



Uttar Pradesh Rajarshi Tandon
Open University

Master of Business Administration

M.B.A.-3.23

Working Capital Management

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BLOCK STRUCTURE

In working capital Management (MBA-3.23) there are 5 Blocks containing 18 Units.

Block I concepts and determination of working capital contains 4 units. Unit 1 is about the conceptual framework of working capital Unit 2 highlight the operating environment of working capital. Unit 3 deals with determination of working capital Unit 4 discuss the theories and approaches of working capital.

Block 2 explores management of current assets. This block comprises of Unit 5 to 8. Unit 5 deals with receivable management, Unit 6 deals with management of cash, Unit 7 describes management of marketable securities and Unit 8 deals with management of Inventory.

Block 3 contains Units 9 to 11 explaining the basic principle and practices of bank credit in Unit 9. Unit 10 deals with methods of assessment and appraisal of bank credit and Unit 11 where we learn about other sources of short term finances.

Block 4 working capital management has Unit 12 to 15. Unit 12 deals with Liquidity and profitability. Unit 13 explains payable management, Unit 14 deals with short term international financial transactions and Unit 15 highlights cash management.

Block 5- Contains units 16-18 Unit 16 explores Integrating working capital and capital Investment process, Unit 17 deals with sources of working capital finance and last Unit 18 deals with dividend policy and decisions.

After going through all the units the learner have indepth knowledge of working capital management.

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BLOCK

1

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UNIT-1	9-20
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Conceptual Framework

UNIT-2	21-38
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Operating Environment of Working Capital

UNIT-3	39-62
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Determination of Working Capital

UNIT-4	63-82
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Theories and Approaches

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COURSE INTRODUCTION

In **Block-1** you learnt about the introductory part of working capital management; methods of demand forecasting; inventory management and receivables management etc.

Unit-1 discusses about definition of working capital management, traditional and modern concept of working capital, kinds or classification of working capital, advantages of adequate working capital, and sources of working capital.

Unit-2 explains operating environment of working capital.

Unit-3 deals with determination of working capital, Methods or techniques of working capital forecasting, factors and significance.

Unit-4 deals with theories and approaches, hedging (maturity matching) strategy, conservative strategy, aggressive strategy, conservative approach to working capital financing.

UNIT-01 CONCEPTUAL FRAMEWORK

Unit Framework

- 1.1 Objectives
- 1.2 Introduction
- 1.3 Concept of Working Capital
- 1.4 Meaning of Working capital management
- 1.5 Traditional and Modern Concept of Working Capital
 - 1.5.1 Gross Working Capital
 - 1.5.2 Net Working Capital
- 1.6 Gross vs. Net Working Capital
- 1.7 Types of Working Capital
 - 1.7.1 On the basis of Balance Sheet
 - 1.7.2 On the basis of Time
- 1.8 Components of Working Capital
 - 1.8.1 Current Assets
 - 1.8.2 Current Liabilities
- 1.9 Advantages of Adequate Working Capital
- 1.10 Disadvantages from Excess Working Capital
- 1.11 Sources of Working Capital
 - 1.11.1 Spontaneous Sources of Working Capital,
 - 1.11.2 Short Term Sources of Working Capital,
 - 1.11.3 Long Term Sources of Working Capital
- 1.12 Summary
- 1.13 Self-Assessment Questions
- 1.14 Text and References

1.1 OBJECTIVES

After completing this unit you will be able to:

- to explain concept of Working Capital
- to know the types of Working Capital
- to list the components of Working Capital

- to point out advantages and disadvantages due to adequate and excessive Working Capital

1.2 INTRODUCTION

Working Capital is the part of the firm's capital which is required for financing short term or current assets such as stock, receivables, marketable securities and cash. Money invested in these current assets keep revolving with relative rapidity and is being constantly converted into cash. These cash flows rotate again in exchange of other such assets. Working Capital is also called as "short term capital". "Liquid Capital", "Circulating or revolving capital", The Working Capital management refers to management of the working capital or to be more precise the management of current assets and current liabilities. The goal of working capital management is to manage the firms' current assets and current 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. 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 current assets should be large enough to cover its current liabilities in order to ensure a reasonable margin of safety.

1.3 CONCEPT OF WORKING CAPITAL

There is no unanimous decision with the definition of working capital. The word working with reference to capital refers to circulation of capital from one form to another during day-to-day operations of business. The word capital refers to the monetary values of all assets of the business. There is lot of difference of opinions among accountants, entrepreneurs and economists.

1.4 MEANING OF WORKING CAPITAL MANAGEMENT

Working capital management is a very important to ensure that the company has enough funds to carry on with its day-to-day operations smoothly. A business should not have a very long Cash Conversion Cycle. A cash Conversion Cycle measures the time period for which a firm will be deprived of funds if it increases its investments as a part of its business growth strategies. For this the company has to take certain measures such as reduce the credit period of the customers, negotiate with the suppliers and increase its own credit period with them, maintaining the right level of inventory which reduces the raw material costs and proper cash management which ensures that cash holding costs are reduced. If these measures are followed, the working capital requirement automatically comes down.

1.5 TRADITIONAL AND MODERN CONCEPT OF WORKING CAPITAL

There are two concepts of working capital:

1.5.1 Gross working capital = Traditional concepts of working capital

1.5.2 Net working capital = Modern concepts of working capital

1.5.1 GROSS WORKING CAPITAL

In the broad sense, the term working capital refers to the gross working capital and represents the amount of funds invested in current assets. Thus, the gross working capital is the capital invested in total current assets of the enterprise. Current assets are those assets which in the ordinary course of business can be converted into cash within a short period of time normally one accounting year. Examples of current assets are:

- 1) Cash in Hand and Bank Balances,
- 2) Bills Receivables.
- 3) Sundry Debtors (less provision for bad debts)
- 4) Short-Term loans and advances.
- 5) Inventories of stocks, as :
 - i) Raw-materials
 - ii) Work-in-process
 - iii) Stores and spares
 - iv) Finished goods
- 6) Temporary investment of surplus funds
- 7) Prepaid Expenses
- 8) Accrued Incomes

1.5.2 NET WORKING CAPITAL

In a general sense, the term working capital refers to the net working capital is the excess of current assets over current liabilities. Or say :

Net Working Capital= Current Assets- Current Liabilities

Net working capital may be positive or negative. When the current assets exceed the current liabilities, the working capital is positive and the negative working capital results when the current liabilities are more than the current assets.

Current Liabilities are those liabilities which are intended to be paid in the ordinary course of business within a short period of time normally one accounting year, out of the current assets or the income of the business. Examples of current liabilities are:

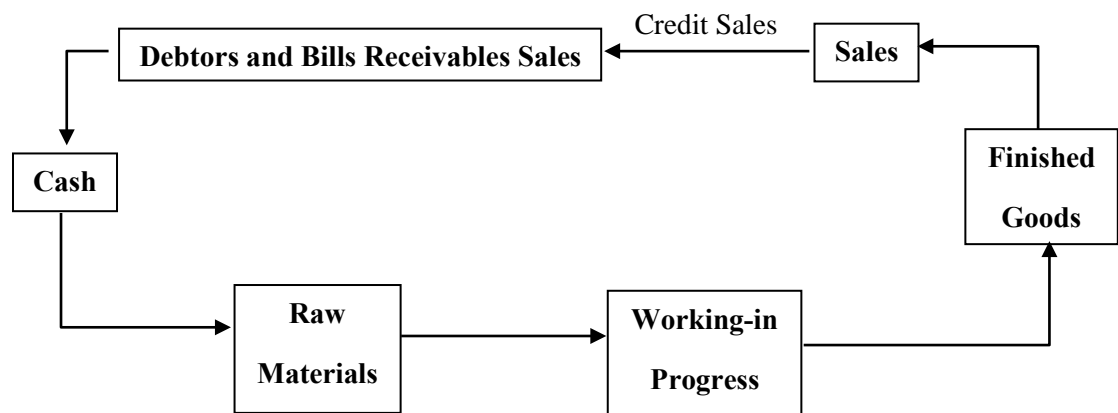
- 1) Bills payable.
- 2) Sundry Creditors or Accounts Payable,
- 3) Accrued or Outstanding Expenses.
- 4) Short-term loans, advances and deposits,
- 5) Dividends Payable.
- 6) Bank Overdraft.
- 7) Provision for taxation, if it does not amount to appropriation of profits.

The gross concept is sometimes preferred to the net concept of working capital for the following reasons.

- 1) It enables the enterprise to provide correct amount of working capital at the right time.
- 2) Every management is more interested in the total current assets with which it has to operate than the sources from where it is made available.
- 3) The gross concept takes into consideration the fact that every increase in the funds of the enterprise would increase its working capital.
- 4) The gross concept of working capital is more useful in determining the rate of return on investments in working capital.

Another concept is “operating concept.” The duration or time required to complete the sequence of events right from purchase of raw materials/goods for cash to the realization of sales in cash is called the operating cycle or working capital cycle.

Operating Cycle



The net duration of operating cycle is calculated by adding the number of days involved in the different stages of operation. This concept is more appropriate than others. According to this concept, the necessary liquid funds required by a firm for production, administration and selling can be determined for the whole year. If cash working capital requirements are known in advance, then non-cash current assets may be better managed. Now it is an important tool in projecting working capital requirements of an enterprise.

1.6 GROSS VS. NET WORKING CAPITAL

The distinction between gross working capital and net working capital does not in any way undermine the relevance of the concepts of either gross or net working capital. A financial manager must consider both of them because they provide different interpretations. The gross working capital denotes the total working capital or the total investment in current assets. A firm should maintain an optimum level of gross working capital. This will help avoiding:

- 1) The unnecessarily stoppage of work or chance of liquidation due to insufficient working capital, and
- 2) Effect on profitability (because over flowing working capital implies cost) Therefore, a firm should have just adequate level of total current assets. The gross working capital also gives an idea of total funds required for maintaining current assets.

On the other hand, net working capital refers to the amount of funds that must be invested by the firm, more or less, regularly in current assets. The remaining portion of current assets is financed and maintained by the firm.

Both concepts of working capital i.e. the gross working capital and the net working capital have their own relevance and a financial manager should give due attention to both of these. The cash inflows and outflows for any firm are seldom synchronized and so, some working capital is necessary. The cash outflows occurring from the existence of current liabilities are more easily and correctly predictable but the cash flows assets are difficult to be accurately predicted.

The more predictable, these cash flows are, the less the net working capital required by the firm. The firm with more and more uncertain cash inflows must maintain higher and higher level of current assets adequate to cover the current liabilities.

1.7 TYPES OF WORKING CAPITAL

1.7.1 ON THE BASIS OF BALANCE SHEET

- (i) Gross working Capital

- (ii) Net working capital
(These have explained earlier.)

1.7.2 ON THE BASIS OF TIME

- (i) Permanent working capital
- (ii) Variable (Temporary) working capital
 - (a) Seasonal working capital
 - (b) Specific working capital
- (i) **PERMANENT WORKING CAPITAL** : It means that minimum amount which is permanently blocked in the business and that cannot be converted into cash in the normal course of business. This amount is definitely required throughout the year on a continuous basis for maintaining the circulation of current assets. Tondon committee has identified this capital as core current assets. As the business grows the requirement of permanent working capital also increases due to increase in current assets. This portion of working capital is financed through long-term sources.
- (ii) **VARIABLE WORKING CAPITAL** : The amount which is above the permanent level of working capital is called as temporary working capital. Such requirement of this part of working capital financed from short-term funds, whenever needed. It is classified further:
 - (a) **SEASONAL WORKING CAPITAL** : Some of the industries like refrigerators and coolers may need extra fund to carry on production and to accumulate stock before the sale operations. It is of short term nature, it has to be financed from short term sources like bank loan etc.
 - (b) **SPECIFIC WORKING CAPITAL** : Such capital is required to meet unforeseen contingencies like slumps and others. It is arranged to meet special exigencies.

1.8 COMPONENTS OF WORKING CAPITAL

The working capital has two components:

1.8.1 CURRENT ASSETS

Current assets are those which are either in the form of cash or can be converted into cash within a year. Current assets are important to business because they are the assets that are used to fund day-to-day operations and pay ongoing expenses. The main items that comprise current assets are :

- i) **Inventories** : Inventories represent raw materials and components, work in progress and finished goods.
- ii) **Trade Debtors** : Trade Debtors comprise credit sales to customers.
- iii) **Prepaid Expenses** : These are those expenses, which have been paid for goods and services whose benefits have yet to be received.
- iv) **Loan and Advances** : They represent loans and advances given by the firm to other firms for a short period of time.
- v) **Investment** : These assets comprise short-term surplus funds invested in government securities, shares and short-term bonds.
- vi) **Cash and Bank Balances** : These assets represent cash in hand and at bank, which are used for meeting operational requirements. One thing you can see here is that this current asset is purely liquid but non-productive.

1.8.2 CURRENT LIABILITIES

Current liabilities form part of working capital that represents obligations which the firm has to clear to the outside parties in a short-period, generally within a year, it includes:

- i) **Sundry Creditors** : These liabilities stem out of purchase of raw materials on credit terms usually for a period of one to two months.
- ii) **Bank Overdrafts** : These include withdrawals in excess of credit balance standing in the firm's current accounts with banks.
- iii) **Short-term Loans** : Short-term borrowings by the firm from banks and others form part of current liabilities as short-term loans.
- iv) **Provisions** : These include provisions for taxations, proposed dividends and contingencies.

1.9 ADVANTAGES OF ADEQUATE WORKING CAPITAL

Inadequate working Capital is harmful for a business organisation. Adequate working capital is a source of energy to a business. The profitability of a business also depends upon planning of adequate working capital. Following are the advantages to a business enterprise if adequate working capital is available with the firm:

1. Adequate working capital enables a firm to pay its suppliers immediately.
2. It creates an environment of confidence, high morale, confidence and increases overall efficiency of the business.

3. Adequate working capital increases the productivity and efficiency of fixed assets in the business. Adequacy of working capital affects the use of fixed assets.
4. Due to adequate working capital a firm can pay its debt in time and also its collection from debtors is relatively in time. Hence, it increases goodwill of the firm because adequate working capital provides better security.
5. Despite of sufficient profits, if a firm has inadequate working capital, then it cannot distribute appropriate and enough dividend. Hence, if there is adequate working capital a firm can distribute sufficient profits and it can bring satisfaction among shareholders.
6. Due to a better credit worthiness, a firm can easily fetch short-term loans and advances from banks for completing its seasonal and short period needs.

1.10 DISADVANTAGES FROM EXCESS WORKING CAPITAL

Excess working capital refers to idle funds which do not earn any profit for the firm. If there is idle funds with a firm following disadvantages are :

1. If management is not utilizing its current resources than it indicate inefficient management.
2. Excess working capital means, there is a defective credit policy and collection policy.
3. There may be more change of holding excess inventory, if there is excess working capital such situation result upon company's profitability and efficiency in using its resources.
4. In excess working capital results the low rate of return and it will causing dissatisfaction among shareholders.
5. Due to idle funds the efficacy of firm to earn profits is affected, hence due to more interest liability, it reduces the amount of profits.

Hence, it can be concluded that excess working capital reduces return on investment while adequate working capital increase the firm's profitability as-well-as goodwill.

1.11 SOURCES OF WORKING CAPITAL

A constant flow of working capital is an intrinsic component of a successful business. This is especially true considering the outflow that is a part and parcel of every cycle: salaries and wages need to be paid; raw

materials need to be purchased and equipment need to be serviced; funds are needed for marketing, advertising, and other general overhead costs; reserves are required till the customers make their payment. Working capital is truly the lifeline for any company.

Sources of working capital can be classified into three parts.

1. Spontaneous Sources of Working Capital,
2. Short Term Sources of Working Capital,
3. Long Term Sources of Working Capital

1.11.1 SPONTANEOUS SOURCES OF WORKING CAPITAL

The word 'spontaneous' itself explains that this source of working capital is readily or easily available to the business in the normal course of business affairs. The quantum and terms of this credit depend on the industry norms and the relationship between buyer and seller. These sources include trade credit allowed by the sundry creditors, credit from employees, and other trade-related credits. The biggest benefit of spontaneous sources as working capital is its 'effortless raising' and 'insignificant cost' compared to traditional ways of financing.

