,000	By Balance c/d	6,60,000
(Balancing figure)			
	6,70,000		6,70,000

#### (3) ADJUSTED PROFIT AND LOSS ACCOUNT

	<i>Rs.</i>		<i>Rs.</i>
To Depreciation :		By Balance b/d	1,10,000
Machinery	50,000	By Funds from Operations	3,82,000
Land & Buildings	10,000		
To Dividends	1,00,000		
To Income Tax Provision (4)	1,20,000		

To Loss on Sale of Machinery	2,000		
To Goodwill Written Off	10,000		
To Preliminary Expenses Written Off	10,000		
To Balance c/d	1,90,000		
	4,92,000		4,92,000

**(4) INCOME TAX PROVISION ACCOUNT**

	<i>Rs.</i>		<i>Rs.</i>
To Bank (Payment)	50,000	By Balance b/d	40,000
To Balance c/d	1,10,000	By Profit & Loss A/c (Balancing figure)	1,20,000
	1,60,000		1,60,000

## CASH FLOW ANALYSIS IN WORKING CAPITAL CONTROL

### INTRODUCTION

The separation of management from ownership in modern business calls for the use of some form of connection between the managers and the owners and other interested parties. Financial reporting is the most efficient and extensively used medium of communicating the operating results as well as latest financial position of a concern for the management. Constancy and achievement of any business largely depend on its capacity to generate enough cash. As part of conveying an end result of companies operation managements use financial statement as an important vehicles through which financial information is furnished to the stakeholders. But the three basic financial statements present only fragmentary information about a company's cash flows (cash receipt and cash payments).

The balance sheet is a snapshot of a firm's financial resources and obligations at a single point in time, and the income statement summarizes a firm's financial transactions over an interval of time. These two financial statements reflect the accrual basis accounting used by firms to match revenues with the expenses associated with generating those revenues.

### CONCEPT OF CASH FLOW

A cash flow statement is a financial report that describes the sources of a company's cash and how that cash was spent over a specified time period. It does not include non-cash items. The cash flow statement is a cash basis report on three types of financial activities: operating activities, investing activities, and financing activities. Non-cash activities are usually reported in footnotes. This makes it useful for determining the short-term viability of a company, particularly its ability to pay bills. Because the management of cash flow is so crucial for businesses and small businesses in particular, most analysts recommend that an

entrepreneur should study a cash flow statement at least every quarter. The cash flow statement is similar to the income statement in that it records a company's performance over a specified period of time. The difference between the two is that the income statement also takes into account some non-cash accounting items such as depreciation. The cash flow statement strips away all of this and shows exactly how much actual money the company has generated. Cash flow statements show how companies have performed in managing inflows and outflows of cash. It provides a sharper picture of a company's ability to pay creditors, and finance growth.

The Cash Flow Statement (CFS) provides relevant financial information about the cash receipts and cash disbursements of a firm during a fiscal year. This information is especially important to shareholders and creditors. As part of their investment return, shareholders often expect to receive dividends, and the ability to pay cash dividends depends on the availability of cash flows. Creditors are concerned about a firm's ability to make interest and principal payments on loans they have made to the firm. Other stakeholders such as employees and suppliers are also concerned about a firm's ability to meet its financial obligations.

It is perfectly possible for a company that is shown to be profitable according to accounting standards to go under if there isn't enough cash on hand to pay bills. Comparing amount of cash generated to outstanding debt, known as the "operating cash flow ratio," illustrates the company's ability to service its loans and interest payments. If a slight drop in a company's quarterly cash flow would jeopardize its ability to make loan payments that company is in a riskier position than one with less net income but a stronger cash flow level. Unlike the many ways in which reported earnings can be presented, there is little a company can do to manipulate its cash situation. Barring any outright fraud, the cash flow statement tells the whole story. The company either has cash or it does not. Analysts will look closely at the cash flow statement of any company in order to understand its overall health. Statement of cash flows provides the answer to the following simple but important question about an enterprise. (Keiso and Weygand, 1998: 1275-76)

1. Where did cash come from during the period?
2. What was the cash used for during the period?
3. What was the change in the cash balance during the period?

The use of cash flow information is gaining value in the analysis of financial statements. Cash flow information is measured less open to manipulation than information on earnings, because it is based on the actual receipt and payment of cash only and not on the

accrual and other accounting principles. However, the literature on the cash flow statement indicates that there are grey areas in cash flow reporting that are open to various interpretations. The perceived simplicity of the cash flow statement may therefore create synthetic confidence in the reliability of companies' cash flow reporting and the comparability of various companies' cash flow information. The acceptance of AS-3: The Cash Flow Statement has added a new dimension to the preparation and presentation of financial statements in Bangladesh. This paper is an effort to investigate into the state of cash flow reporting by the listed Bangladeshi non-banking financial companies in general. The focal point is not on the quality of the reporting of the companies but rather on what the reporting levels are in general.

### **IMPORTANCE OF CASH FLOWS**

Investors, creditors, and managers use cash flow information to make decisions about a company's ability to meet obligations, or to take advantage of business opportunities. Information about a current period's cash flows provides a basis for predicting the amount, timing, and certainty of future cash flows. Cash flow information is also useful in evaluating the liquidity, solvency, and financial flexibility of a company. **Liquidity** refers to the ability of a company to pay its current liabilities with existing liquid assets. **Solvency** is the ability to pay all debts as they come due. A company may wish to raise money by issuing shares, for instance. **Financial flexibility** relates to the ability of a company to use its resources to adapt to change and take advantage of business opportunities as they arise.

A cash flow statement (formerly known as a statement of changes in financial position) is designed to help a user make these evaluations and to answer specific questions such as

1. What accounts for the difference between cash and cash equivalents at the beginning of the year and at the end of the year?
2. What was done with the cash raised from the sale of bonds or shares?  
How did the business finance its purchases of machinery or other capital assets?
3. How was it possible to pay dividends when the business reported a net loss on its income statement?
4. Does the firm have the ability to pay off the mortgage on its office building?