List of spontaneous sources of working capital

- i. Trade credit
- ii. Sundry creditors
- iii. Bills payable
- iv. Notes payable
- v. Accrued expenses

The cost factor and the quantum depends a lot on the terms of such credit viz. maximum credit limit, the period of credit, and discount on cash payment. Each supplier will have a maximum credit limit defined for the buyer depending on the business capacity and creditworthiness of the buyer. Similarly, the credit period is defined say 30 days, 45 days etc. Discount on cash payment is allowed to the buyer if the payment immediately on buying the materials. This percentage of discount is an opportunity cost for the buyer.

1.11.2 SHORT TERM SOURCES OF WORKING CAPITAL

Short term sources can be further divided into internal and external sources of working capital finance.

The Short-term Internal Sources:

- i.** Tax provisions
- ii.** Dividend provisions

Short-term External Sources

- i.** Bank overdrafts,
- ii.** Cash credits,
- iii.** Trade deposits,
- iv.** Bills discounting,
- v.** Short-term loans or working capital loans,
- vi.** Inter-corporate loans,
- vii.** Commercial paper, etc.

Tax and dividend provisions are current liabilities and cannot be delayed. The fund that would have been used in paying these provisions act as working capital till the point these are not paid.

Short-term working capital finance availed from banks and financial institutions are costly compared to spontaneous and long-term sources in terms of rate of interest but have great time flexibility. Due to time flexibility, the finance manager can use the funds and pay interest on the money which his business utilizes and can pay them anytime when cash is available. Overall, in comparison to long-term sources where you have to hold funds even when not required, these facilities prove cheaper.

1.11.3 LONG-TERM SOURCES OF WORKING CAPITAL

Long-term sources can also be divided into internal and external sources. Long-term internal sources of finance are retained profits and provision for depreciation whereas external sources are Share Capital, long-term loan, and debentures.

Long-term Internal Sources

- i.** Retained profits
- ii.** Provision for depreciation

Long-term External Sources

- i. Share capital
- ii. Long-term loan
- iii. Debentures

Retained profits and accumulated depreciation are as good as funds available to the business without any explicit cost. These are the funds completely earned and owned by the business itself. They are utilized for expansion as well as working capital finance. Long-term external sources of finance like share capital is a cheaper source of finance but is not commonly used for working capital finance.

Working capital can be classified as temporary working capital and permanent working capital. It is advisable to use long-term sources for permanent and short-term sources for temporary working capital requirements. This will optimize the working capital cost and enforce good working capital management practices. Companies cannot rely only on limited sources for their working capital needs. They need to tap multiple avenues. They also need to constantly evaluate what their needs are, through analysis of financial statements and financial ratios, and choose their working capital channels judiciously. This is an ongoing process, and different routes are appropriate at different points in time. The trick is to choose the right alternative as per the situation.

1.12 SUMMARY

Working Capital is that part of the total Assets of the business that changes from one form to another form in the ordinary course of business operations. Gross working capital means the sum of the current assets of the business. Net working capital is the difference between current assets and current liabilities of the business. The time required to complete the sequence of business events starting from cash raw material work-in-process finished goods debtor's cash is called as operating cycle or working capital cycle. A Corporation can preserve its image with meeting all the expenses and liabilities promptly and take care for emergency needs, if its hold adequate working capital. Return on investment will reduce if a Corporation has excessive or redundant working capital. There are so many factors which should be considered for determination of working capital.

1.13 SELF-ASSESSMENT QUESTIONS

1. Explain the concept of working capital.
2. Differentiate between Gross and Net working capital.
3. What is the importance of working capital for a firm?
4. What is Working Capital Cycle?

5. What are the types of working capital? Explain it
6. “Profitability of the business also depends upon working capital”. Explain the statement.
7. “Excessive working capital is harmful for the business”. Explain the statement.
8. What are the sources of working capital? Discuss it.
9. Explain internal and external long term sources of working.

1.14 TEXT AND REFERENCES

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UNIT-02 OPERATING ENVIRONMENT OF WORKING CAPITAL

Unit Framework

- 2.1 Objectives
- 2.2 Introduction
- 2.3 Economic Liberalisation and Industry
- 2.4 Financial Markets
- 2.5 Monetary and Credit Policies
 - 2.5.1 Selective Credit Controls
 - 2.5.2 Flow of Credit
 - 2.5.3 CRR and SLR
 - 2.5.4 Bank Rate
 - 2.5.5 Interest Rates
 - 2.5.6 Money Supply
- 2.6 Summary
- 2.7 Self-Assessment Questions
- 2.8 Text and References

2.1 OBJECTIVES

The objectives of this unit are to:

- Highlight the significance of scanning, operating environment of any business
- Identify and discuss the operating environment relevant to the making of working capital decisions.
- Explain the significant aspects of monetary and credit policies.
- Examine the impact of economic liberalisation on industry as a part of operations environment.
- Survey the changing environment in financial sector.

2.2 INTRODUCTION

In our previous unit an attempt was made to provide you with a conceptual framework in terms of understanding the definition, nature and components of working capital. Further, a sketch was provided of the

characteristics of working capital. Tools for planning working capital and the impact of inflation on working capital were also discussed. This discussion in the previous unit is expected to provide you a preliminary understanding about the basic concepts. Now in the present unit we will be dealing with the operating environment of the working capital as analysed in the context of monetary, credit and financial policies. The term environment refers to the 'surroundings' or circumstances, which affect the life of an object or individual. As applied to business establishments, people talk of various types of environments like micro, macro or mega environments. Some people also talk of internal and external environments.

Nevertheless, the term environment is meant, to a large extent, to signify the surroundings or factors that are external to the firm, affecting the ability of the firm in achieving its desired objective. The nature of the environment is such that the firm will have no control on the elements constituting the environment. What the firm can do is to tailor its own policies and practices in such a way so as to gain from the changes taking place in the environment. These changes may pertain to economic, legal, social, cultural or ideological aspects. Whatever be the aspect, the firm has to gear itself to meet the challenges posed by the changing environment. The significance of scanning the environment of business is trivial. After all, **Theories and Approaches** businesses cannot be run in vacuum, they exist in a natural setting surrounded by various elements in the society. The decisions of a manager are influenced by the changes in these surroundings caused by the constituting elements. The customers, the Government, the society within and outside the country will also have their influence on the business decision-making. The value system of the society, the rules and regulations laid down by the government, the monetary and credit policies of the central bank, the trade, industrial and fiscal policies of the government, the institutional set up available in the country, the attitudes of foreign investors, NRIs, the ideological beliefs of the political parties, etc., all constitute the environment system within which a business firm is to operate.

The production schedules of the firm are to be restated if there is a change in the preferences or attitudes of the customers, suppliers, competitors and the import and export policies. Similarly, the firm may have to restructure its financing pattern consequent upon the changes in the rates of interest and conditions in the capital market. Same would be true in case of marketing and personnel policies. As a matter of fact, several corporates are assuming 'social responsibility functions' on their own, mainly due to the changes in the value system of the society and the fear of losing its confidence. Environment, thus, has profound influence on business decision-making. As applied to working capital decisions, the following elements of environment are considered relevant.

- 1) Changes in the Monetary and Credit Policies,
- 2) Changes in Inflation,

2.3 ECONOMIC LIBERALISATION AND INDUSTRY

Economic liberalization (or economic liberalisation) is the lessening of government regulations and restrictions in an economy in exchange for greater participation by private entities; the doctrine is associated with classical liberalism. The economic liberalisation in India refers to the changes and reforms, initiated in 1991, of the country's economic policies, with the goal of making the economy more market- and service-oriented, and expanding the role of private and foreign investment. Most of these changes were made as part of the conditions laid out by the World Bank and the IMF as a condition for a \$500 million bail out to the Indian government in December 1991. Specific changes include a reduction in import tariffs, deregulation of markets, reduction of taxes, and greater foreign investment. Liberalisation has been credited by its proponents for the high economic growth recorded by the country in the 1990s and 2000s. Its opponents have blamed it for increased inequality and economic degradation. The overall direction of liberalisation has since remained the same, irrespective of the ruling party, although no party has yet solved a variety of politically difficult issues, such as liberalising labour laws and reducing agricultural subsidies. There exists a lively debate in India as to whether the economic reforms were sustainable and beneficial to the people of India as a whole.

Indian government coalitions have been advised by the IMF and World Bank to continue liberalisation. Before 2015, India grew at a slower pace than China, which had been liberalising its economy since 1978. In 2015, India's GDP growth outpaced that of China. The McKinsey Quarterly stated that removing major obstacles "would free India's economy to grow as fast as China's, at 10% a year".

The economic liberalization programme initiated by the Government in the early nineties has changed the face of industry, more particularly the dynamics of financial environment. There has been a sea change in the organizational structure and operations of the players in money and capital markets. The distinction between long term financing and short term financing is slowly on the wane. Development Banks are now converting themselves into ordinary commercial banks. Deregulation of interest rates, emergence of a liberalized capital market and increasing participation of bank in terms of financing have significantly influenced the operations of development banks. With their fray into the realm of working capital loans; the traditional divide into the operational domain of development banks and commercial banks is getting blurred. One of the implications of this development is that the hitherto privileged access to assured sources of low cost funds will disappear. There has already been an attempt to align all the forces to market make the latter decide the equilibrium between supply of and demand for funds.

The monetary policy framework has undergone changes over the recent period in response to reforms in the financial sector and the growing external orientation of the economy. The endeavour of the policy has been to enhance the allocative efficiency of the financial sector, preserve financial stability and improve the transmission mechanism of monetary policy by moving from direct to indirect instruments. The stance of the monetary policy has been to ensure provision of adequate liquidity to meet credit growth and suggest investment demand in the economy, while continuing a vigil on the movements in the price level and to continue with the present policy of interest rate structure in the medium term.

On the fiscal front, the government expenditure has been cut in real terms. The burnt has been borne by cuts in investments and expenditure on social sector. There were large slippages in the fiscal correction. The rising deficits on the revenue account are often cited as the main cause for the observed phenomenon. Behind these lie the erosion of excise tax base, mounting interest burden on public debt, growing subsidies and the rising cost of wages and salaries. On the external front, following the liberalisation, India devalued its currency leaving an impact on the exports and imports. With an unsuccessful interlude with Exim scrip's and dual exchange rate system; India went in for a unified market determined exchange rate system. Correcting the exchange rate valuation of the past was a major event on the reform process. The lower exchange rate enhances the profitability of existing exports, more importantly; it broadens the range of eligible exports. It makes imports more costly and provides scope for import substitution, thus narrowing the range of potential imports. The rupee is now convertible on current account, subject to exchange rate risk. Some of the important components of capital account are considerably liberalised.

These developments produce some direct and some indirect effects on the **Theories and Approaches** growth and development of Indian industry in the years to come. More specifically, developments in the financial sector pose serious concerns for the effective use of working capital by the industry.

2.4 FINANCIAL MARKETS

The role of financial markets is paramount, in the mobilisation and allocation of savings in the economy. They are the agencies that provide necessary funds for all productive purposes. In addition, the role of financial markets is increasingly becoming critical in transmitting signals for policy and in facilitating liquidity management. They are regarded as an essential adjunct to economic growth. The real economy can be sound and productive only when financial markets operate on prudent lines. The main organised financial markets in India are:

- i) the credit market, which is dominated by commercial banks;

- ii) the money market with call money segment forming a sizeable proportion;
- iii) equity and term lending market consisting of primary, secondary and term lending segments;
- iv) corporate debt market comprising PSU bonds and corporate debentures;
- v) gilt-edged market for Government securities;
- vi) housing finance market;
- vii) hire purchase and leasing finance market, wherein the non-bank financial **Theories and Approaches** companies (NBFCs) predominate;
- viii) insurance market; and
- ix) foreign exchange market.

In addition, there is an unorganised and informal finance market comprising of money lenders in villages and indigenous bankers in towns/cities. All the agencies constitute the financial sector of India. In the recent past (since 1991) government has embarked upon effecting major changes in the areas of industrial trade and exchange rate policies. These changes are designed to correct the macro-economic imbalances and effect structural adjustments with the objective of bringing about a more competitive system and promoting efficiency in the real sectors of the economy. Economic reforms in the real sectors of the economy will not produce desired results, unless the former are supplimented by suitable and effective financial sector reforms. With this end in view, the Government of India has appointed a committee on the working of financial system of the country in August 1991 under the chairmanship of M.Narasimham.

The committee was asked, inter alia, to examine the existing structure of the financial system and its various components and to make recommendations for improving the efficiency and effectiveness of the system with particular reference to the economy of operations, accountability and profitability of the commercial banks and financial institutions. The committee has submitted its report in November 1991. Since the submission of the report, the Government has taken several steps on different aspects of the recommendations. The significant steps that were taken are:

- (i) A strict criteria was evolved for companies that access securities markets. The issuers of securities are required to meet certain standards like the payment of dividend, minimum share-holding requirement, etc.
- (ii) The Securities and Exchange Board of India (SEBI) took several steps for widening and deepening different segments of the market for promoting investor protection and market development;

- (iii) The safety and integrity of the securities market were strengthened through the institution of risk management measures, which included a comprehensive system of margins, intra-day trading and exposure limits, capital adequacy norms for brokers and setting up of trade/settlement guarantee funds.
- (iv) Reforms in the secondary market focused on improving market transparency, integrity and infrastructure.
- (v) FIIs were permitted to invest upto 10 per cent in equity of any company, to invest in unlisted companies and to invest in debt securities without any requirement for investment in equity. They were also permitted to invest in dated government securities within the framework of guidelines on FII investment in debt instruments.
- (vi) Government has also initiated measures to deepen and broaden the government securities market and increase its liquidity.
- (vii) The earlier restriction that debt instruments of a corporate could be listed only after its equity had been listed on any exchange was removed.
- (viii) Investment guidelines regarding the utilization of funds of LIC were revised.
- (ix) The Mutual Fund Regulations issued by SEBI in 1993 were further revised on the basis of a special study commissioned by itself.

2.5 MONETARY AND CREDIT POLICIES

During seventies after the economies have started experiencing high inflation and low growth (a phenomenon called 'stagflation') economists have turned their attention to the potentiality of the monetary policy in the economic policy making. The relative importance of growth and price stability as the objectives of monetary policy became the focus of attention in both developed and developing economies. In a way, the objectives of monetary policy can be no different from the overall objectives of economic policy. While some central banks consider monetary targeting as operationally meaningful, some others focus on interest rates. Whatever be the method, growth with stability is attempted as the objective of monetary and economic policy of India. In the conduct of monetary policy, the following aspects become pertinent:

- (a) Selective Credit Controls
- (b) Flow of Credit
- (c) CRR & SLR
- (d) Bank Rate
- (e) Interest Rates

(f) Money Supply

2.5.1 SELECTIVE CREDIT CONTROLS

Central banks, generally, have a policy to use qualitative techniques in addition to quantitative techniques of credit control. The most widely used of the qualitative techniques are selective credit control and moral suasion. While the general credit controls operate on the cost and total volume of credit, selective credit controls relate to tools available with the monetary authority for regulating the distribution or direction of bank resources to particular sectors of the economy in accordance with the broad national priorities considered necessary for achieving the set, developmental goals. These control techniques have special relevance to developing countries owing to the meager supply of credit and the **Theories** and **Approaches** chance of credit being unutilised for unproductive and speculative purposes. In exercise of the powers conferred on to it, the RBI may give directions of the following kind to the banks generally or to any bank or a group of banks in particular.

- a) the purposes for which advances may or may not be made;
- b) the margins to be maintained in respect of secured advances;
- c) the maximum amount of advances; and
- d) the rate of interest and other terms and conditions subject to which advances may be granted or guarantees may be given.

Almost since the middle of 1956, RBI has started exercising powers vested in it. A number of commodities and products have been covered at one time or the other. Some of the commodities, which had been under frequent controls, are food grains, cotton, raw jute, oil seeds, vegetable oils, sugar, cotton yarn and textiles.