### **CASH FLOW STATEMENT**

In 1998, the CICA revised section 1540 of the CICA Handbook, changing the "statement of changes in financial position" to "cash flow statement." This does not affect the preparation of the cash flow statement, which is still based on cash and cash equivalents. This

applies to all businesses unless a business has relatively simple operations, with few or no significant financing and investing activities, and their effects on cash flows are apparent from the other financial statements or are adequately disclosed in the notes to the financial statements. For example, the cash flow statement does not apply to pension plans or notfor-profit organizations. The CFS is similar to an income statement in that it summarizes the activities of a company during a given period. An income statement, however, only reports on operating activities. The CFS not only reports on operating activities, but also on investing and financing activities. Another key difference between the income statement and the CFS is that the income statement is prepared using the accrual basis of accounting, but the CFS includes inflows and outflows of cash or cash equivalents, thus it is prepared on a cash basis.

### **CLASSIFICATION OF CASH FLOW TRANSACTIONS**

Cash flows result from operating, financing, and investing activities. You must be able to distinguish among these types of cash flows. These activities are explained as follows.

#### **1. Operating activities**

Cash flows from operating activities include all cash flow transactions that are *not* classified as investing or financing activities. Operating activities are related to the primary operations of the company in generating revenues and incurring related expenses. Companies expect to generate more cash inflows from selling goods and services than they spend in doing so. As you know, revenues are recorded when they are earned and expenses are recorded when incurred. Revenues and expenses therefore seldom match perfectly with their corresponding cash flows. For example, of \$20,000 sales during the current fiscal period, perhaps only \$10,000 are collected in the same period as the sales. The income statement also includes noncash expenses such as amortization. Amortization expense reduces income without a corresponding reduction in cash. You should think of operating cash flow activities as those that affect net income as well as current assets and current liabilities (the working capital accounts or operating accounts). Changes in working capital accounts are very much affected by a company's rate of growth. Expanding businesses will usually report significant increases in accounts receivable and inventories. If a business uses suppliers to finance these increases, you will see an upward change in accounts payable. Some changes in current liabilities, however, are not usually classified as operating activities. For instance, changes in dividends payable and interest charged to retained earnings are classified as financing activities. In the previous example, a business may finance increases in accounts receivable and inventory with borrowing or equity financing. However, borrowing and equity financing are not considered to be operating activities.

## 2. Investing activities

In general, **investing activities** are transactions for purchasing and selling capital assets and other productive assets. Capital assets are acquired in order to increase productive capacity. Cash needed for this expansion may come from the sale of existing assets that are less productive. Usually this section of the CFS shows a net cash outflow because companies typically spend more cash than they receive from the sale of non-current assets. Additional cash, therefore, has to come from operations or other sources to finance capital expansion. Investing activities also include purchasing and selling of long-term investment securities such as bonds or shares of other companies.

## 3. Financing activities

Financing activities affect a business' capital structure, its debt and equity. This includes a company's transactions with its owners and creditors but does not include cash payments to settle credit purchases of merchandise, which are operating activities. Financing activities include the use of cash to pay dividends to shareholders, the borrowing or payment of debt, and the issue or repurchase of shares. Do not confuse dividends declared and paid with dividends received from investments. Dividends paid are a cash outflow that is a financing activity, but dividends received are a cash inflow reported on the income statement. Dividends received are therefore classified as an operating activity.

## COMPARISON OF FUND FLOW STATEMENT & CASH FLOW STATEMENT

FUND FLOW STATEMENT	CASH FLOW STATEMENT
This analysis shows the changes in working capital fixed assets etc. between two periods	This analysis shows the changes in cash position between two periods.
Increase in funds does not always means increase in cash.	Increase in cash does always mean increase in fund.
Fund flow analysis notes the overall changes in funds of the company and we can decide overall stability of business unit.	Cash flow analysis notes the changes in cash position only and one can't know the stability of Co. by this analysis
It reveals the long term stability of business.	It reveals the short term cash position of the business.
Management can take long term major decisions with the help of this statement.	Management can take short term decisions regarding cash only.
This analysis includes cash flow analysis because cash is a part of working capital.	This analysis does not include fund flow analysis because this covers only cash transactions.
While preparing statement of changes in working capital if current assets increase or current debts decrease, working capital increases.	In cash flow analysis increase in current assets or decrease In current debts means reduction in cash.

## **A CASH FLOW STATEMENT COMPRISES INFORMATION ON FOLLOWING 3 ACTIVITIES:**

1. Operating Activities
2. Investing Activities
3. Financing Activities

- 1. Operating Activities:** Operating activities include cash flows from all standard business operations. Cash receipts from selling goods and services represent the inflows. The revenues from interest and dividends are also included here. The operational expenditures are considered as outflows for this section. Although interest expenses fall under this section but the dividends are not included. Dividends are considered as a part of financing activity in financial accounting terms.
- 2. Investing Activities:** Investing activities include transactions with assets, marketable securities and credit instruments. The sale of property, plant and equipment or marketable securities is a cash inflow. Purchasing property, plant and equipment or marketable securities are considered as cash outflows. Loans made to borrowers for long-term use is another cash outflow. Collections from these loans, however, are cash inflows.
- 3. Financing Activities:** Financing activities on the statement of cash flows are much more defined in nature. The receipts come from borrowing money or issuing stock. The outflows occur when a company repays loans, purchases treasury stock or pays dividends to stockholders. As the case with other activities on the statement of cash flows depend on activities rather than actual general ledger accounts.

### **Advantages of Fund Flow Statements**

A Funds flow statement is prepared to show changes in the assets, liabilities and equity between two balance sheet dates, it is also called statement of sources and uses of funds. The advantages of such a financial statement are many fold.

#### **Some of these are:**

1. Funds flow statement reveals the net result of Business operations done by the company during the year.
2. In addition to the balance sheet, it serves as an additional reference for many interested parties like analysts, creditors, suppliers, government to look into financial position of the company.
3. The Fund Flow Statement shows how the funds were raised from various sources and also how those funds were deployed by a company, therefore it is a great tool for management

when it wants to know about where and from what sources funds were raised and also how those funds got utilized into the business.