The effectiveness of credit control measures in an economy depends upon a number of factors. First, there should exist a well-organised money market. Second, a large proportion of money in circulation should form part of the organised money market. Finally, the money and capital markets should be extensive in coverage and elastic in nature.

Extensiveness enlarges the scope of credit control measures and elasticity lends it adjustability to the changed conditions. In most of the developed economies a favourable environment in terms of the factors discussed before exists, in the developing economies, on the contrary, economic conditions are such as to limit the effectiveness of the credit control measures.

2.5.2 FLOW OF CREDIT

The Reserve Bank of India's (RBI) annual report contains another nugget of information that shows up the dismal state of the economy in the

June quarter. The total flow of funds to the commercial sector declined by Rs. 27,300 crore during the first quarter of the current fiscal year (FY18), which shows that companies paid off past debt rather than borrow.

The recapitalization of banks undertaken by the government, the banking sector's share in the flow of credit increased sharply in FY18. However, in FY19 (till mid-November), the relative proportion of domestic banks' share in the flow of credit and that of non-bank resources was almost evenly matched, said the financial stability report of the Reserve Bank of India. Moreover, the report mentions that with regard to the flow of resources from domestic non-bank sources, the share of net credit of housing finance companies (HFCs) in the total flow of credit nearly doubled from 6.2 per cent in FY14 to 11.7 per cent in FY18.

The share of foreign resources in the total flow of credit to the commercial sector was between 16 and 19 per cent, with foreign direct investment (FDI) being the dominant contributor. However, in the financial system, asset management companies-mutual funds (AMC-MFs) have been the largest provider of funds with gross receivables of Rs 8.34 trillion in the period ending September 2018 followed by the insurance companies which have gross receivables to the tune of Rs 5.09 trillion. Schedule commercial banks, non-banking financial companies (NBFCs) and HFCs have been the top recipients of funds from AMC-MFs and insurance companies, the report mentions.

Keeping in view of the need to support the efforts to revive the capital market, banks were allowed to extend loans to corporates against shares held by them to enable such corporates to meet the promoters' contribution. The margin and the period of repayment of such loans would be determined by banks. Banks were also permitted to sanction bridge loans to companies against expected equity flows for a period not exceeding one year, subject to the guidelines approved by their respective boards. Taking into account the changing scenario, banks were asked to review the existing arrangements for financing trade and services.

The RBI directed banks to evolve a suitable method of assessing loan requirements of borrowers in the service sector and report the arrangements made in this regard. It is clear from the foregoing discussion that the changes in the monetary and credit policies influence working capital decisions in terms of the availability of credit and cost of credit directly and through the 'balancing of the economy' indirectly.

2.5.3 CRR AND SLR

Variations in the reserve requirements is yet another credit control technique used by a Central Bank. The Central Bank by this technique can change the amount of cash reserves of banks and affect their credit creating capacity. It may be applied on the aggregate outstanding deposits or on the increments after a base date or even on certain specific categories of deposits. This has a sure and identifiable impact as compared

to Bank Rate changes or open market operations. There are various terms for using financial markets are as follows including CRR and SLR.

Latest RBI Bank Rates in Indian Banking – 2019

SLR Rate	CRR	MSF	Repo Rate	Reverse Repo Rate	Base Rate
19.5%	4%	6.75%	6.25%	6%	8.75%- 9.45%

SLR - Statutory Liquidity Ratio - Every bank is required to maintain at the close of business every day, a minimum proportion of their Net Demand and Time Liabilities as liquid assets in the form of cash, gold and un-encumbered approved securities. The ratio of liquid assets to demand and time liabilities is known as Statutory Liquidity Ratio (SLR). RBI is empowered to increase this ratio up to 40%. An increase in SLR also restricts the bank's leverage position to pump more money into the economy.

CRR - Cash Reserve Ratio - Banks in India are required to hold a certain proportion of their deposits in the form of cash. However Banks don't hold these as cash with themselves, they deposit such cash(aka currency chests) with Reserve Bank of India , which is considered as equivalent to holding cash with themselves. This minimum ratio (that is the part of the total deposits to be held as cash) is stipulated by the RBI and is known as the CRR or Cash Reserve Ratio.

When a bank's deposits increase by Rs100, and if the cash reserve ratio is 9%, the banks will have to hold Rs. 9 with RBI and the bank will be able to use only Rs 91 for investments and lending, credit purpose. Therefore, higher the ratio, the lower is the amount that banks will be able to use for lending and investment. This power of Reserve bank of India to reduce the lendable amount by increasing the CRR, makes it an instrument in the hands of a central bank through which it can control the amount that banks lend. Thus, it is a tool used by RBI to control liquidity in the banking system.

MSF - Marginal Standing facility - It is a special window for banks to borrow from RBI against approved government securities in an emergency situation like an acute cash shortage. MSF rate is higher than Repo rate. Current MSF Rate: 6.75%.

Repo rate also known as the benchmark interest rate is the rate at which the RBI lends money to the banks for a short term. When the repo rate increases, borrowing from RBI becomes more expensive. If RBI wants to make it more expensive for the banks to borrow money, it increases the repo rate similarly, if it wants to make it cheaper for banks to borrow money it reduces the repo rate. Current repo rate is 6.25%

Reverse Repo rate is the short term borrowing rate at which RBI borrows money from banks. The Reserve bank uses this tool when it feels there is too much money floating in the banking system. An increase in the reverse repo rate means that the banks will get a higher rate of interest from RBI. As a result, banks prefer to lend their money to RBI which is always safe instead of lending it others (people, companies etc) which is always risky.

Repo Rate signifies the rate at which liquidity is injected in the banking system by RBI, whereas Reverse Repo rate signifies the rate at which the central bank absorbs liquidity from the banks.

Net Demand Liabilities - Bank accounts from which you can withdraw your money at any time like your savings accounts and current account.

Time Liabilities - Bank accounts where you cannot immediately withdraw your money but have to wait for certain period. e.g. Fixed deposit accounts.

Call Rate - Inter bank borrowing rate - Interest Rate paid by the banks for lending and borrowing funds with maturity period ranging from one day to 14 days. Call money market deals with extremely short term lending between banks themselves. After Lehman Brothers went bankrupt Call Rate sky rocketed to such an insane level that banks stopped lending to other banks.

2.5.4 BANK RATE

Bank Rate - This is the long term rate (Repo rate is for short term) at which central bank (RBI) lends money to other banks or financial institutions. Bank rate is not used by RBI for monetary management now. It is now same as the MSF rate. Current bank rate is 6.75%. (01-02-2019).

It is defined in Sec 49 of RBI Act of 1934 as the 'standard rate at which RBI is prepared to buy or rediscount bills of exchange or other commercial papers eligible for purchase'. When banks want to borrow long term funds from RBI, it is the interest rate which RBI charges to them. It is currently set to 6.75%. (Second Bi-monthly Monetary Policy Statement, 2018–19). The bank rate is not used to control money supply these days. Although penal rates are linked to bank rate. If a bank fails to keep SLR or CRR then RBI will impose penalty & it will be 300 basis points above bank rate.

The significance of bank rate is that it indicates the rate at which the public should be able to obtain accommodation on the specified types of paper from the commercial banks as well as the Central Bank. This is expected to curb the tendency towards relatively high interest rates and ensure satisfactory banking services and reasonable rates to the people. Secondly, bank rate represents the basis of the rates at which people can obtain credit. Thirdly, bank rate also has an important psychological value as an instrument of credit control. In effect, a change in the bank rate is to make the cost of securing funds from the Central Bank cheaper or more expensive, bring about changes in the structure of market interest rates and serve as a signal to the money market, business community and the public of the relaxation or restraint in credit policy.

Nevertheless, the success of bank rate policy depends on the following:

1. That the bank rate of the Central bank should have a prompt and decisive influence on money rates and credit conditions within its area of operation;
2. That there should be a substantial measure of elasticity on the economic structure, in order that prices, wages, rents, production and trade might respond to changes in money rates and credit conditions; and
3. That the international flow of capital should not be hampered by any arbitrary restrictions and artificial obstacles.

Developments in the external environment leading to speculative activity in the Exchange market resulted in a change in the direction of interest rate policy. RBI subsequently reviewed this policy and reduced the rate.

2.5.5 INTEREST RATES

Realising the fact that Bank Rate is not functioning as an effective tool of credit control, RBI started influencing the cost of credit, through the changes in interest rates. The RBI derived the authority to regulate the interest rates of banks under sections 21 and 35a of the Banking Regulation Act, 1949. This power covers both the advances and deposit rates. The rates on loans and advances are controlled mainly in order to influence the demand for credit and to introduce an element of discipline in the use of credit. This is generally done by stipulating minimum rates of interest for extending credit against commodities covered under selective credit control. Also, concessive or ceiling rates of interest are made applicable to advances for certain purposes or to certain sectors to reduce the interest burden and thus facilitate their development. Further, the objectives behind fixing the rates on deposits are to avoid unhealthy competition amongst the banks for deposits, keep the level of deposit rates

in alignment with the lending rates of banks, and aid in deposit mobilisation.

In addition to RBI, certain other agencies also have the authority to fix rates of interest for different types of financial activities. For instance, the controller of capital issues (now abolished) used to fix the ceiling on coupon rates on industrial debentures and preference shares. The Indian Banks Association (IBA) had been fixing the ceiling on call rates since 1973, until 1988, when call rates were freed from the ceiling. The Government of India fixes the rate on treasury bills and long-term government securities. The Government has significant influence in the fixation of interest rates on long-term loans of Development Finance Institutions [DFIs]. This is how the rates of interest are administered in India, leading to a large variety of multiple and complex interest rates.

Realising the deficiencies of this administered system of rates of interest and following the recommendations of the committee to Review the working of Monetary System (under the Chairmanship of Chakravarty), RBI has started rationalising the interest rate structure since 1991. One of the objectives of the present policy appears to be to reduce the multiplicity of interest rates and to bring about a simplification in their structure. Efforts are being made to eliminate all criteria, other than the size of loan, while deciding the credit policy. Recent policy changes in this regard include:

- (i) Interest rate on domestic term deposits with maturity of 30 days to one year was linked to the Bank Rate; by stipulating interest rate on these deposits as 'not exceeding Bank Rate minus 2 percentage points per annum' from April 16, 1997;
- (ii) Bringing under the same ceiling the Non-Resident (External) (NRE) Rupee term deposits with that of domestic term deposits;
- (iii) Allowing banks to announce a separate Prime Term Lending Rate (PTLR) for term loans of three years and above;
- (iv) Making the banks to announce the maximum spread over the PLR for all advances other than consumer credit.
- (v) Permitting banks to prescribe separate Prime Lending Rates (PLRs) for loan and cash credit components and also separate spreads for both the components.
- (vi) Permitting banks to provide foreign currency denominated loans to their customers for meeting either their foreign currency or rupee requirements;

- (vii) Freedom for banks to decide the rate of interest on post-shipment export credit on medium and long-term basis.

In recent years, there has been a persistent downward trend in the interest rate structure reflecting moderation of inflationary expectations and comfortable liquidity situation. Changes in policy rates reflected the overall softening of interest rates as the Bank Rate has been reduced in later stages.

2.5.6 MONEY SUPPLY

There are four measures of money supply in India which are denoted by M1, M2, M3 and M4. This classification was introduced by the Reserve Bank of India (RBI) in April 1977. Prior to this till March 1968, the RBI published only one measure of the money supply, M or defined as currency and demand deposits with the public. This was in keeping with the traditional and Keynesian views of the narrow measure of the money supply.

From April 1968, the RBI also started publishing another measure of the money supply which it called Aggregate Monetary Resources (AMR). This included M1 plus time deposits of banks held by the public. This was a broad measure of money supply which was in line with Friedman's view. But since April 1977, the RBI has been publishing data on four measures of the money supply which are discussed as under.

(1) M1: The first measure of money supply, M1 consists of:

- (i) Currency with the public which includes notes and coins of all denominations in circulation excluding cash on hand with banks:
- (ii) Demand deposits with commercial and cooperative banks, excluding inter-bank deposits; and
- (iii) 'Other deposits' with RBI which include current deposits of foreign central banks, financial institutions and quasi-financial institutions such as IDBI, IFCI, etc., other than of banks, IMF, IBRD, etc. The RBI characterizes as narrow money.

(2) M2 : The second measure of money supply is M2 which consists of M1 plus post office savings bank deposits. Since savings bank deposits of commercial and cooperative banks are included in the money supply, it is essential to include post office savings bank deposits. The majority of people in rural and urban India have preference for post office deposits from the safety viewpoint than bank deposits.

- (3) **M3** : The third measure of money supply in India is M3, which consists of M1, plus time deposits with commercial and cooperative banks, excluding interbank time deposits. The RBI calls M3 as broad money.
- (4) **M4** : The fourth measure of money supply is M4 which consists of M3 plus total post office deposits comprising time deposits and demand deposits as well. This is the broadest measure of money supply.

Of the four inter-related measures of money supply for which the RBI publishes data, it is M3 which is of special significance. It is M3 which is taken into account in formulating macroeconomic objectives of the economy every year. Since M1 is narrow money and includes only demand deposits of banks along-with currency held by the public, it overlooks the importance of time deposits in policy making. That is why, the RBI prefers M3 which includes total deposits of banks and currency with the public in credit budgeting for its credit policy. It is on the estimates of increase in M3 that the effects of money supply on prices and growth of national income are estimated. In fact is an empirical measure of money supply in India, as is the practice in developed countries. The Chakravarty Committee also recommended the use of M3 for monetary targeting without any reason.

As a part of the policy exercise, monetary growth is targeted every year. Policy measures are pronounced, so as to take care of this targeting exercise. This is expected to maintain real growth and contain inflation. In this context, the Central Bank specifies the order of expansion in broad money (known popularly as M3 and comprises of currency with the public demand and time deposits with commercial banks, and other deposits with RBI) that would be used as an intermediate target to realise the ultimate objective of the policy. In the case of India, both output expansion and price stability is important objectives; but depending on the specific circumstances of the year, emphasis is placed on either of the two. Increasingly, it is being recognised that central banks would have to target price stability since real growth itself would be in jeopardy, if inflation rates go beyond the margin of tolerance. On a historical basis, the average inflation rate' in India ("which had declined from 9.0 percent in 1970s to 8.0 percent in 1980s) went up markedly to a double-digit level of 10.7 per cent during the first half of 1990s. The focus of monetary policy in recent years has, therefore, been to bring down the inflation rate to a modest level. Monetary growth is being moderated in such a way that the credit requirements for productive activities are adequately met.

Statement on Money Supply								
(□ billion)								
Item	Outstanding as on		Variations over					
	2018	2018	Fortnight	Financial year so far				
				2017-18		2018-19		
	Mar 31	Dec 21	Amount	%	Amount	%	Amount	%
1	2	3	4	5	6	7	8	9
M3	139625.9	145515.7	-469.9	-0.3	4167.4	3.3	5889.9	4.2
Components (i+ii+iii+iv)								
i) Currency with the Public	17597.1	19509.4	192.4	1.0	3523.0	27.9	1912.2	10.9
ii) Demand Deposits with Banks	14837.1	13025.3	-110.1	-0.8	-1497.3	-10.7	-1811.8	-12.2
iii) Time Deposits with Banks	106952.6	112730.3	-549.2	-0.5	2123.7	2.1	5777.8	5.4
iv) 'Other' Deposits with Reserve Bank	239.1	250.7	-3.1	-1.2	18.0	8.5	11.7	4.9
Sources (i+ii+iii+iv+v)								
i) Net Bank Credit to Government Sector (a+b)	40014.0	42346.7	-2035.4	-4.6	719.9	1.9	2332.7	5.8
a) Reserve Bank	4759.6	6830.1	-982.1	-	-2339.7	-	2070.4	-
b) Other Banks	35254.4	35516.6	-1053.3	-2.9	3059.6	9.5	262.3	0.7
ii) Bank Credit to Commercial Sector (a+b)	92137.2	98771.5	762.0	0.8	2304.4	2.7	6634.4	7.2
a) Reserve Bank	140.3	92.8	4.5		14.0		-47.4	
b) Other Banks	91996.9	98678.7	757.6	0.8	2290.3	2.7	6681.8	7.3
iii) Net Foreign Exchange Assets of Banking Sector	29223.0	28826.0	-221.4	-0.8	1701.6	6.7	-397.0	-1.4
iv) Government's Currency Liabilities to the Public	256.5	257.0	-	-	5.1	2.0	0.5	0.2
v) Banking Sector's Net Non-Monetary Liabilities	22004.8	24685.4	-1024.9	-4.0	563.6	2.7	2680.7	12.2
of which : Net Non-Monetary Liabilities of R.B.I.	9069.9	10503.4	-247.5	-2.3	224.5	2.7	1433.5	15.8

Note : 1. Data are provisional.

2. Since July 11, 2014, monetary data reflect the impact of revised accounting framework in respect of transactions related

to repo/reverse repo, term repo/ reverse repo, overnight variable rate repo/ reverse repo and MSF.

(Source: The Reserve Bank has today released data on Reserve Money for the week ended December 28, 2018 and Money Supply for the fortnight ended December 21, 2018. Press Release: 2018-2019/1538)

2.6 SUMMARY

It is important that every business unit understands its environment. The nature of environment is such that the business units will have no control on the elements constituting the environment. Change in the environment may necessitate the unit to tailor its own business policies so as to suit to the environment. The customers, the government, the society will exert their influence on the decision making process of the business. Changes in the value system, sometimes, may even force firms to pursue distant goals like 'social responsibility'.

This unit considers changes in monetary and credit policies, inflation and financial markets as pertinent for their influence on working capital decisions. Monetary and credit policies consisting of variables like money supply, bank rate, CRR, SLR, Interest rates, selective credit controls are decided by the central bank of the country, having significant influence on business decisions. More specifically, these are expected to influence the availability and cost of business credit. Realizing the fact that inflation is a common phenomenon, there is a need to care for the impact of inflation on business decisions. Inflation causes a spurt in the prices of input factors like raw materials, labour, fuel and power. It may also influence the behaviour of business units to go in for speculative activities. Rapid increase in inflation may force the central bank to formulate a tight, money policy, thus restricting for flow of credit to the business. Further, inflation may effect working capital decisions leading to over-investment in inventory, under or over pricing of inventories, loss to the unit in the collection of debts due to depreciation in the value of money. Idle cash flowing through the organisation will add further problems to the unit in terms of loss in the value of money in real terms.

Financial markets are the agencies that provide necessary funds for all productive purposes. The stage of development of these markets has profound influence on the supply and demand for funds. For, the Government has taken up a reform exercise meant for improving the efficiency and effectiveness of the system. The sweep of the reforms is wide enough to cover every constituent of the organised financial system such as the money market, credit market, equity and debt market, government securities market, insurance market and the foreign exchange market.

2.7 SELF-ASSESSMENT QUESTIONS

- Explain the concept of operating environment of working capital.
- Discuss various sources of financial market in India.
- What is the monetary policy of India?
- Explain selective credit controls?
- What is the flow of credit? Explain it
- How do changes in financial markets influence business decision making?
- Explain the terms CRR and SLR.
- What is bank rate? Discuss it.
- Explain four types of money supply in India.
- Discuss reverse repo rate and repo rates in India.

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UNIT-03 DETERMINATION OF WORKING CAPITAL

Unit Framework

- 3.1 Objectives
- 3.2 Introduction
- 3.3 Determination of Working Capital Requirements for Small Scale Enterprise
- 3.4 Determination Methodologies of Working Capital Requirements
- 3.5 Approaches Influencing Determination of Working Capital
- 3.6 Tandon Committee Report on Working Capital: Norms and Recommendations
- 3.7 Guidelines Provided by RBI for Working Capital Assessments
- 3.8 Summary
- 3.9 Self-Assessment Questions
- 3.10 Text and References

3.1 OBJECTIVES

After completing this unit you will be able to:

- to explain determination of working capital needs
- to determine different methodologies of working capital requirements
- to know the factors influencing determination of working capital
- to highlight the norms and recommendations of Tandon committee
- to discuss the guidelines provided by RBI for determining working capital requirements.

3.2 INTRODUCTION

In the previous chapter, we have already learnt about the crucial issues affecting the working capital decisions. We already know that the Working capital management is all about managing a firm's current assets and current liabilities to a level that is most beneficial for the firm's daily operations. Working capital management is indeed a primary function that ensures firm's optimum liquidity in day-to-day operations to meet its obligations such as funding of stock, credit sales, and credit purchases, while conducting the business operations smoothly. The goal of the

working capital is to maintain an optimum amount of working capital since Working capital management involves a trade-off between two conflicting objectives liquidity and profitability.

Holding too much working capital means firm is either operating on lower volume of business activities than desired or increased financing costs of the firm. Either way, higher working capital means low profitability. Alternatively, low levels of working capital increases the risk of defaults and disruptions due to unhealthy liquidity. Therefore, businesses must avoid either extreme. Having too much working capital will lower its profitability, and having too low working capital will increase the risk of ill-liquidity. Now that determines the level of optimum liquidity and profitability is and difficult task for a manager. This chapter would deal with the factors and determination methodologies and statutory provisions that would help the firm to decide their optimal level of working capital given the differences in their size, risk, external environment and operational attributes.

3.3 DETERMINATION OF WORKING CAPITAL REQUIREMENTS FOR SMALL SCALE ENTERPRISE

In case of a small-scale enterprise, the important factors determining the requirements of working capital are as follows:

3.3.1 NATURE OF BUSINESS

The requirement of working capital also varies among the enterprises depending upon the nature of the business. For instance, trading companies require more working capital than manufacturing companies. This is because that the trading business requires large quantities of goods to be held in stock and also carry large amounts of working capital than manufacturing concerns.

In both these types of businesses, the value of current assets is 80% to 90% of the value of total assets. The investment in current assets is relatively smaller in the case of hotels and restaurants because they mostly have cash sales, and only small amounts of debtors' balances.

3.3.2 NATURE OF PRODUCTION TECHNOLOGY

In case of labour intensive technology, the unit will need more amount to pay the wages and, therefore, will require more working capital. On the other hand, if the production technology is capital- intensive, the enterprise will have to make less payment for expenses like wages. As a result, enterprise will require less working capital.

3.3.3 SEASONAL VARIATIONS

The seasonal enterprises, i.e., the enterprise whose operations pick up seasonally may require more working capital to meet their increased operations during the particular season. A popular example of seasonal enterprise may be sugar factory whose operations are highly seasonal.

3.3.4 TURNOVER OF INVENTORIES

If inventories are large in size but turnover is slow, the small-scale enterprise will need more working capital. On the contrary, if inventories are small but their turnover is quick, the enterprise will need a small amount of working capital.

3.3.5 CONTINGENCIES

If the demand and price of the products of small-scale enterprises are subject to wide variations or fluctuations, the contingency provisions will have to be made for meeting the fluctuations. This will obviously increase the requirements for working capital of the small enterprises. While one can add certain other factors to this list, the said factors appear to be the major ones in determining the requirement of working capital of a small-scale enterprise.

3.3.6 TERMS OF CREDIT

Another important factor that determines the amount of working capital requirements relates to the terms of credit allowed to the customers. For instance, an enterprise may allow only 15 days credit, while another may allow 90 days credit to its customers. Besides, an enterprise may extend credit facilities to its customers, while another enterprise in the same business may extend credit only to select and those too reliable customers only. Then, the requirements for working capital will naturally be more if the credit period is longer and credit facilities are extended to all customers, no matter how reliable or non-reliable they are. This is because there will be longer balance of debtors and that too for a relatively longer period which will obviously demand for more capital.

On the contrary, if supplies of raw materials are available on favourable conditions or terms of credit i.e., the payment will be made after a relatively longer period of time, the requirement for working capital will be correspondingly smaller.

3.3.7 LENGTH OF OPERATING CYCLE

Conversion of cash through various stages viz., raw material, semi-processed goods, finished goods, sales, debtors and bills receivables into

cash takes a certain period of time that is known as 'length of operating cycle'. Longer the operating cycle time, the more is the working capital required.

For example, heavy engineering needs relatively more working capital than a rice mill or cotton spinning mill or a steel rolling mill. Thus, it follows that depending upon the length of working cycle, the requirement for working capital varies from enterprise to enterprise.

3.3.8 SALES

Among the various factors, size of the sales is one of the important factors in determining the amount of working capital. In order to increase sales volume, the enterprise needs to maintain its current assets. In the course of period, the enterprise comes in the position to keep a steady ratio of its current assets to annual sales. As a result, the turnover ratio, i.e., current assets to turnover increases reducing the length of operating cycle. Thus, lesser the operating cycle period, lesser will be requirements for working capital and vice versa.

3.4 DETERMINATION METHODOLOGIES OF WORKING CAPITAL REQUIREMENTS

The amount of working capital required depends upon a large number of other factors like political stability, means of transport, co-ordination of activities, rate of industrial development, speed of circulation of working capital, profit margin etc. Though a definite criterion does not exist to determine the amount of working capital needs that may be applied to all firms alike, still there are following methods for estimation of working capital that may prove worth considering:

3.4.1 PERCENTAGE OF SALES METHOD

Relationship between sales and working capital is calculated over the year; if it is found stable then it is taken as a base for determining working capital. In this method, percentage of each item of working capital is determined. On the basis of this relationship value of each component of working capital is calculated and then this estimated amount is sum up for final result. We can learn it from following example.

Illustration 1 : Suppose sales for the year 2015-2016 is Rs. 20 Lakh, and anticipated sales for the year 2016-2017 is Rs. 30 Lakh. The Balance Sheet of the company as on 31st March 2016 is as follows:

Liabilities	Amount Rs.	Assets	Amount Rs.
Capital	3,00,000	Fixed Assets	3,50,000
Reserves & Surplus	2,00,000	Stock	1,00,000
Creditors	1,00,000	Receivables	1,00,000
		Cash in hand and at Bank	50,000
	6,00,000		6,00,000

Calculate estimated working capital requirement for 2016-2017 adding 10% per annum for contingencies.

Solution:

	Actual 2015-16 Rs.	% of Sales 2015-16	Estimates for 2016-17 Rs.
Sales	20,00,000	100	30,00,000
(A) Current Assets			
Stock	1,00,000	5%	1,50,000
Receivables	1,00,000	5%	1,50,000
Cash in hand and At Bank	50,000	2.5%	75,000
	2,50,000		3,75,000
(B) Current Liabilities			
Sundry Creditors	1,00,000	5%	1,50,000
(C) Net Working Capital (A-B)	1,00,000		2,25,000
Add: 10% for contingencies			22,500
			2,47,500

3.4.2 REGRESSION ANALYSIS METHOD

It is a statistical technique in which working capital requirements is calculated by using least square method. The relationship between sales and working capital is expressed by the following equation:

- y = a + bx
- x = Sales (Independent variable)
- y = Working Capital (Dependent variable)
- a = Intercept
- b = Slope of the line

We can learn it from following example:

Illustration 2 : The sales and working Capital for a period of seven years are given below: **(Rs. in crores)**

Year	Sales (Rs.)	Working Capital (Rs.)
2009-10	100	35
2010-11	120	39
2011-12	130	50
2012-13	150	58
2013-14	180	65
2014-15	210	80
2015-16	240	85

Estimate the working capital requirement by using regression analysis for the year 2016-17, if anticipated sales are Rs. 275 crores.

Solution:

Year	Sales (x)	Working Capital (y)	XY	X ²
2009-10	100	35	3500	10000
2010-11	120	39	4680	14400
2011-12	130	50	6500	16900
2012-13	150	58	8700	22500
2013-14	180	65	11700	32400
2014-15	210	80	16800	44100
2015-16	240	85	20400	57600
	1130	412	72280	197900

$$y = a + bx$$

$$xy = na + bfx$$

$$exy = afx + bfx^2$$

$$412 = 7a + 1130b \quad (i)$$

$$72280 = 1130a + 197900b \quad (ii)$$

Multiplying (i) equation by 1130 & second by 7

$$465560 = 7910a + 1276900b$$

$$505960 = 7910a + 1385300b$$

$$(-) \quad \quad \quad (-) \quad \quad \quad (-)$$

$$(-) 40400 = -108400b$$

$$b = .3727$$

Finding the value of a by multiplying value of b in equation (i)

$$412 = 7a + 421.14$$

$$-7a = 9.1439$$

$$a = 9.1439 / 7$$

$$a = (-) 1.3062$$

$$\text{Hence } y = a + bx$$

$$y = -1.3062 + 0.3727x$$

$$y = -1.3062 + 0.3727 \times 275$$

$$\text{or } = -1.3062 + 102.4925$$

$$\text{or } = 101.4563$$

$$y = \text{Working Capital} = \text{Ans. Rs. } 101.4563 \text{ crores}$$

When sales in Rs. 275 crores the working capital Rs. 101.4563 crores.

3.4.3 OPERATING CYCLE METHOD

In this method following steps are for computation of working capital:

1. Calculation of Operating Expenses :

Value of Raw Material Consumed			
Opening Stock of Raw Material	-		
(+) Purchases	-		
	-		
(+) Closing stock of Raw Material	-	-	
Direct Wages		-	
Prime Cost	-		
Add: Manufacturing overhead		-	
Add: Opening stock of work in progress		-	
		-	
Less: Closing stock of working Progress		-	
Cost of Production	-		
Add: Administrative Overhead		-	
Add: Opening Stock of finished goods		-	
Less: Closing stock of finished goods		-	
Cost of Goods sold	-		
Add: Selling & Distribution expenses		-	
Total operating expenses	-		

Note : 1. Depreciation, non-cash items and amortization of intangible assets should not include. Similarly capital expenses and appropriation of profits and tax payments should not include.

2. Calculation of Operating Cycle Period : Total number of days involved in the different stages of operation as materials storage period, conversion period, finished goods storage period, debtors collection period and creditors payments period. It is a total period

involved in different stages of operations, which may be calculated as follows:

Operating Cycle Period : Material storage period + conversion period + finished goods storage period + debtor's collection period - creditor's payment period. The calculations of each are as follows:

- (a) **Material Storage Period :** It is the period for which raw material will remain in stores before they are issued for production. It is calculated by following formula:

$$\text{Material Storage Period} = \frac{(\text{Opening stock} + \text{Closing stock})/2}{\text{Material consumed for the year}/365}$$

Note : Raw material consumed = Opening stock of raw material + Purchases - closing stock of raw material

- (b) **Conversion Period (Work-in-Progress Period):** The time which is taken in converting the raw material into finished goods. It is calculated by following formula:

$$\text{Conversion Period} = \frac{(\text{opening WIP} + \text{Closing WIP})/2}{\text{Total Production Cost}/365}$$

Total production cost = value of R.M. consumed + Direct Wages+ Manufacturing expenses (excluding depreciation) + Op. stock of WIP - closing stock of WIP

- (c) **Finished Goods Storage Period :** It is the period for which goods have to remain in the go-down before sale taken place. It is calculated as follows :

$$\text{Finished Goods Storage Period} = \frac{(\text{opening stock} + \text{Closing Stock})/2}{\text{Total cost of goods sold}/365}$$

Note : Total cost of goods sold: Cost of Production (excluding depreciation) + opening stock of finished goods - closing stock of finished goods. It does not include adm. expenses and selling and distribution expenses.