4. It reveals the causes for the changes in liabilities and assets between the two balance sheet dates therefore providing a detailed analysis of the balance sheet of the company.
5. Funds flow statement helps the management in deciding its future course of plans and also it acts as a control tool for the management.
6. Funds flow statement should not be looked alone rather it should be used along with balance sheet in order judge the financial position of the company in a better way.

### **Disadvantages of Fund Flow Statements**

Funds flow statement has many advantages; however it has some disadvantages or limitations also.

#### **Let's look at some of the limitations of funds flow statement.**

1. Funds Flow statement has to be used along with balance sheet and profit and loss account for inference of financial strengths and weakness of a company it cannot be used alone.
2. Fund Flow Statement does not reveal the cash position of the company, and that is why company has to prepare cash flow statement in addition to funds flow statement.
3. Funds flow statement only rearranges the data which is there in the books of account and therefore it lacks originality. In simple words it presents the data in the financial statements in systematic way and therefore many companies tend to avoid preparing funds flow statements.
4. Funds flow statement is basically historic in nature, that is it indicates what happened in the past and it does not communicate anything about the future, only estimates can be made based on the past data and therefore it cannot be used the management for taking decision related to future.

Cash plays a very important role in the economic life of a business. A firm needs cash to make payment to its suppliers, to incur day-to-day expenses and to pay salaries, wages, interest and dividends etc. In fact, what blood is to a human body, cash is to a business enterprise. Thus, it is very essential for a business to maintain an adequate balance of cash. For example, a concern operates profitably but it does not have sufficient cash balance to pay dividends, what message does it convey to the shareholders and public in general. Thus, management of cash is very essential. There should be focus on movement of cash and its equivalents. Cash means, cash in hand and demand deposits with the bank. Cash equivalent consists of bank overdraft, cash credit, short term deposits and marketable securities. Cash Flow Statement deals with flow of cash which includes cash equivalents as well as cash. This



statement is additional information to the users of Financial Statements. The statement shows the incoming and outgoing of cash. The statement assesses the capability of the enterprise to generate cash and utilize it. Thus a Cash-Flow statement may be defined as a summary of receipts and disbursements of cash for a particular period of time. It also explains reasons for the changes in cash position of the firm. Cash flows are cash inflows and outflows. Transactions which increase the cash position of the entity are called as inflows of cash and those which decrease the cash position as outflows of cash. Cash flow Statement traces the various sources which bring in cash such as cash from operating activities, sale of current and fixed assets, issue of share capital and debentures etc. and applications which cause outflow of cash such as loss from operations, purchase of current and fixed assets, redemption of debentures, preference shares and other long-term debt for cash. In short, a cash flow statement shows the cash receipts and disbursements during a certain period. The statement of cash flow serves a number of objectives which are as follows :

1. Cash flow statement aims at highlighting the cash generated from operating activities.
2. Cash flow statement helps in planning the repayment of loan schedule and replacement of fixed assets, etc.
3. Cash is the centre of all financial decisions. It is used as the basis for the projection of future investing and financing plans of the enterprise.
4. Cash flow statement helps to ascertain the liquid position of the firm in a better manner. Banks and financial institutions mostly prefer cash flow statement to analyse liquidity of the borrowing firm.
5. Cash flow Statement helps in efficient and effective management of cash.
6. The management generally looks into cash flow statements to understand the internally generated cash which is best utilised for payment of dividends.
7. Cash Flow Statement based on AS-3 (revised) presents separately cash generated and used in operating, investing and financing activities.
8. It is very useful in the evaluation of cash position of a firm. Cash and relevant terms as per

AS-3 (revised) As per AS-3 (revised) issued by the Accounting Standards Board

1. (a) Cash fund :  
Cash Fund includes
  - (i) Cash in hand
  - (ii) Demand deposits with banks, and
  - (iii) Cash equivalents.

(b) Cash equivalents are short-term, highly liquid investments, readily convertible into cash and which are subject to insignificant risk of changes in values.

2. Cash Flows are inflows and outflows of cash and cash equivalents. The statement of cash flow shows three main categories of cash inflows and cash outflows, namely : operating, investing and financing activities.

- (i) Operating activities are the principal revenue generating activities of the enterprise.
- (ii) Investing activities include the acquisition and disposal of longterm assets and other investments not included in cash equivalents.
- (iii) Financing activities are activities that result in change in the size and composition of the owner's capital (including Preference share capital in the case of a company) and borrowings of the enterprise.

As per AS-3 the inflow and outflow of cash are:

#### I. Operating Activities

##### Cash inflow

- 1. Cash Sale
- 2. Cash Received from debtors
- 3. Cash Received from commission and fees
- 4. Royalty and other revenues

##### Cash Out flow

- 1. Cash Purchase
- 2. Payment to creditors
- 3. Cash operating expenses
- 4. Payment of wage
- 5. Income Tax

#### II. Investing Activities

##### Cash inflow

- 1. Sale of assets
- 2. Sale of investment
- 3. Interest received
- 4. Dividend received

##### Cash Out flow

- 1. Purchase of Assets
- 2. Purchase of investment

## Financing activities

## Cash inflows

1. Issue of shares
2. Issue of debenture
3. Proceeds from long terms short term borrowings

## Cash outflows

1. Cash repayments of amounts Borrowed
2. Interest paid on loans/debentures
3. Dividends paid on equity and preference share capital