- (d) **Debtors Collection Period:** It is the time lag in payments by debtors. It is calculated as follows:

$$\frac{(\text{Opening Debtors \& B/R} + \text{Closing Debtors \& B/R} / 2)}{\text{Total credit sales}/365}$$

- (e) **Creditors Payment Period:** It is the length of credit period available from trade creditors. It is calculated as follows:

$$\frac{(\text{Opening Debtors \& B/R} + \text{Closing Debtors \& B/R} / 2)}{\text{Total credit purchases}/365}$$

Note :

- (1) In the absence of any information, total purchases and total sales are treated as credit.
 - (2) There is no hard and fast rule and for taking 365 days as number of days in a year, however, sometimes even 360 days may be considered.
 - (3) If, opening values of stock, debtors or creditors are not available then closing balances of these items should be taken.
- 3. Number of Operating Cycles :** The numbers of operating cycles in a year are determined by the following formula:

$$\text{No. Operating cycle} = \frac{365/360}{\text{Operating cycle period}}$$

- 4. Calculation of amount of Working Capital:** The amount of actual Working Capital required is calculated by dividing the total operating expenses for the period by the number of operating cycles in that period. It is expressed as follows:

$$\text{Working Capital} = \frac{\text{No Operating cycle}}{\text{Operating Expenses}}$$

Alternatively working capital may be calculated as follows:

$$\begin{aligned} \text{Working Capital} &= \text{Cash Balance required} + \frac{\text{Operating cycle period}}{365/360} \\ &\times \text{Estimated cost of goods sold} \end{aligned}$$

- 5. Provision for Contingencies :** The above calculation of working capital is based on estimates hence it may not be more accurate, Therefore, a provision for contingencies as required 5% or 10% may be added while ascertaining the final amount of estimated working capital.

Through, the following illustration above calculation can be understandable:

Illustration 3 : From the following information calculate the working capital requirement under operating cycle method taking 5% reserve for contingencies:

Particulars	Amount Rs.
Opening Stock : Raw Material :	9,000
Work-in-progress	9,000
Finished goods	4,000
Purchases (credit)	36,000
Wages & manufacturing Exp.	15,000
Administrative expenses (excluding Dep.)	12,000
Selling and distribution expenses	13,000
Sales (credit)	1,05,000
Closing Stock	
Raw Materials	10,000
Work-in-progress	9,500
Finished goods	4,500
Opening Receivables	6,000
Closing Receivables	10,000
Opening payables	5,000
Closing Payables	10,000

Calculation of operating cycle Period

$$(A) \text{Raw material storage period} = \frac{(\text{Opening stock} + \text{closing stock of Raw Materials})/2}{\text{Raw Materials Consumed}/365}$$

Raw Materials consumed = Opening stock of R.M. + Purchases - Closing stock of

Raw Materials

Rs. 9000 + 36000 - 10000 = Rs. 35000

$$= \frac{(9000 + 10000) / 2}{35000/365} = \frac{9500}{95.87} = 99 \text{ days}$$

(B) Conversion period

$$= \frac{(\text{Opening stock} + \text{closing stock of WIP})/2}{\text{Total Production Cost}/365}$$

$$= \frac{(9000 + 9500) / 2}{49000/365} = \frac{9750}{135.6164} = 99 \text{ days}$$

Production cost:	Rs.
Material consumed (as above)	35,000
Add: Wages & Manufacturing Exp.	15,000
Add: Opening Stock of WIP	9,000
59,000	
Less: Closing Stock of WIP	9,500
49,500	

(C) Finished goods storage Period

$$= \frac{(\text{Opening stock} + \text{closing stock of Finished goods})/2}{\text{Cost of goods sold}/365}$$

$$= \frac{(4000 + 4500) / 2}{49000/365} = \frac{4250}{134.246} = 32 \text{ days}$$

Cost of goods sold:	Rs.
Production cost (as above)	49,500
Add: Opening Stock of Finished goods	4,000
Less: Closing Stock of Finished goods	4,500
49,000	

(D) Debtors Collection Period

$$= \frac{(\text{Opening Receivables} + \text{Closing Receivables})/2}{\text{Sales}/365}$$

$$= \frac{(6000 + 10000) / 2}{105000/365} = \frac{8000}{287.67} = 28 \text{days}$$

(E) Creditors Payment Period

$$= \frac{(Opening\ payables + Closing\ payables)/2}{Purchases/365}$$

$$= \frac{(5000 + 10000) / 2}{36000/365} = \frac{7500}{98.63} = 76 \text{days}$$

(F) Net operating cycle Period = A + B + C + D - E

$$99 + 72 + 32 + 28 - 76 = 155 \text{ Days}$$

(G) Computation of working Capital required =

$$(i) \text{ No. of operating cycle per year} = \frac{365}{\text{Net operating cycle period}}$$

$$= \frac{365}{155} = 2.3548$$

(ii) Total operating expenses.	Rs.
Cost of goods sold (as above)	49,000
Add: Adm. expenses	12,000
Add: Selling & distribution expenses	13,000
	74,000

$$(iii) \text{ Working Capital required} = \frac{\text{Total operating expenses}}{\text{No of operating cycles in a year}}$$

(iv) Working Capital required

	Rs.	31,425
+ 5% Reserve for Contingencies	Rs.	1,571
	Rs.	32,996

3.4.4 FORECASTING NET CURRENT ASSETS METHOD

It's a method which is also recommended by Tandon Committee for computing working capital requirements. In this method of forecasting first of all, estimate of stock of raw materials, estimated value of work-in-process, estimated value of stock of finished goods, amount receivable from debtors and others and estimate minimum cash balance required to meet day today payments required. Then also estimate outstanding payment for material, wages, and other administrative expenses. Now, difference between forecasted amount of current assets and current

liabilities gives net working capital requirements of the firm. A flat percentage may be added in this amount of provision for contingencies.

A specimen of calculating working capital requirements is given below:

Statement Showing Estimated Working Capital Requirements

	Rs. Amount	
(A) Current Assets :		-
(i) Stock of Raw Materials (for..... months consumption)		
(ii) Work-in-process (for.....months)		
(A) Raw-materials		
(B) Direct wages	-	-
(C) Overheads	-	
(iii) Stock of finished goods (for..... months)		
(A) Raw Materials		
(B) Direct Wages		-
(C) Overheads		
(iv) Receivables (for..... month's sales)		
(A) Raw Materials		
(B) Direct wages		-
(C) Overheads		-
(v) Payment in advance (if any)		-
(vi) Cash - balance required		-
(vii) others (if any)		
(B) Current Liabilities :		
(i) Creditors (for..... months purchase of Raw Material)		
(ii) Lag in payment of expenses (outstanding Exp..... months)		-
(iii) others (if any)		-
Net working Capital (A-B)		-
Add : Provision for contingencies		
Working Capital required		

Notes :

1. While preparing above statement there are two approaches: (A) Total approach: In this method all cost including depreciation and profit margin are included (B) Cash cost approach: under this approach depreciation is excluded from cost of production. The profit margin is also not considered while calculating investment in receivables, i.e. debtors are valued at cash cost of sales, which includes administrative expenses, selling and distribution expenses.
2. Investment in work-in-process is calculated on the assumption that material is input in the beginning of the process, where labour and overhead should be introduced for half the process time, hence on the assumption that wages and overhead should be evenly spread during the production.
3. Students are advised to write specific assumption which student used while solving the problem.
4. Normally, debtors are calculated on cash cost basis.

We can learn this method from the following example:

Illustration 4 : X Ltd. plans to sell 60000 units next year. The expected cost of goods sold is as follows:

Rs. Per unit

Raw Material	100
Manufacturing expenses (including wages)	30
Selling, Administration Expenses	25
Selling Price	200

The duration of various stages of the operating cycle is expected to be as follows:

Raw Material	2 Months
Work-in-progress	1 Months
Finished goods	1 Months
Debtors	1 Months

Assuming sales are evenly spread over throughout the year, wages and overhead are evenly incurred. It is also assumed that a minimum Rs. 50000 cash balance is desired. The company enjoys a credit of 1/2 month on its purchases. Workout net working capital requirement for next year.

Solution : Statement of Working Capital requirements

	Rs. Amount	
(A) Current Assets :		
(i) Raw Materials (2 months) (5000 X 100 X 2)		10,00,000
(ii) WIP (1 month)		
Raw Material (5000 X 100 X 1)	5,00,000	
Manufacturing Expenses (5000 X 30 X 1/2)	75,000	5,75,000
(iii) Finished goods (1 month)		
Raw Material (5000 X 100 X 1)	5,00,000	
Manufacturing Expenses (5000 X 30 X 1)	1,50,000	6,50,000
(iv) Debtors (1 Month) (5000 X 155 X 1)		7,75,000
(v) Cash balance		50,000
(A) Current Assets		30,50,000
(B) Current Liabilities		2,50,000
Creditors (1/2 months) (5000 X 100 X 1/2)		28,00,000
Net Working Capital required (A-B)		

Working notes :

1. It is assumed that all sales and purchases are on credit.
2. Debtors are calculated on the basis of cash cost of sales.

3.4.5 PROJECTED BALANCE SHEET METHOD

In this method, estimates of different assets (excluding cash) and liabilities are made, with taking into consideration the transactions in the ensuing period. After that, a “Projected Balance Sheet is prepared on the basis of these forecasts. If the total of assets side is more than the total of liabilities side, then it indicates the deficiency of working capital which is to be collected by the management either taking bank loan or from other sources. On the contrary, if total of liabilities side is more than total of assets side than it represents cash balance available to the firm. Such surplus cash may invest outside the business or as management plans for it. This method is not a popular method and calculations made through this method are not more scientific.

3.5 APPROACHES INFLUENCING DETERMINATION OF WORKING CAPITAL

The working capital requirements of a firm depend on a number of factors. It is a common proposition that the size of working capital is a function of sales. Sales alone will not determine the size of the working capital, but instead it is constantly affected by the crises-crossing economic currents flowing in a business. The nature of the firm’s activities, the industrial health of the country, the availability of materials, the ease or tightness of the money market, are all parts **Approaches** of these shifting forces. Of them, the influence of operating cycle is considered paramount. Some of the approaches are as follows :

3.5.1 MATCHING OR HEDGING APPROACH

This approach matches assets and liabilities to maturities. Basically, a company uses long term sources to finance fixed assets and permanent current assets and short term financing to finance temporary current assets. Example: A fixed asset which is expected to provide cash flow for 5 years should be financed by approx. 5 years long-term debts. Assuming the company needs to have additional inventories for 2 months, it will then seek short term 2 months bank credit to match it.

3.5.2 CONSERVATIVE APPROACH

It is conservative because the company prefers to have more cash on hand. That is why, fixed and part of current assets are financed by long-term or permanent funds. As permanent or long-term sources are more expensive, this leads to “lower risk lower return”.

3.5.3 AGGRESSIVE APPROACH

The Company wants to take high risk where short term funds are used to a very high degree to finance current and even fixed assets.

3.6 TANDON COMMITTEE REPORT ON WORKING CAPITAL : NORMS AND RECOMMENDATIONS

In 1974, a study group under the chairmanship of Mr. P. L. Tandon was constituted for framing guidelines for commercial banks for follow-up & supervision of bank credit for ensuring proper end-use of funds. The group submitted its report in August 1975, which came to be popularly known as Tandon Committee Report on Working Capital. Its main recommendations related to norms for inventory and receivables, the approach to lending, style of credit, follow ups & information system.

It was a landmark in the history of bank lending in India. With acceptance of major recommendations by Reserve Bank of India, a new era of lending began in India.

3.6.1 TANDON COMMITTEE'S NORMS

Tandon committee had initially suggested norms for holding various current assets for fifteen different industries. Many of these norms were revised and the least extended to cover almost all major industries of the country.

The norms for holding different current assets were expressed as follows:

1. Raw materials as so many months' consumption. They include stores and other items used in the process of manufacture.
2. Stock-in-process, as so many months' cost of production.
3. Finished goods and accounts receivable as so many months' cost of sales and sales respectively. These figures represent only the average levels. Individual items of finished goods and receivables could be for different periods which could exceed the indicated norms so long as the overall average level of finished goods and receivables does not exceed the amounts as determined in terms of the norm.
4. Stock of spares was not included in the norms. In financial terms, these were considered to be a small part of total operating expenditure. Banks were expected to assess the requirement of spares on case-by-case basis. However, they should keep a watchful eye if spares exceed 5% of total inventories.

The norms were based on average level of holding of a particular current asset, not on the individual items of a group. For example, if receivables holding norms of an industry was two months and an unit had satisfied this norm, calculated by dividing annual sales with average receivables, then the unit would not be asked to delete some of the accounts receivable, which were being held for more than two months.

The Tandon committee while laying down the norms for holding various current assets made it very clear that it was against any rigidity and straight jacketing. On one hand, the committee said that norms were to be regarded as the outer limits for holding different current assets, but these were not to be considered to be entitlements to hold current assets upto this level. If a borrower had managed with less in the past, he should continue to do so. On the other hand, the committee held that allowance must be made for some flexibility under circumstances justifying a need for re-examination.

The committee itself visualized that there might be deviations of norms in the following circumstances.

1. Bunched receipt of raw materials including imports.
2. Interruption of production due to power cuts, strikes or other unavoidable circumstances.
3. Transport delays or bottlenecks.
4. Accumulation of finished goods due to non-availability of shipping space for exports or other disruption in sales.
5. Building up of stocks of finished goods, such as machinery, due to failure on the part of the purchaser for whom these were specifically designed and manufactured.
6. Need to cover full or substantial requirement of raw materials for specific export contract of short duration.

While allowing the above exceptions, the committee observed that the deviations should be for known and specific circumstances and situation, and allowed only for a limited period to tide over the temporary difficulty of a borrowing unit. Returns to norms would be automatic when conditions return to normal.

3.6.2 TANDON COMMITTEE'S RECOMMENDATIONS

Breaking away from traditional methods of security oriented lending; the committee enjoined upon the banks to move towards need based lending. The committee pointed out that the best security of bank loan is a well-functioning business enterprise, not the collateral.

Major recommendations of the Tandon committee were as follows:

1. Assessment of need based credit of the borrower on a rational basis on the basis of their business plans.

2. Bank credit would only be supplementary to the borrower's resources and not replace them, i.e. banks would not finance one hundred percent of borrower's working capital requirement.
3. Bank should ensure proper end use of bank credit by keeping a closer watch on the borrower's business, and impose financial discipline on them.
4. Working capital finance would be available to the borrowers on the basis of industry wise norms (prescribe first by the Tandon Committee and then by Reserve Bank of India) for holding different current assets, viz.
 - Raw materials including stores and others items used in manufacturing process.
 - Stock in Process.
 - Finished goods.
 - Accounts receivables.
5. Credit would be made available to the borrowers in different components like cash credit; bills purchased and discounted working capital, term loan, etc., depending upon nature of holding of various current assets.
6. In order to facilitate a close watch under operation of borrowers, bank would require them to submit at regular intervals, data regarding their business and financial operations, for both the past and the future periods.

3.7 GUIDELINES PROVIDED BY RBI FOR WORKING CAPITAL ASSESSMENTS

After the implementation of a phased liberation programme since 1991, the RBI decided to allow full operational freedom to the banks in assessing the working capital requirements of the borrowers. All the instructions relating to Maximum Permissible Bank Finance (MPBF) have been withdrawn. As an alternative, a revised system of assessing working capital limits has been evolved. Accordingly, one of the following three methods has been suggested for adoption by the commercial banks.

3.7.1 WORKING CAPITAL REQUIREMENTS UPTO RS. 1 CRORE

1. The assessment of working capital requirement of borrowers, other than SSI units, requiring fund based working capital limits upto Rs.1.00 crore and SSI units requiring fund based working capital limits upto to Rs.5.00 crore from the banking system may be made on the basis of their projected annual turnover.

2. In accordance with these guidelines, the working capital requirement is to be assessed at 25% of the projected turnover to be shared between the borrower and the bank, viz. borrower contributing 5% of the turnover as net working capital (NWC) and bank providing finance at a minimum of 20% of the turnover.
3. The banks may, at their discretion, carryout the assessment based on projected turnover basis or the traditional method. If the credit requirement based on traditional production/processing cycle is higher than the one assessed on projected turnover basis, the same may be sanctioned, as borrower must be financed upto the extent of minimum 20 per cent of their projected annual turnover.
4. The banks may satisfy themselves about the reasonableness of the projected annual turnover of the applicants, both for new as well as existing units, on the basis of annual statements of accounts or any other documents such as returns filed with sales-tax/revenue authorities and also ensure that the estimated growth during the year is realistic.
5. The borrowers would be required to bring in 5 per cent of their annual turnover as margin money. In other words, 25 per cent of the output value should be computed as working capital requirement, of which at least four-fifth should be provided by the banking sector, the balance one-fifth representing the borrower's contribution towards margin for the working capital. In cases, where output exceeds the projections or where the initial assessment of working capital is found inadequate, suitable enhancement in the working capital limits should be considered by the competent authority as and when deemed necessary. For example, in case, annual turnover of a borrower is projected at Rs. 60.00 lakh, the working capital requirement will be computed at Rs. 15.00 lakh (i.e. 25%) of which Rs. 12 lakh (i.e. 20%) may be provided by the banking system, while Rs. 3.00 lakh (i.e. 5 %) should be borrower's contribution towards margin money.
6. Withdrawals against the limits should, however, be allowed against the usual safeguards so as to ensure that the same are used for the purpose intended. Banks will have to ensure regular and timely submission of monthly statements of stocks, receivables, etc., by the borrowers and also periodical verification of such statements vis-à-vis physical stocks by their officials.
7. In regard to the above, few clarifications to some of the issues raised by banks are given in Annexure I.

3.7.2 WORKING CAPITAL REQUIREMENTS ABOVE RS. 1 CRORE

1. The revised guidelines in respect of borrowers other than SSI units, requiring working capital limits above Rs.1 crore and for SSI units

requiring fund based working capital limits above Rs.5 crore, from the banking system bestow greater level of flexibility to the primary (urban) co-operative banks in their day-to-day operations without diluting the prudential norms for lending as prescribed by Reserve Bank of India.

2. The earlier prescription regarding Maximum Permissible Bank Finance (MPBF), based on a minimum current ratio of 1.33:1, recommended by Tandon Working Group has been withdrawn. Banks are now free to decide on the minimum current ratio and determine the working capital requirements according to their perception of the borrowers and their credit needs.
3. Banks may evolve an appropriate system for assessing the working capital credit needs of borrowers whose requirement are above Rs.1 crore. Banks may adopt any of the under-noted methods for arriving at the working capital requirement of such borrowers.
 - a) The turnover method, as prevalent for small borrowers may be used as a tool of assessment for this segment as well,
 - b) Since major corporates have adopted cash budgeting as a tool of funds management, banks may follow cash budget system for assessing the working capital finance in respect of large borrowers.
 - c) The banks may even retain the concept of the MPBF with necessary modifications.

As is evident, this calls for a change in the approach of the RBI in assessing working capital needs of the industrial units. The industry norm approach followed so far yields a place to the simple turnover method and norms have no role to play. Higher the turnover, higher would be the credit facility available. In the earlier system, (industry norm approach), maintenance of a high level of current assets or any other assets has no significance to the computation of working capital needs, excepting the industry norms fixed on some practical basis. On the contrary, units having higher turnover are permitted to hold higher current assets, though as per norms it is excess. Moreover, this type of a practice encourages firms to stock materials and finished goods with lax inventory control. Small firms lag in competition to large firms, as there is an inherent advantage to the latter.

3.8 SUMMARY

Determination of adequate amount of working capital required for a business is of great significance in its prudent management. At the same time it is one of the most daunting tasks. It depends upon various functions. Say for instance in the case of small enterprises the requirement

of working capital varies among the enterprises as it depends upon the nature of the business, Nature of Production Technology, Seasonal Variations, Turnover of Inventories, Contingencies, Terms of Credit, Length of Operating Cycles as well as volume of Sales. There are several methods available in the literature to determine the level of the working capital still a definite yard stick cannot be said to exist that can help determine the amount of working capital needs to all firms alike. Some methods for estimation of working capital that that are helpful are Percentage of sales method, Regression analysis, Operating cycle method, Forecasting net current assets as well as projected Balance sheet method.

The working capital requirements of a firm also depend on a number of other factors that are basically related to the kind of environment the firm is operating in. These factors are beyond the direct influence of the firm. It is the approach of the firm with which it deals with these factors that add to the determination methodologies of working capital some of these are matching or hedging approach, conservative approach and Aggressive approach. These approaches determine the composition, risk appetite and cost structure of the Working Capital thus different firms operating in similar environment can have different levels of working capitals depending upon their approaches.

Tandon Committee Report on Working Capital was setup in India which came up with norms for holding various current assets, inventory and receivables and recommendations related to specific approach to lending, style of credit, follow ups & information system in the country. RBI too came up with its recommendations and decided to allow full operational freedom to the banks in assessing the working capital requirements of the borrowers. All the instructions relating to Maximum Permissible Bank Finance (MPBF) have been withdrawn. As an alternative, a revised system of assessing working capital limits has been evolved for adoption by the commercial banks for financing and extending credits to the firms in India.

3.9 SELF-ASSESSMENT QUESTIONS

1. Discuss the determination of working capital requirements to small scale enterprises.
2. Explain the percentage of sales method with examples.
3. What are the five steps of operating cycle method to determine working capital requirement?
4. What do you understand by regression analysis method of working capital? Explain it with suitable examples.
5. Explain forecasting net current asset method to determine working capital requirements.
6. Elaborate approaches influencing determination of working capital.

7. What is the methodology formulated by the Tandon Committee useful in determining working capital requirements?
8. What are the guidelines of working capital requirements upto one crore suggested by RBI to all commercial banks?
9. Discuss the guidelines of working capital requirements above one crore suggested by RBI.

3.10 TEXT AND REFERENCES

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UNIT-04 THEORIES AND APPROACHES

Unit Framework

- 4.1 Objectives
- 4.2 Introduction
- 4.3 Theories and Approaches of Working Capital Management
- 4.4 Hedging (Maturity Matching) Strategy of Working Capital Investment
- 4.5 Conservative Strategy of Working Capital Investment
- 4.6 Aggressive Strategy of Working Capital Investment
- 4.7 Zero Strategy of Working Capital Investment
- 4.8 Policies of Working Capital Investment
- 4.9 Conservative Approach to Working Capital Financing
- 4.10 Profitability versus Risk Tradeoff for Alternative Levels of Working Capital Investment
- 4.11 Tradeoff between the Hedging and Conservative Approaches:
- 4.12 Optimal Level of Working Capital Investment
- 4.13 Summary
- 4.14 Self-Assessment Questions
- 4.15 Text and References

4.1 OBJECTIVES

After completing this unit you will be able to:

- to explain theories of working capital management
- to elaborate different approaches of working capital management
- to know the hedging (maturity matching) strategy of working capital investment
- to examine the conservative strategy and aggressive strategy of working capital investment
- to discuss the conservative approach to working capital financing.

4.2 INTRODUCTION

In the previous chapter we have learnt that the determination of appropriate level of working capital is the first and foremost step in the management of working capital. Beside this investment in current assets,

the type of current assets to be held is equally important decision variable. In this chapter will shall see that the composition which may be a combination of spontaneous, short-term and long-term credit and source of the working capital does have important consideration for a finance manager because of several reasons like cost consideration of sources of funds, business fluctuations, timeliness in availability of funds and inter-relatedness of many variables like inventory, sales, quality of account receivables etc.

Every company has its own perspective towards financing of the working capital which is built upon their inherent strengths and appetites to assimilate their profitability versus risk tradeoffs for smooth working. They develop their own policies, operational standards and strategies to tie over various stable and variable issues pertaining to the financing of working capital. Apart from investment in current assets, the investment in receivables and marketable securities also pose a huge challenge for the finance managers and that should not be dealt in isolation to the former decisions.

4.3 THEORIES AND APPROACHES OF WORKING CAPITAL MANAGEMENT

Working capital is said to be the life blood of a business. Working capital signifies funds required for day-to-day operation of the firm. In financial literature, there exist two concepts of working capital namely: gross and net. Accordingly, gross concept working capital refers to current assets viz: cash, marketable securities, inventories of raw materials, work-in process, finished goods and receivables. According to net concept, working capital refers to the difference between current assets and current liabilities. Ordinarily, working capital can be classified into fixed or permanent and variable or fluctuating parts.

The minimum level of investment in current assets regularly employed in business is called fixed or permanent working capital and the extra working capital needed to support the changing business activities is called variable or fluctuating working capital. There are broadly 3 working capital management strategies/ approaches to choose the mix of long and short-term funds for financing the net working capital of a firm viz. Conservative, Aggressive, Hedging (Or Maturity Matching) approach. These strategies are different because of their different trade-off between risk and profitability. Another remarkable difference is the extent or proportion of application of long and short-term fund to finance the working capital.

The terms ‘methods of working capital management’, ‘strategies and approaches to working capital management’ are interchangeably used in general parlance. But, ultimately the concept and achievement of the objective of working capital management are important. We need to

understand the following relationship in depth for understanding the concept in its true sense.

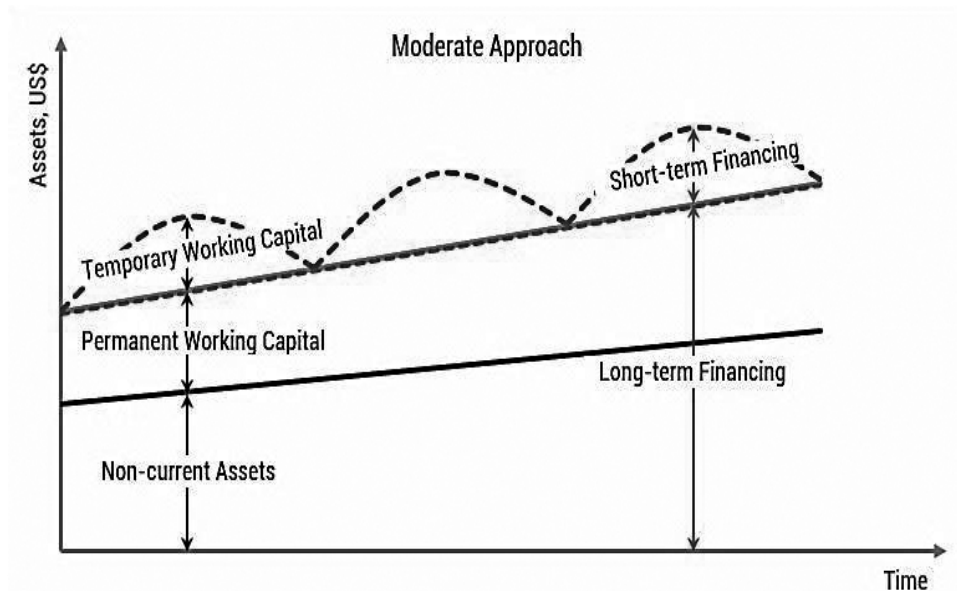
4.4 HEDGING (MATURITY MATCHING) STRATEGY OF WORKING CAPITAL INVESTMENT

The term 'hedging' usually refers to two off-selling transactions of a simultaneous but opposite nature which counterbalance the effect of each other. With reference to financing mix, the term hedging refers to 'a process of matching maturities of debt with the maturities of financial needs'. According to this strategy, the maturity of sources of funds should match the nature of assets to be financed. This approach is, therefore, also known as 'matching strategy'. This approach classifies the requirements of total working capital into two categories:

- (i) Permanent or fixed working capital which is the minimum amount required to carry out the normal business operations. It does not vary over time.
- (ii) Temporary or seasonal working capital which is required to meet special exigencies. It fluctuates over time.

The hedging strategy suggests that the permanent working capital requirements should be financed with funds from long-term sources while the temporary or seasonal working capital requirements should be financed with short-term funds. This is a meticulous strategy of financing the working capital with moderate risk and profitability. In this strategy, each of the assets would be financed by a debt instrument of almost the same maturity. It means if the asset is maturing after 30 days, the payment of the debt which has financed it will also have its due date of payment after almost 30 days. Hedging strategy works on the cardinal principle of financing i.e. utilizing long-term sources for financing long-term assets i.e. fixed assets and a part of permanent working capital and temporary working capital are financed by short-term sources of finance.

In case of a growth firm, the amount of fixed assets and permanent current assets go on increasing with the passage of time but the volume of fluctuating current assets change with the change in production level. In Figure 4.1, According to this approach, noncurrent assets should be financed by long-term financing and current assets by short-term financing. Therefore, under a moderate approach, businesses should use long-term financing to finance noncurrent assets and permanent working capital. The need for temporary working capital should be met by short-term financing.



Short-term financing = Temporary Working Capital

The basic objective of this method of financing is that the permanent component of current assets, and fixed assets would be met with long-term funds and the short-term or seasonal variations in current assets would be financed with short-term debt. If the long-term funds are used for short-term needs of the firm, it can identify and take steps to correct the mismatch in financing. Efficient working capital management techniques are those that compress the operating cycle. The length of the operating cycle is equal to the sum of the lengths of the inventory period and the receivables period.

Just-in-time inventory management technique reduces carrying costs by slashing the time that goods are parked as inventories. To shorten the receivables period without necessarily reducing the credit period, corporate can offer trade discounts for prompt payment. This strategy is also called as hedging approach.

4.4.1 RATIONALE BEHIND MATURITY MATCHING OR HEDGING APPROACH

Knowing why to apply maturity matching strategy is very important. It suggests financing permanent assets with long-term financing and temporary with short-term financing. Now let us suppose opposite situations and see. There can two such situations.

- (a) **Permanent Assets Financed With Short Term Financing:** In this situation, the borrower has to renew or refinance the short term loan every time simply because the duration for which money is required is higher, say 3 years, than the available loan is of, say 6 months only. The firm needs to renew the loan 6 times. This firm is exposed to refinancing risk. If the lender for any reason denies

for renewal, what will the firm do? In such a situation for paying off the loan, either the firm will sell the permanent assets which effectively means closing the business or file for bankruptcy.

- (b) **Temporary Assets Financed With Long Term Financing:** In this situation, firstly, the borrower has to pay interest on long term loans for that period also when the loan is not getting utilized. Secondly, the interest rate of long-term loans is normally dearer to short term loans due to the concept of term premium. These two additional costs hit the profitability of the firm. After all the discussion, in situation A, we learned that costs may be low but the risk is too high and situation B concludes high with low risk. Situation A is not acceptable because of such a high risk and situation B hits the profitability which is the primary goal of doing business and basis of survival. Therefore, the hedging or matching maturity approach to finance is ideal for effective working capital management.

4.4.2 ADVANTAGES OF MATCHING MATURITY APPROACH

- (a) **Optimum Level of Funds (Liquidity) :** The funds remain on the balance sheet only till they are in use. As soon as they are not needed, they are paid. Advantages and Disadvantages of Maturity Matching or Hedging Approach to Working Capital Financing
This is how the interest cost is optimized in this strategy. Interest is paid only for the amount and time for which money is used. There is no unutilized cash lying idle with the business.
- (b) **Savings on Interest Costs :** When short-term requirements are not funded with long-term finances, the firm saves interest rate difference between long term and short term interest rates. It is already known that long-term interest rates are comparatively higher due to the concept of risk premium.
- (c) **No Risk of Refinancing and Interest Rate Fluctuations During Refinancing :** Since the fundamental principle of finance is followed here i.e. long term asset to long-term finance and short term assets to short term finance, there are no risk of refinancing and the interest rate fluctuations during refinancing. This means that while renewing a loan if the market scenario changes, the rate of interest may also adversely change. Here, there is no problem of frequent refinancing.

4.4.3 DISADVANTAGES OF MATCHING MATURITY APPROACH

- (a) **Difficult to Implement :** It is one of the best strategies or ideal strategy but it is very difficult to implement. Exactly matching the maturity of assets with their source of finance is practically not

possible. There is quite a lot of uncertainty on current asset's side. One cannot exactly predict at what time, the debtor will pay or what time the sales will occur. Once the credit is extended, the ball goes in the court of the debtor.

- (b) **Risks Still Persist** : After adopting this strategy and planning everything in accordance with it, if the assets are not realized on time, it will not be possible to extend the loan due dates unreasonably. In that situation, the strategy moves either towards conservative or aggressive approach. Once that happens, the analytics and risks of those strategies will apply. The risks which are avoided with this strategy again come into play.