**Method Cash Flow Statement (Indirect method cash flow statement)****Pro forma cash flow statements**

Cash Flow Statement For The Year Ended 31 December 19X4		
	Rs.	Rs.
Net cash inflow from operating activities	XXX	
Returns on investments and servicing of finance		
Interest received	XXX	
Interest paid	(XXX)	
Dividends paid	(XXX)	
Net cash inflow/ (outflow) from returns on investments and servicing of finance		XXX
Taxation		
Corporation tax paid	(XXX)	
Tax paid		(XXX)
Investing activities		
Payments to acquire intangible fixed assets	(XX)	
Payments to acquire tangible fixed assets	(XX)	
Receipts from sales of tangible fixed assets	XXX	
Net cash inflow/ (outflow) from investing activities	XXX or	(XXX)
Net cash inflow before financing		XXX
Financing		
Issue of ordinary capital	XXX	
Repurchase of debenture loan	(XXX)	
Expenses paid in connection with share issues	(XXX)	
Net cash inflow/ (outflow) from financing	XXX or	(XXX)
Increase/ (Decrease) in cash and cash equivalents		XXX

## Notes on the Cash Flow Statement

### 1. Reconciliation of operating profit to net cash inflow from operating activities

		Rs.
Operating profit		XXX
Depreciation charges		XXX
Loss on sale of tangible fixed assets		XXX
Increase/(decrease) in stocks	(XXX)	
Increase/(decrease) in debtors	(XXX)	
Increase/(decrease) in creditors		XXX
Net cash inflow from operating activities		XXX

### 2. Analysis of changes in cash and cash equivalents during the year

Balance at 1 January 19X4	XXX
Net cash inflow	XXX
Balance at 31 December 19X4	XXX

### 3. Analysis of the balances of cash and cash equivalents as shown in the balance sheet

	19X4	19X3	Change in year
	Rs.	Rs.	Rs.
Cash at bank and in hand	XXX	XXX	(XXX)
Short term investments	XXX	XXX	XXX
Bank overdrafts	(XXX)	(XXX)	(XXX)
	XXX	XXX	XXX

### 4. Analysis of changes in finance during the year

	Share capital	Debenture loan
	Rs.	Rs.
Balance at 1 January 19X4	XXX	XXX
Cash inflow/(outflow) from financing	XXX	(XXX)
Profit on repurchase of debenture loan for less than its book value	-	(XXX)
Balance at 31 December 19X4	XXX	XXX

Note: Any transactions which do not result in a cash flow should not be reported in the statement. Movements within cash or cash equivalents should not be reported.

### **Explanations**

It is often difficult to conceptualise just what is "cash" and what are "cash equivalents". Cash need not be physical money; it can take other forms:

- a) Cash in hand and deposits repayable on demand with any bank or financial institution.
- b) Cash equivalents: Short term, highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.
- c) Operating activities: Principal revenue-producing activities of the company and other activities that are not investing or financing activities. The reconciliation between the operating profit reported in the profit and loss account and the net cash flow from operating activities must show the movements in stocks, debtors and creditors related to operating activities.
- d) Returns on investments and servicing of finance.

#### **Cash inflows from these sources includes**

- (i) Interest received, also any related tax recovered, and
- (ii) Dividends received.

#### **Cash outflows from these sources includes**

- i) Interest paid
  - ii) Dividends paid
  - iii) Interest element of finance lease payments.
- e) Taxation: These cash flows will be those to and from the tax authorities in relation to the company's revenue and capital profits, i.e. corporation tax.
- f) Investing activities: the acquisition and disposal of long term assets and other investments not included in cash equivalents.

### **Cash receipts include**

- (i) Receipts from sales or disposals of fixed assets (or current asset investments)
- (ii) Receipts from sales of investments in subsidiary undertakings net of any cash or cash equivalents transferred as part of the sale
- (iii) Receipts from sales of investments in other entities
- (iv) Receipts from repayment or sales of loans made to other entities. Cash payments include;
- (v) Payments to acquire fixed assets

- (vi) Payments to acquire investments in subsidiary net of balances of cash and cash equivalents acquired
  - (vii) Payments to acquire investments in other entities
  - (viii) Loans made and payments to acquire debt of other entities.
- g) Financing: activities that result in changes in the size and composition of the equity capital and borrowings of the enterprise.

**Financing cash inflows include**

- (i) Receipts from issuing shares or other equity instruments
- (ii) Receipts from issuing debentures, loans, notes and bonds and so on.

**Financing cash outflows include**

- i) Repayments of amounts borrowed
- ii) The capital element of finance lease rental payments to re-acquire or redeem the entity's shares.

**Example:7**

Statement of financial position of Mr. Arun is given below.

<i>Liabilities</i>	<i>01.1.2000</i>	<i>31.12.2000</i>	<i>Assets</i>	<i>01.1.2000</i>	<i>31.12.2000</i>
	<i>Rs.</i>	<i>Rs.</i>		<i>Rs.</i>	<i>Rs.</i>
<i>Account Payable</i>	<i>29,000</i>	<i>25,000</i>	<i>Cash</i>	<i>40,000</i>	<i>30,000</i>
<i>Capital</i>	<i>7,39,000</i>	<i>6,15,000</i>	<i>Debtors</i>	<i>20,000</i>	<i>17,000</i>
			<i>Stock</i>	<i>8,000</i>	<i>13,000</i>
			<i>Building</i>	<i>1,00,000</i>	<i>80,000</i>
			<i>Other fixed</i>		
			<i>Assets</i>	<i>6,00,000</i>	<i>5,00,000</i>
	<i>7,68,000</i>	<i>6,40,000</i>		<i>7,68,000</i>	<i>6,40,000</i>

The following additional information is also available:

- (a) There were no drawings.
- (b) There were no purchases or sale of either building or other fixed assets. Prepare a statement of case flow.