4.5 CONSERVATIVE STRATEGY OF WORKING CAPITAL INVESTMENT

As the name suggests, it is a conservative strategy of financing the working capital with low risk and low profitability. In this strategy, apart from the fixed assets and permanent current assets, a part of temporary working capital is also financed by long-term financing sources. It has the lowest liquidity risk at the cost of higher interest outlay. This is the lowest risk working capital strategy and fails to ensure optimum utilization of funds. Hence it cuts down the expected returns of the shareholders. This strategy is illustrated in Figure 4.2. Under a conservative approach, even a portion of temporary working capital is covered by long-term financing, and only an emerging need for funds is met by short-term financing. It also happens that businesses have an excessive cash balance, which should be invested in marketable securities. Such investments are able to be sold at any time to cover the emerging need for working capital.

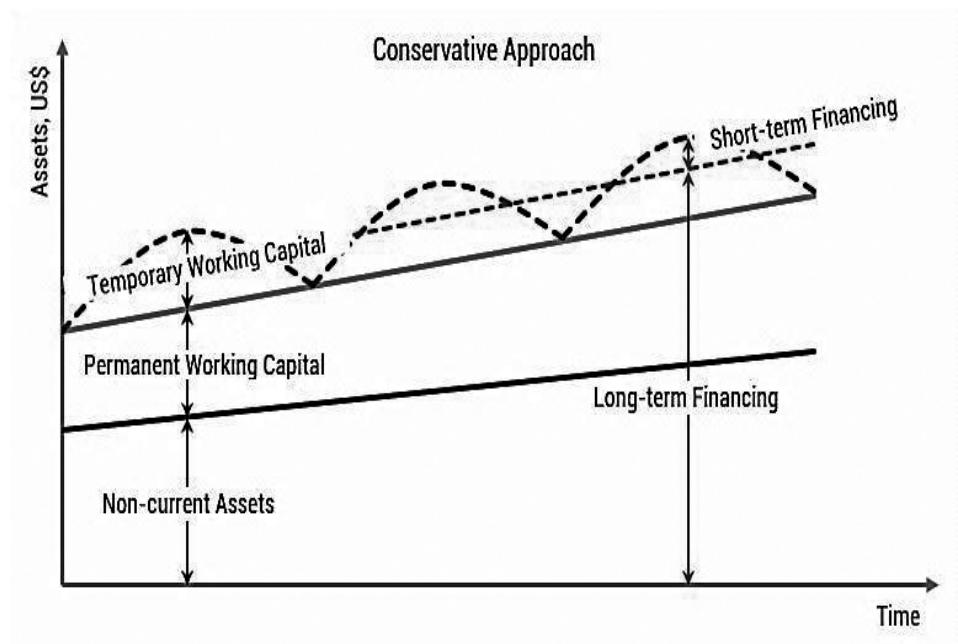


Figure 4.2 : Conservative Approach

Formula

Long-term financing = Noncurrent Assets + Permanent Working Capital + Part of Temporary Working Capital

Short-term financing = Part of Temporary Working Capital

This strategy suggests that the entire estimated investments in current assets should be financed from long-term sources and the short-term sources should be used only for emergency requirements. The distinct features of this strategy are:

- (i) Liquidity is severally greater;
- (ii) Risk is minimized; and
- (iii) The cost of financing is relatively more as interest has to be paid even on seasonal requirements for the entire period.

Advantages and disadvantages :

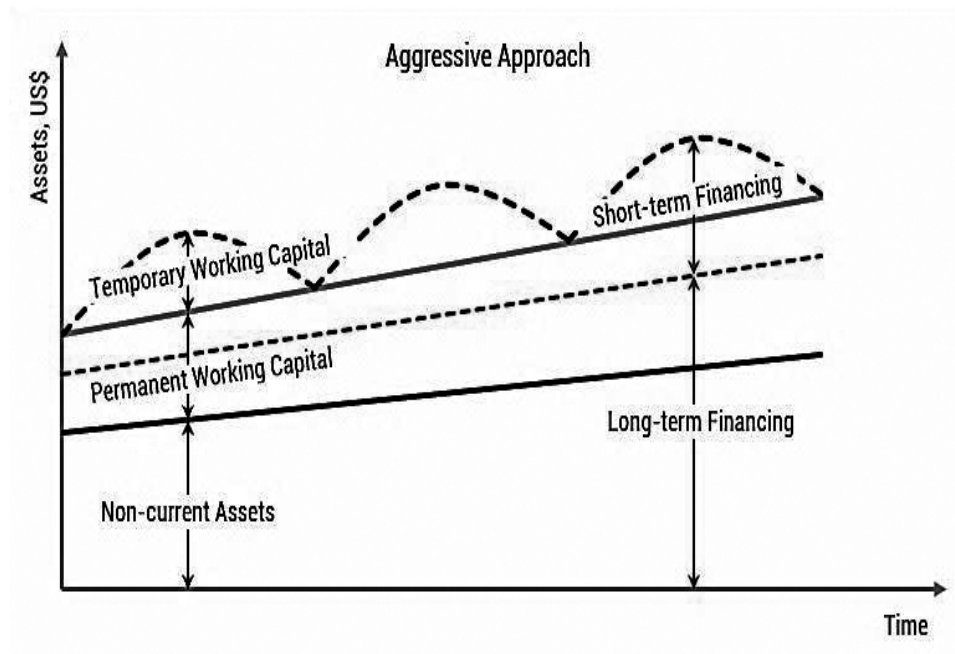
The advantages of a conservative strategy are the lowest reinvestment and interest rate risk among the other working capital financing strategies. Moreover, it results in a higher level of liquidity and solvency, so such businesses can easily access short-term borrowing to cover emerging needs in working capital. Lowest risk, however, also results in lowest profitability because long-term financing usually has a higher cost than short-term financing. Funding temporary working capital by long-term financing also leads to the fact that businesses have interest expenses even when they do not have any need for temporary working capital. Under this strategy some part of fluctuating current assets is financed through short-term sources.

4.6 AGGRESSIVE STRATEGY OF WORKING CAPITAL INVESTMENT

This strategy is the most aggressive strategy out of all the three. The complete focus of the strategy is in profitability. It is a high-risk high profitability strategy. Fluctuating as well as permanent current assets under this strategy will be financed through short-term debt. In this strategy debt is collected on time and payments to the creditors are made as late as possible. It saves the interest cost at the cost of high risk.

This strategy has been illustrated in Figure 4.3. It doesn't assume to hold any reserves to cover spontaneous needs in working capital. It means that only some portion of permanent working capital is financed by long-term financing. The rest and the temporary working capital, including seasonal fluctuations, are met by short-term borrowing. Adopting this approach makes it possible to reduce interest expense and increase profitability of a business, but it also carries the greatest risk.

Figure 4.2 : Aggressive Approach



Formula

Long-term Financing = Noncurrent Assets + Portion of Permanent Working Capital

Short-term Financing = Portion of Permanent Working Capital + Temporary Working Capital

Under this strategy current assets are maintained just to meet the current liabilities without keeping any cushion for the variations in working capital needs. The core working capital is financed by long-term sources of capital, and seasonal variations are met through short-term borrowings. Adoption of this strategy will minimize the investment in net working capital and ultimately it lowers the cost of financing working capital.

The companies working capital is financed by long-term source of capital and seasonal variation are met through short-term borrowing. Adoption of this strategy will minimize the investment in net working capital and ultimately it lowers the cost of financing working capital needs. The main drawback of this strategy is that it necessitates frequent financing and also increase, as the firm is variable to sudden shocks.

Advantages and disadvantages

The main drawbacks of this strategy are that it necessitates frequent financing and also increases the risk as the firm is vulnerable to sudden shocks. A conservative current asset financing strategy would go

for more long-term finance which reduces the risk of uncertainty associated with frequent refinancing. Another drawback of an aggressive strategy is that businesses need to access short-term borrowing frequently to recover both the portion of permanent working capital and temporary working capital. As a result, the exposure to refinancing risk increases sharply and businesses become vulnerable to any interruption in accessing short-term borrowing.

The price of this strategy is higher financing costs since long-term rates will normally exceed short term rates. But when aggressive strategy is adopted, sometimes the firm runs into mismatches and defaults. It is the cardinal principle of corporate finance that long-term assets should be financed by long-term sources and short-term assets by a mix of long and short-term sources. This strategy makes the finance-mix more risky, less costly and more profitable. The advantage of this working capital financing strategy is that short-term financing is mostly cheaper compared with long-term financing, which allows a reduction in interest expense. Such an approach, however, violates the matching principle, which states that noncurrent assets and permanent working capital should be financed by long-term financing. Risk preferences of management shall decide the approach to be adopted. The risk neutral will adopt the hedging approach, the risk averse will adopt the conservative strategy and risk seekers will adopt the aggressive strategy.

Following table gives a summary of the relative costs and benefits of the three different strategies:

Factors	Conservative	Aggressive	Hedging
Liquidity	More	Less	Moderate
Profitability	Less	More	Moderate
Cost	More	Less	Moderate
Risk	Less	More	Moderate
Asset Utilization	Less	More	Moderate
Working Capital	More	Less	Moderate

Thus management of working capital is concerned with determining the investment needed and deciding the financing pattern. You would now know that deciding the financing pattern is essentially determining the size and composition of current liabilities in relation to those of current assets. Cost of different types of funds (the long-term and short-term funds), the

return on different type of current assets, ability to bear risk, desired liquidity levels, etc. has to be considered to decide working capital management related issues.

4.7 ZERO STRATEGY OF WORKING CAPITAL INVESTMENT

This is one of the latest trends in working capital management. The idea is to have zero working capital i.e., at all times the current assets shall equal the current liabilities. Excess investment in current assets is avoided and firm meets its current liabilities out of the matching current assets. As current ratio is 1 and the quick ratio below 1, there may be apprehensions about the liquidity, but if all current assets are performing and are accounted at their realizable values, these fears are misplaced.

The firm saves opportunity cost on excess investments in current assets and as bank cash credit limits are linked to the inventory levels, interest costs are also saved. There would be a self-imposed financial discipline on the firm to manage their activities within their current liabilities and current assets and there may not be a tendency to over borrow or divert funds.

Zero working capital also ensure a smooth and uninterrupted working capital cycle, and it would pressure the Finance Managers to improve the quality of the current assets at all times, to keep them 100% realizable. There would also be a constant displacement in the current liabilities and the possibility of having over-dues may diminish. The tendency to postpone current liability payments has to be curbed and working capital always maintained at zero. Zero working capital would call for a fine balancing act in Financial Management, and the success in this endeavour would get reflected in healthier bottom lines.

Total Current Assets = Total Current Liabilities

or Total Current Assets – Total Current Liabilities = Zero

4.8 POLICIES OF WORKING CAPITAL INVESTMENT

The degree of current assets that a company employs for achieving a desired level of sales is manifested in working capital policy. In practice, the business concerns follow three forms of working capital policies which are discussed in brief as follows:

4.8.1 RESTRICTED POLICY

It involves the rigid estimation of working capital to the requirements of the concern and then forcing it to adhere to the estimate.

Deviations from the estimate are not allowed and the estimate will not provide for any contingencies or for any unexpected events.

4.8.2 RELAXED POLICY

It involves the allowing of sufficient cushion for fluctuations in funds requirement for financing various items of working capital. The estimate is made after taking into account the provision for contingencies and unexpected events.

4.8.3 MODERATE POLICY

The working capital level estimated in between the two extremes i.e. restricted and relaxed policies. The relationship of sales and corresponding levels of investment in current assets is shown in figure 4.4. When the company adopts 'restricted policy', for a sales level of 'S' it maintains the current assets level of 'C'. Under this policy the company maintains lower investments in current assets represent aggressive strategy; intend to yield high return and accepting higher risk.

The management is ready to counter any financial difficulties arising out of restricted policy. Under relaxed policy, the company maintains current assets upto the level of 'C₂' for the same level of sales (S) as in restricted policy.

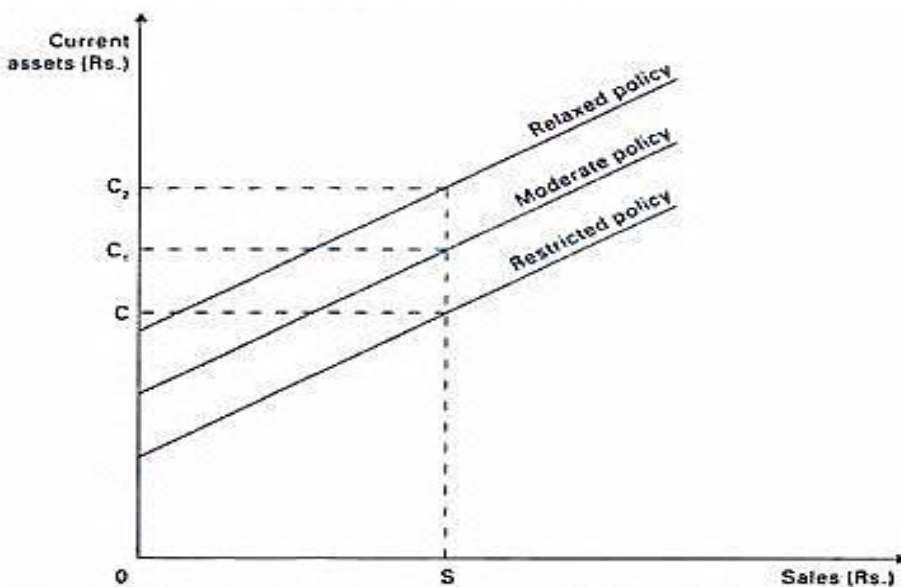


Figure 4.4 : Policies of Working Capital Investment

This policy represents conservative strategy. It allows the company to have sufficient cushion for uncertainties, contingencies, seasonal fluctuations, and changes in activity levels, changes in sales etc. The level of investment in current assets is high, which results in lesser return, but the risk level is also reduced.

In moderate policy, the investment in current assets lies in between 'C' and 'C₂'. With this policy, the expected profitability and risk levels fall between relaxed policy and restricted policy. The higher the level of investment in current assets represents the liberal working capital policy, in which the risk level is less and also the marginal return is also lesser.

In restricted policy the level of investment in current assets is lesser and high risk is perceived for increase of marginal return on investment. The determination of level of investment in current assets is dependent on risk-return perception of the management.

4.9 CONSERVATIVE APPROACH TO WORKING CAPITAL FINANCING

A conservative strategy suggests not to take any risk in working capital management and to carry high levels of current assets in relation to sales. Surplus current assets enable the firm to absorb sudden variations in sales, production plans, and procurement time without disrupting production plans. It requires to maintain a high level of working capital and it should be financed by long-term funds like share capital or long-term debt. Availability of sufficient working capital will enable the smooth operational activities of the firm and there would be no stoppages of production for want of raw materials, consumables. Sufficient stocks of finished goods are maintained to meet the market fluctuations. The higher liquidity levels reduce the risk of insolvency.

But lower risk translates into lower return. Large investments in current assets lead to higher interest and carrying costs and encouragement for inefficiency. But conservative policy will enable the firm to absorb day to day business risks and assures continuous flow of operations. Under this strategy, long-term financing covers more than the total requirement for working capital. The excess cash is invested in short-term marketable securities and in need; these securities are sold-off in the market to meet the urgent requirements of working capital.

Financing Strategy : Long-term funds = Fixed assets + Total permanent current assets + Part of temporary current assets

Short-term funds = Part of temporary current assets

4.9.1 ADVANTAGES OF CONSERVATIVE STRATEGY OF WORKING CAPITAL FINANCING

- (a) **Smooth Operations with No Stoppages :** In this strategy, the level of working capital and current assets (inventory, accounts receivables and most importantly liquid cash or bank balance) is high. A Higher level of inventory absorbs the sudden spurt in product sales, production plans, any abnormal delay in procurement time etc. This achieves the higher level of customer satisfaction and smooth operations of the company. Higher levels of accounts receivables are due to relaxed credit terms which in turn attract more customer and thereby higher sales and higher sales mean higher profits in normal circumstances.
- (b) **No Insolvency Risk :** Most important part and highly relevant to financing strategy are the higher levels of cash and working capital. Higher working capital avoids the risk of refinancing which exists in case it is financed by short-term sources of finance. Not only the risk of refinancing but also the risk of adverse change in the interest rate while getting the short term loans renewed are avoided. This is how the insolvency risk is avoided as at any time company has sufficient capital to pay off any liability.