**Solution:****Cash Flow Statement**

<i>Inflow of cash</i>	<i>Amount Rs.</i>	<i>Outflow of cash</i>	<i>Amount Rs.</i>
Opening Cash Balance	40,000	Decrease in accounts payable	4,000
Decrease in Debtors	3,000	Increase in stock	5,000
		Cash from operation (1)	4,000
		Closing cash balance	30,000
	43,000		43,000

**Workings: 1****Profit and Loss Account**

	<i>Amount Rs.</i>		<i>Amount Rs.</i>
To Depreciation on Building	20,000	By Capital Account (Loss)	1,24,000
To Depreciation on Plant	1,00,000		
To Cash from operation (Loss on operation)	4,000		
	1,24,000		1,24,000

**2. Capital Account of Mr. Arun**

To Profit & Loss A/c (Loss)	1,24,000	By Balance b/d	7,39,000
To Balance c/d	6,15,000		
	7,39,000		7,39,000

**3. Building Account**

To Balance b/d	1,00,000	By Depreciation (P&L A/c)	20,000
		By Balance c/d	80,000
	1,00,000		1,00,000

**4. Other Fixed Assets Account**

To balance b/d	6,00,000	By Depreciation (P&L A/c)	1,00,000
		By Balance c/d	5,00,000
	6,00,000		6,00,000

## UNIT - V

### WORKING CAPITAL FINANCE

A firm's working capital is the money it has with it to meet current obligations (those due in less than a year) and to acquire earning assets. Financial Pundits helps corporates in raising Working Capital Finance to meet their operating expenses, purchasing inventory, receivables financing, either by direct funding or by issuing letter of credit and other similar instruments

#### Key Benefits

- a) Funded facilities, i.e. the bank provides funding and assistance to actually purchase business assets or to meet business expenses.
- b) Non-Funded facilities, i.e. the bank can issue letters of credit or can give a guarantee on behalf of the customer to the suppliers, Government Departments for the procurement of goods and services on credit.
- c) Available in both Indian as well as Foreign currency.

### TYPES OF WORKING CAPITAL FINANCE

#### 1. Cash Credit

This is a running account facility that is extended for a short period, not more than 12 months and reviewed regularly. Banks normally lend money against the security of stock and debt. In addition, the borrower only has to pay interest on the amount actually utilized by it. In order to repay and close the account, simply deposit the outstanding dues into the account.

#### 2. Overdraft Facility

Get access to cash immediately as and when required, means the act of overdrawing from a Bank account. In addition, the borrower has to pay only the interest on the amount actually utilized by it. In order to pay, simply deposit the outstanding dues into the account.

#### 3. Pre-shipment Finance/Packing Credit

Short term, pre-shipment financing enables exporters to procure raw materials for the manufacture of finished goods for export. The facility is available both in Indian Rupee and in major foreign currencies to Exporters, enabling the exporters to compete in global market against others.

#### 4. Post-Shipment Finance

Short term, post sale financing to the exporter to provide liquidity during the credit period permitted to the overseas buyers to make payment. The facility is available both in



Indian Rupee and in major foreign currencies to Exporters, enabling the exporters to compete in global market against others.

### **5. Buyers Credit**

As an importer, one can avail of Buyers Credit facility at very competitive rates. One can make the import payment to its overseas supplier by availing the buyers credit and can repay the lender at a later date. The funding is arranged from the overseas network branches and one can avail of this product in major currencies. Availing Buyers credit would be subject to compliance with the bank's internal process and policy requirements.

### **6. Short term corporate loans**

These will be demand loans of less than or upto 12 months' tenor availed by borrowers to support temporary cash flow mismatches or to avail short-term interest rate arbitrage.

### **7. Long Term corporate loans**

These will be demand loans of 12 months to 36 months' tenor availed by borrowers to support long term augmentation of working capital , procurement of certain assets , cash flow mismatches etc

### **8. Bank Guarantee**

Local and foreign currency Bank Guarantees issued on the behalf of the borrower against specified collaterals for its business needs.

### **9. Letters of credit (L/C)**

An L/C is a Banker's undertaking on behalf of a constituent to pay to a third party against compliance of stipulated conditions. This involves, irrevocable sight and usance L/Cs, back to back L/Cs, Standby L/Cs & Inland & Foreign L/Cs.

## **NEEDS OF WORKING CAPITAL FINANCE**

### **1. Strengthen the Solvency**

Working capital helps to operate the business smoothly without any financial problem for making the payment of short-term liabilities. Purchase of raw materials and payment of salary, wages and overhead can be made without any delay. Adequate working capital helps in maintaining solvency of the business by providing uninterrupted flow of production.

### **2. Enhance Goodwill**

Sufficient working capital enables a business concern to make prompt payments and hence helps in creating and maintaining goodwill. Goodwill is enhanced because all current liabilities and operating expenses are paid on time.

### **3. Easy Obtaining Loan**

A firm having adequate working capital, high solvency and good credit rating can arrange loans from banks and financial institutions in easy and favorable terms.

### **4. Regular Supply of Raw Material**

Quick payment of credit purchase of raw materials ensures the regular supply of raw materials from suppliers. Suppliers are satisfied by the payment on time. It ensures regular supply of raw materials and continuous production.

### **5. Smooth Business Operation**

Working capital is really a life blood of any business organization which maintains the firm in well condition. Any day to day financial requirement can be met without any shortage of fund. All expenses and current liabilities are paid on time.

### **6. Ability to Face Crisis**

Adequate working capital enables a firm to face business crisis in emergencies such as depression

## **BANK FINANCE FOR WORKING CAPITAL**

Banks are the main institutional sources of working capital finance in India. After trade credit, bank credit is the most important source of financing working capital requirements. A bank considers a firm's sales and production plans and the desirable levels of current assets in determining its working capital requirements. The amount approved by the bank for the firm's working capital is called credit limit. Credit limit is the maximum amount of funds which a firm can obtain from the banking system. In the case of firms with seasonal businesses, banks may fix separate limits for the peak level credit requirement and normal, non – peak level credit requirement indicating the periods during which the separate limits will be utilized by the borrower. In practice, banks do not lend 100 per cent of the credit limit, they detect margin money. Margin requirements are based on the principle of conservatism and are meant to ensure security. If the margin requirement is 30 per cent, bank will lend only up to 70 per cent of the value of the asset. This implies that the security of the bank's lending should be maintained even if the asset's value falls by 30 per cent.

## **FORMS OF BANK FINANCE**

A firm can draw funds from its bank within the maximum credit limit sanctioned. It can draw funds in following forms:

1. Overdraft
2. Cash credit

3. Bills purchasing or discounting and
4. Letter of Credit
5. Working capital loan

### **1. Overdraft**

Under the overdraft facility, the borrower is allowed to withdraw funds in excess of the balance in his current account, up to a certain specified limit, during a stipulated period. Though overdrawn amount is repayable on demand, it generally continues for a long period by annual renewals of the limits. It is a very flexible arrangement from the borrower's point of view since he can withdraw and repay funds whenever he desires within the overall stipulations. Interest is charged on daily balances—on the amount actually withdrawn—subject to some minimum charges. The borrower operates the account through cheques.

### **2. Cash credit**

The cash credit facility is similar to the overdraft arrangement. It is most popular method of bank finance for working capital in India. Under the cash credit facility, a borrower is allowed to withdraw funds from the bank up to the sanctioned credit limit. He is not required to borrow the entire sanctioned credit at once; rather, he can draw periodically to the extent of his requirements and repay it by depositing surplus funds in his cash credit amount. There is no commitment charge; therefore interest is payable on the amount actually utilized by the borrower. Cash credits limits are sanctioned against the security of current assets. Though funds borrowed are repayable on demand, banks usually do not recall such advances unless they are compelled by adverse circumstances. Cash credit is a most flexible arrangement from the borrower's point of view.

### **3. Purchase or discounting of bills**

Under the purchase or discounting of bills, a borrower can obtain credit from a bank against its bills. The bank purchases or discounts the borrower's bills. The amount provided under this agreement is covered within the overall cash credit or overdraft limit. Before purchasing or discounting the bills, the bank satisfies itself as to the creditworthiness of the drawer. Though the term 'bill purchased' implies that the bank overcomes owner of the bills, in practice, bank holds bills as security for the credit. When a bill is discounted amount of the bill (viz., full amount of bill minus the account charged by the bank). The bank collects the full amount on maturity.

To encourage bills as instruments of credit, the Reserve Bank of India introduced the new bill market scheme in 1970. The scheme was intended to reduce the borrower's reliance in the cash credit system which is susceptible to misuse. It was also envisaged that the

scheme will facilitate banks to deploy their surpluses or deficits by rediscounting or selling the bills purchased or discounted by them. Banks with surplus funds could repurchase or rediscount bills in the possession of banks with deficits. There can be situation where every bank wants to sell its bills. Therefore, the Reserve Bank of India plays the role of the lender of last resort, under the new bill market scheme. Unfortunately, the scheme has not worked successfully so far.

#### **4. Letter of credit**

Suppliers, particularly the foreign suppliers, insist that the buyer should ensure that his bank will make the payment if he fails to honour its obligation. This is ensured through a letter of credit (L/C) arrangement. A bank opens an L/C in favour of a customer to facilitate his purchase of goods. If the customer does not pay to the supplier within the credit period, the bank makes the payment under the L/C arrangement. This arrangement passes the risk of the supplier to the bank. Bank charges the customer for opening the L/C. It will extend such facility to financially sound customers. Unlike cash credit or overdraft facility the L/C arrangement is an indirect financing; the bank will make payment to the supplier on behalf of the customer only when he fails to meet obligation.

#### **5. Working capital loan**

A borrower may sometimes require ad hoc or temporary accommodations, in excess of the sanctioned credit limit, to meet unforeseen contingencies. Banks provide such accommodation through a demand loan account or a separate non-operable cash credit account. The borrower is required to pay a higher rate of interest above the normal rate of interest on such additional credit.

### **MONETARY POLICY BY RBI**

Monetary policy is how central banks manage liquidity to create economic growth. Liquidity is how much there is in the money supply. That includes credit, cash, checks and money market mutual funds. The most important of these is credit. It includes loans, bonds and mortgages.

As the watchdogs of the nation's money supply, the Federal Reserve has the responsibility to expand the money supply while keeping inflation in check. The immediate impact of Fed policy is on interest rates – the cost of money. When the Fed pursues an expansionary policy, the increased supply of money holds down interest rates, making it easier to borrow money for capital investments. Conversely, when the Fed tightens the money supply to cool an overheated economy, interest rates rise.

## Pros and Cons

While fiscal and monetary policies work well in theory, there are problems that may hinder business operations. Fiscal policy involves time lags. If the economy is slumping, government stimuli take time to work their way through the economy. More serious is the impact on interest rates when the government borrows money. This “crowding out” drives up interest rates because the government competes with private industry to borrow. While the Federal Reserve can purchase some of the debt, it expands the money supply in the process, risking inflation which is also detrimental to a sound business climate. Some economists blame the Fed for mismanaging the money supply, causing the dot-com bubble of 1999 and the housing bubble that followed a few years later.

## Targeted Programs

As a small business, you have several specific options to take advantage of the government's fiscal policies. The Small Business Administration provides assistance in a variety of ways, including support on starting and managing your business, providing loan guarantees to help you grow your business and assistance in bidding on government contracts. The SBA also coordinates the Small Business Innovation Research program, which helps support research and development in the private sector while providing the government with needed research.

## Monetary Policy Tools

To accomplish its monetary policy objective, the Central Bank of Belize can use a mix of direct and indirect policy tools to influence the supply and demand of money.

### 1. Direct policy tools

These tools are used to establish limits on interest rates, credit and lending. These include direct credit control, direct interest rate control and direct lending to banks as lender of last resort, but they are rarely used in the implementation of monetary policy by the Bank.

1. **Interest rate controls** – The Bank has the power to announce the minimum and maximum rates of interest and other charges that domestic banks may impose for specific types of loans, advances or other credits and pay on deposits. Currently, the Bank does not set any interest rate levied by domestic banks except for the minimum interest rate payable on savings deposits. The Bank has opted not to use this as a tool of monetary policy but to let market forces determine interest rate.
2. **Credit controls** – The Bank has the power to control the volume, terms and conditions of domestic bank credit, including installment credit extended through

loans, advances or investments. The Bank has not exercised such controls in its implementation of monetary policy.

3. **Lending to domestic banks** – The Bank may provide credit, backed by collateral, to domestic banks to meet their short-term liquidity needs as lender of last resort. The interest is set at a punitive rate to encourage banks to manage their liquidity efficiently.

## 2. Indirect policy tools

Used more widely than direct tools, indirect policy tools seek to alter liquidity conditions. While the use of reserve requirements has been the traditional monetary tool of choice, more recently, the Bank shifted towards the use of open market operations to manage liquidity in the financial system and to signal its policy stance.

1. **Reserve requirements** – The Bank uses reserve requirements to limit the amount of funds that domestic banks can use to make loans to its customers. Domestic banks are required to hold a proportion of customers' deposits in approved liquid assets. An increase in the reserve ratios should reduce domestic banks' lending and, therefore, the demand for hard currency, while a decrease should yield the opposite effect.
2. **The secondary reserve requirement** is a certain percentage of domestic banks' deposit liabilities that is to be held in approved liquid assets. It should be freely and readily convertible into cash without significant loss, free from any charge, lien or encumbrance.
3. **The cash reserve requirement**, also called primary reserve requirements, is a percentage of domestic banks' average deposit liabilities that must be held at the Bank in a non-interest bearing account. Cash reserves are a component of the secondary reserve requirements.
4. To encourage the development of the government securities market, a securities requirement was instituted on 1 May 2010, requiring domestic banks to hold a proportion of their average deposit liabilities in the form of Treasury bills. The securities requirement is also a component of the secondary reserve requirements.
5. **Open market operations** – The conduct of open market operations refers to the purchase or sale of government securities by the Bank to the banking and non-banking public for liquidity management purposes. When the Bank sells securities, it reduces domestic banks' reserves (monetary base), and when it buys securities, it increases banks' reserves.

## RECOMMENDATIONS OF VARIOUS COMMITTEES

The following points highlight the six committees involved in financing working capital by banks, i.e,

1. Dehejia Committee
2. Tandon Committee
3. Chore Committee
4. Marathe Committee
5. Chakravarty Committee
6. Kannan Committee Report.

### 1. Dehejia Committee

National Credit Council constituted a committee under the chairmanship of Shri V.T. Dehejia in 1968 to 'determine the extent to which credit needs of industry and trade are likely to be inflated and how such trends could be checked' and to go into establishing some norms for lending operations by commercial banks.

The committee was of the opinion that there was also a tendency to divert short-term credit for long-term assets. Although committee was of the opinion that it was difficult to evolve norms for lending to industrial concerns, the committee recommended that the banks should finance industry on the basis of a study of borrower's total operations rather than security basis alone.

The Committee further recommended that the total credit requirements of the borrower should be segregated into 'Hard Core' and 'Short-term' component.

The 'Hard Core' component which should represent the minimum level of inventories which the industry was required to hold for maintaining a given level of production should be put on a formal term loan basis and subject to repayment schedule. The committee was also of the opinion that generally a customer should be required to confine his dealings to one bank only.

### 2. Tandon Committee

Reserve Bank of India set up a committee under the chairmanship of Shri P.L. Tandon in July 1974. The terms of reference of the Committee were:

1. To suggest guidelines for commercial banks to follow up and supervise credit from the point of view of ensuring proper end use of funds and keeping a watch on the safety of advances;

2. To suggest the type of operational data and other information that may be obtained by banks periodically from the borrowers and by the Reserve Bank of India from the leading banks;
3. To make suggestions for prescribing inventory norms for the different industries, both in the private and public sectors and indicate the broad criteria for deviating from these norms ;
4. To make recommendations regarding resources for financing the minimum working capital requirements;
5. To suggest criteria regarding satisfactory capital structure and sound financial basis in relation to borrowings;
6. To make recommendations as to whether the existing pattern of financing working capital requirements by cash credit/overdraft system etc., requires to be modified, if so, to suggest suitable modifications.

**The committee was of the opinion that:**

- i. Bank credit is extended on the amount of security available and not according to the level of operations of the customer,
- ii. Bank credit instead of being taken as a supplementary to other sources of finance is treated as the first source of finance.

Although the Committee recommended the continuation of the existing cash credit system, it suggested certain modifications so as to control the bank finance. The banks should get the information regarding the operational plans of the customer in advance so as to carry a realistic appraisal of such plans and the banks should also know the end-use of bank credit so that the finances are used only for purposes for which they are lent.

The recommendations of the committee regarding lending norms have been suggested under three alternatives. According to the first method, the borrower will have to contribute a minimum of 25% of the working capital gap from long-term funds, i.e., owned funds and term borrowing; this will give a minimum current ratio of 1.17: 1.

Under the second method the borrower will have to provide a minimum of 25% of the total current assets from long-term funds; this will give a minimum current ratio of 1.33: 1. In the third method, the borrower's contribution from long-term funds will be to the extent of the entire core current assets and a minimum of 25% of the balance current assets, thus strengthening the current ratio further.



**Example:**

Total current assets required	₹ 40,000
Current liabilities other than bank borrowings	10,000
Core current assets	5,000
<b>1st Method</b>	
Total current assets required	40,000
Less Current Liabilities	<u>10,000</u>
Working Capital Gap	30,000
Less 25% from Long-term sources	<u>7,500</u>
Maximum permissible bank borrowings	<u>22,500</u>
<b>2nd Method</b>	
Current assets required	40,000
Less 25% to be provided from long-term funds	<u>10,000</u>
	30,000
Less Current Liabilities	<u>10,000</u>
Maximum permissible bank borrowings	<u>20,000</u>
<b>3rd Method</b>	
Current assets	40,000
Less Core Current assets	<u>5,000</u>
	35,000
Less 25% to be provided from long-term funds	<u>8,750</u>
	26,250
Less Current Liabilities	<u>10,000</u>
Maximum permissible bank borrowings	<u>16,250</u>

**3. Chore Committee**

The Reserve Bank of India in March, 1979 appointed another committee under the chairmanship of Shri K.B. Chore to review the working of cash credit system in recent years with particular reference to the gap between sanctioned limits and the extent of their utilization and also to suggest alternative type of credit facilities which should ensure greater credit discipline.

**The important recommendations of the Committee are as follows:**

- i. The banks should obtain quarterly statements in the prescribed format from all borrowers having working capital credit limits of Rs. 50 lacs and above.
- ii. The banks should undertake a periodical review of limits of Rs. 10 lacs and above.
- iii. The banks should not bifurcate cash credit accounts into demand loan and cash credit components.
- iv. If a borrower does not submit the quarterly returns in time the banks may charge penal interest of one per cent on the total amount outstanding for the period of default.
- v. Banks should discourage sanction of temporary limits by charging additional one per cent interest over the normal rate on these limits.

- vi. The banks should fix separate credit limits for peak level and non-peak level, wherever possible.
- vii. Banks should take steps to convert cash credit limits into bill limits for financing sales.

#### **4. Marathe Committee Report:**

The Reserve Bank of India, in 1982, appointed a committee under the chairmanship of Marathe to review the working of Credit Authorisation Scheme (CAS) and suggest measures for giving meaningful directions to the credit management function of the Reserve Bank. The recommendations of the committee have been accepted by the Reserve Bank of India with minor modifications.

#### **The principal recommendations of the Marathe Committee include:**

- I. The committee has declared the Third Method of Lending as suggested by the Tanden Committee to be dropped. Hence, in future, the banks would provide credit for working capital according to the Second Method of Lending.
- II. The committee has suggested the introduction of the 'Fast Track Scheme' to improve the quality of credit appraisal in banks. It recommended that commercial banks can release without prior approval of the Reserve Bank 50% of the additional credit required by the borrowers (75% in case of export oriented manufacturing units) where the following requirements are fulfilled:
  - a) The estimates/projections in regard to production, sales, chargeable current assets, other current assets, current liabilities other than bank borrowings, and net working capital are reasonable in terms of the past trends and assumptions regarding most likely trends during the future projected period.
  - b) The classification of assets and liabilities as 'current' and 'non-current' is in conformity with the guidelines issued by the Reserve Bank of India.
  - c) The projected current ratio is not below 1.33 : 1.
  - d) The borrower has been submitting quarterly information and operating statements (Form I, II and III) for the past six months within the prescribed time and undertakes to do the same in future also.
  - e) The borrower undertakes to submit to the bank his annual account regularly and promptly, further, the bank is required to review the borrower's facilities at least once in a year even if the borrower does not need enhancement in credit facilities.

## 5. Chakravarty Committee

The Reserve Bank of India appointed another committee under the chairmanship of Sukhamoy Chakravarty to review the working of the monetary system of India. The committee submitted its report in April, 1985.

**The committee made two major recommendations in regard to the working capital finance:**

### (i) Penal Interest for Delayed Payments:

The committee has suggested that the government must insist that all public sector units, large private sector units and government departments must include penal interest payment clause in their contracts for payments delayed beyond a specified period. The penal interest may be fixed at 2 per cent higher than the minimum lending rate of the supplier's bank.

### (ii) Classification of Credit Limit Under Three Different Heads:

The committee further suggested that the total credit limit to be sanctioned to a borrower should be considered under three different heads:

1. Cash Credit I to include supplies to government,
2. Cash Credit II to cover special circumstances, and
3. Normal Working Capital Limit to cover the balance credit facilities.

The interest rates proposed for the three heads are also different. Basic lending rate of the bank should be charged to Cash Credit II, and the Normal Working Capital Limit be charged as below:

- a) For Cash Credit Portion: Maximum prevailing lending rate of the bank.
- b) For Bill Finance Portion: 2% below the basic lending rate of the bank.
- c) For Loan Portion: The rate may vary between the minimum and maximum lending rate of the bank.

## 6. Kannan Committee

In view of the ongoing liberalization in the financial sector, the Indian Banks Association (IBA) constituted a committee headed by Shri K. Kannan, Chairman and Managing Director of Bank of Baroda to examine all the aspects of working capital finance including assessment of maximum permissible bank finance (MPBF). The Committee submitted its report on 25th February, 1997.

It recommended that the arithmetical rigidities imposed by Tandon Committee (and reinforced by Chore Committee) in the form of MPBF computation so far been in practice,

should be scrapped. The Committee further recommended that freedom to each bank be given in regard to evolving its own system of working capital finance for a faster credit delivery so as to serve various borrowers more effectively.

It also suggested that line of credit system (LCS), as prevalent in many advanced countries, should replace the existing system of assessment/fixation of sub-limits within total working capital requirements.

The Committee proposed to shift emphasis from the Liquidity Level Lending (Security Based Lending) to the Cash Deficit Lending called Desirable Bank Finance (DBF). Some of the recommendations of the committee have already been accepted by the Reserve Bank of India with suitable modifications.

**The important measures adopted by RBI in this respect are given below:**

- i. Assessment of working capital finance based on the concept of MPBF, as recommended by Tandon Committee, has been withdrawn. The banks have been given full freedom to evolve an appropriate system for assessing working capital needs of the borrowers within the guidelines and norms already prescribed by Reserve Bank of India.
  - ii. The turnover method may continue to be used as a tool to assess the requirements of small borrowers. For small scale and tiny industries, this method of assessment has been extended upto total credit limits of Rs 2 crore as against existing limit of 1 crore.
  - iii. Banks may now adopt Cash Budgeting System for assessing the working capital finance in respect of large borrowers.
  - iv. The banks have also been allowed to retain the present method of MPBF with necessary modification or any other system as they deem fit.
  - v. Banks should lay down transparent policy and guidelines for credit dispensation in respect of each broad category of economic activity.
  - vi. The RBI's instructions relating to directed credit, quantitative limits on lending and prohibitions of credit shall continue to be in force. The present reporting system to RBI under the Credit Monitoring Arrangement (CMA) shall also continue in force.
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