4.9.2 DISADVANTAGES OF CONSERVATIVE STRATEGY OF WORKING CAPITAL FINANCING

- (a) **Higher Interest Cost :** This strategy employs long-term sources of finance and hence there are all the chances that the rate of interest will be high. The theory of term premium says that the long-term funds have higher interest rate compared to short-term funds as risk perception and uncertainty is high in case of longer terms.
- (b) **Idle Funds :** Long term loans cannot be paid off when wished and if paid cannot be easily availed back. As we noted in the diagram, the long-term funds remain unutilised in the times when seasonal spurt in activity is not there. Idle funds have an opportunity cost of interest attached to it.
- (c) **Higher Carrying Cost :** A Higher level of inventory and debtors implies higher carrying and holding cost which has a direct impact on profitability.
- (d) **Inefficient Working Capital Management :** If the margins of the firm are low for a particular year, a reasonable part of it will be attributed to working capital management. In such a situation, the conservative approach of financing may be called with another name of 'inefficient working capital management'.

4.10 PROFITABILITY VERSUS RISK TRADEOFF FOR ALTERNATIVE LEVELS OF WORKING CAPITAL INVESTMENT

4.10.1 PROFITABILITY STANDPOINT

Short-term interest rates are mostly lower than long-term rates. Therefore, using short-term financing helps reduce interest payments. Using long-term borrowing in financing working capital leads to higher interest payments compared with short-term borrowing. That means short-term has lower interest cost and higher profitability whereas long term has higher interest cost and lower profitability. Especially, when the long-term funds are utilized to finance the working capital, unnecessary interest is paid for the periods when the funds are not utilized. In essence, the short-term financing wins the race if profitability is the concern.

4.10.2 RISK STANDPOINT

There are two risks involved in short-term financing.

- Refinancing risk
- Interest rate risk

Refinancing risk refers to the probability that a business will fail to replace an existing short-term loan with a new one, which can lead, for example, to a disruption in supplies, interruption of production, or a decrease in sales. Refinancing is very uncertain and if the lender denies it for any reason, the options left to the borrower for making payment is either to sell off the assets and pay or file for liquidation if failed to realize the assets.

The interest rate risk refers to the chance that a new loan will have a higher interest rate than a previous one, resulting in increased interest expense and reduced profitability. The risk of adverse change in interest rate, while refinancing may increase the cost of financing and this risk, leads to low profitability.

On the contrary, long-term financing neither has to refinance neither risk nor the change of interest rate frequently. Here, the long-term financing wins the race.

4.10.3 ALTERNATIVE LEVELS OF WORKING CAPITAL INVESTMENT

Before deciding on an appropriate level of working capital investment, a firm's management has to evaluate the trade-off between expected profitability and the risk that it may be unable to meet its financial obligations. Profitability is measured by the rate of (operating)

return on total assets; that is, EBIT/total assets. As mentioned earlier in this chapter, the risk that a firm will encounter financial difficulties is related to the firm's net working capital position.

Suppose Burlington Resources has forecasted sales next year to be \$100 million and EBIT to be \$10 million. The company has fixed assets of \$30 million and current liabilities totaling \$20 million. Burlington Resources is considering three alternative working capital investment policies:

- An *aggressive* policy consisting of \$35 million in current assets
- A *moderate* policy consisting of \$40 million in current assets
- A *conservative* policy consisting of \$45 million in current assets

Assume that sales and EBIT remain constant under each policy contains the results of the three proposed policies. The aggressive policy would yield the highest expected rate of return on total assets, 15.38 percent, whereas the conservative policy would yield the lowest rate of return, 13.33 percent. The aggressive policy would also result in a lower net working capital position (\$15 million) than would the conservative policy (\$25 million). Using net working capital as a measure of risk, the aggressive policy is the riskiest and the conservative policy is the least risky. The current ratio is another measure of a firm's ability to meet financial obligations as they come due. The aggressive policy would yield the lowest current ratio, and the conservative policy would yield the highest current ratio.

4.11 TRADEOFF BETWEEN THE HEDGING AND CONSERVATIVE APPROACHES

The hedging approach implies low cost, high profit and high risk while the conservative approach leads to high cost, low profits and low risk. Both the approaches are the two extremes and neither of them serves the purpose of efficient working capital management.

A trade-off between the two will then be an acceptable approach. The level of trade off may differ from case to case depending upon the perception of risk by the persons involved in financial decision-making.

However, one way of determining the tradeoff is by finding the average of maximum and the minimum requirements of current assets or working capital. The average requirements so calculated may be financed out of long-term funds and the excess over the average from the short-term funds. Thus, in the above given example the average requirements of Rs 48,500, $45,000 + 52,000/2$ i.e., may be financed from long-term while the excess capital required during various months from short-term sources.

4.11.1 ANALYSIS OF CONSERVATIVE AND AGGRESSIVE FINANCING APPROACHES

The moderate policy stands in between two extremes of conservative and aggressive financing approaches. Majority of the corporates are followed the moderate policy of working capital financing, which enables to avoid higher risk and to earn moderate profit margin on additional investments in current assets.

Overall working capital policy considers *both* a firm's level of working capital investment and it's financing. In practice, the firm has to determine the *joint* impact of these two decisions upon its profitability and risk. However, to permit a better understanding of working capital policy, the working capital investment decision is discussed in this section, and the working capital financing decision is discussed in the following section. The two decisions are then considered together. The size and nature of a firm's investment in current assets is a function of a number of different factors, including the following:

- The type of products manufactured
- The length of the operating cycle
- The sales level (because higher sales require more investment in inventories and receivables)
- Inventory policies (for example, the amount of safety stocks maintained; that is, inventories needed to meet higher than expected demand or unanticipated delays in obtaining new inventories)
- Credit policies
- How efficiently the firm manages current assets (Obviously, the more effectively management economizes on the amount of cash, marketable securities, inventories, and receivables employed, the smaller the working capital requirements.)

4.12 OPTIMAL LEVEL OF WORKING CAPITAL INVESTMENT

The optimal level of working capital investment is the level expected to maximize shareholder wealth. It is a function of several factors, including the variability of sales and cash flows and the degree of operating and financial leverage employed by the firm. Therefore, no single working capital investment policy is necessarily optimal for all firms.

4.12.1 RISKS AND OPPORTUNITY COSTS

The risk of default and bankruptcy increases as you adopt more aggressive working capital policies. For example, a sudden emergency can leave you unable to make a bond interest payment. Tight inventories can lead to shortages and lost sales. Vendors might balk at extending your further credit if you stretch out payments beyond 90 days. Investors might be less willing to buy your bonds and may force you to offer higher interest rates on newly issued long-term debt. The major risk of a conservative working capital policy is the opportunity costs of “lazy” assets that you could put to work.

4.12.2 BUSINESS WORKING CAPITAL

A small business’s working capital represents its current assets minus current liabilities. Current assets are cash or items that can convert to cash in less than a year, such as accounts receivable, negotiable securities and inventory. Current liabilities include the short-term payables: accounts, payroll, taxes and interest, as well as any debt coming due within a year.

4.13 SUMMARY

Working capital financing strategy basically deals with the sources and the amount of working capital that a company should maintain. 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 strategies a firm may adopt after taking into account the variability of its cash inflows and outflows and the level of risk. Broadly speaking there are three strategies Conservative, Aggressive and the Hedging strategy. Conservative strategy is on the side of lower profitability and lower risk. On the contrary, an aggressive strategy is on the side of higher profitability and higher risk.

The hedging strategy is somewhere between the two it involves matching of the timings of maturation of dues with the inflows but given the uncertainty in the business environment execution of the hedging strategy in its true sense is practically not possible. The management’s attitude towards risk and other factors would decide their place on this number line.

If all current assets are performing (kept 100% realizable at all times) and are accounted at their realizable values it is possible to keep the current assets at par with the current liabilities. This strategy can be said as Zero strategy of investing in working capital. As the bank cash credit limits are linked to the inventory levels, the firm saves opportunity cost on excess investments in current assets and interest costs are also saved. To allow for such a strategy there would be a self-imposed financial discipline on the firm to manage their activities within their current

liabilities and current assets and there may not be a tendency to over borrow or divert funds.

In practice, the business concerns follow three forms of working capital policies namely the Restricted, Relaxed and Moderate strategies. The Restricted policy does not allow provisions for contingencies and the estimate of working capital is also very rigid whereas the relaxed strategy is on the other extreme where most of the things are flexible. The Moderate strategy is an attempt to balance the advantages and disadvantages in earlier two approaches. The management must bear in mind that there is no common master key or generalized approach for all the firms to arrive at an optimal working capital. Before deciding on an appropriate level of working capital investment, a firm's management has to evaluate the trade-off between expected profitability and the risk in various alternative approaches.

4.14 SELF-ASSESSMENT QUESTIONS

1. What do you understand by theories and approaches of working capital management?
2. Distinguish matching, conservative and aggressive working capital financing strategies.
3. Discuss hedging (maturity matching) strategy of working capital investment. Explain its advantages and disadvantages.
4. Elaborate conservative strategy of working capital investment with suitable examples.
5. What is aggressive strategy of working capital investment? Explain its advantages and disadvantages.
6. What do you understand by zero strategy of working capital investment? Explain it.
7. Explain policies of working capital investment.
8. Discuss about conservative approach to working capital financing.
9. Elaborate profitability versus risk tradeoff for alternative levels of working capital investment.
10. What is the tradeoff between the hedging and conservative approaches?
11. Define optimal level of working capital investment. Explain it.

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Uttar Pradesh Rajarshi Tandon
Open University

Master of Business Administration

M.B.A.-3.23

Working Capital Management

BLOCK

2

MANAGEMENT OF CURRENT ASSETS

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Receivables Management

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Management of Cash

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Management of Marketable Securities

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Management of Inventory

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COURSE INTRODUCTION

In **Block-2** you have learnt about the management part of working capital management; management of receivables, management of cash, management of marketable securities and management of inventory.

Unit-5 discusses about the meaning and nature of receivables, objectives of receivable management, factors affecting the size of receivables, optimum size of receivables, costs of maintaining receivables, benefits of maintaining receivables, credit policy: nature and goals, credit evaluation of customer, determinants of credit policy, and optimum credit policy.

Unit-6 explains meaning and nature of cash, meaning and significance of cash management, functions or reasons for holding cash, goals of cash management, difference between cash management and working capital management, and the strategies for cash management.

Unit-7 deals with requirement for investments in securities, features of marketable securities, types of marketable securities, market for short-term securities, shortcomings of Indian money market, and policies for managing securities.

Unit-8 deals with meaning of inventory and inventory management, objectives of inventory management, benefits of holding inventory, factors affecting level of inventory, risk and costs associated with holding inventory, techniques of inventory management, and computerized inventory control systems.

UNIT-05 RECEIVABLES MANAGEMENT

Unit Framework

- 5.1 Objectives
- 5.2 Introduction
- 5.3 Meaning and Nature of Receivables
- 5.4 Objective of Receivable Management
- 5.5 Factors Affecting the Size of Receivables
- 5.6 Optimum Size of Receivables
- 5.7 Costs of Maintaining Receivables
- 5.8 Benefits of Maintaining Receivables
- 5.9 Credit Policy: Nature and Goals
- 5.10 Credit Evaluation of Customer
- 5.11 Determinants of Credit Policy
- 5.12 Optimum Credit Policy
- 5.13 Summary
- 5.14 Self-Assessment Questions
- 5.15 Text and References

5.1 OBJECTIVES

After studying this unit, you should be able:

- To explain the meaning and definition of receivables;
- To list the benefits and cost of receivables,
- To identify the factors influencing the size of receivables,
- To describe the optimum credit policy,
- To explain functions of receivables management

5.2 INTRODUCTION

A firm should use this information in preparing categories of customers according to their creditworthiness and default risk. This would be an important input for the financial or credit manager in formulating its credit standards. Trade credit happens when a firm sells its products or services on credit and does not receive cash immediately. It is an essential marketing tool, acting as a bridge for the movement of goods through the

production and distribution stages to customers. Trade credit creates accounts receivable or trade debtors that the firm is expected to collect in the near future. A credit sale involves an element of risk since the cash payments are yet to be received.

5.3 MEANING AND NATURE OF RECEIVABLES

Receivables mean the book debts or debtors and these arise, if the goods are sold on credit which may be converted to cash after the credit period. Debtors form about 30% of current assets in India. Debt involves an element of risk and bad debts also. Hence, it calls for careful analysis and proper management. The goal of receivables management is to maximize the value of the firm by achieving a tradeoff between risk and profitability. For this purpose, a finance manager has:

- (i) To obtain optimum (non-maximum) value of sales;
- (ii) To control the cost of receivables, cost of collection, administrative expenses, bad debts and opportunity cost of funds blocked in the receivables.
- (iii) To maintain the debtors at minimum according to the credit policy offered to customers.
- (iv) To offer cash discounts suitably depending on the cost of receivables, bank rate of interest and opportunity cost of funds blocked in the receivables.

5.4 OBJECTIVE OF RECEIVABLE MANAGEMENT

Accounts receivable management means managing the credit sales of the firm. The basic objective of accounts receivable management is to collect the funds due and to help the management in meeting their cash flow requirements. An effective accounts receivable management in achieving the desired cash flow through the timely collection of outstanding debts.

5.5 FACTORS AFFECTING THE SIZE OF RECEIVABLES

The size of accounts receivable is determined by a number of factors. Some of the important factors are as follows

1. **Level of credit sales** - This is the most important factor in determining the size of accounts receivable. Generally in the same industry, a firm having a large volume of credit sales will be

having a larger level of receivables as compared to a firm with a small volume of credit sales. Sales level can also be used for forecasting change in accounts receivable. For example, if a firm predicts that there will be an increase of 20% in its credit sales for the next period, it can be expected that there will also be a 20% increase in the level of receivables.

2. **Credit policies** - The term credit policy refers to those decision variables that influence the amount of trade credit, i.e., the investment in receivables. These variables include the quantity of trade accounts to be accepted, the length of the credit period to be extended, the cash discount to be given and any special terms to be offered depending upon particular circumstances of the firm and the customer. A firm's credit policy, as a matter of fact, determines the amount of risk the firm is willing to undertake in its sales activities. If a firm has a lenient or a relatively liberal credit policy, it will experience a higher level of receivables as compared to a firm with a more rigid or stringent credit policy. This is because of the two reasons:
 - (i) A lenient credit policy encourages even the financially strong customers to make delays in payment resulting in increasing the size of the accounts receivables.
 - (ii) Lenient credit policy will result in greater defaults in payments by financially weak customers thus resulting in increasing the size of receivables.
3. **Terms of trade** - The size of the receivables is also affected by terms of trade (or credit terms) offered by the firm. The two important components of the credit terms are (i) Credit period and (ii) Cash discount.
 - (i) **Credit Period** : The term credit period refers to the time duration for which credit is extended to the customers. It is generally expressed in terms of "Net days". For example, if a firm's credit terms are "Net 15", it means the customers are expected to pay within 15 days from the date of credit sale.
 - (ii) **Cash Discount** : Most firms offer cash discount to their customers for encouraging them to pay their dues before the expiry of the credit period. The terms of cash discount indicate the rate of discount as well as the period for which the discount has been offered. For example, if the terms of cash discount are changed from "Net 30" to "2/10 Net 30", it means the credit period is of 30 days but in case customer pays in 10 days, he would get 2% discount on the amount due

by him. Of course, allowing cash discount results in a loss to the firm because of recovery of fewer amounts than what is due from the customer but it reduces the volume of receivables and puts extra funds at the disposal of the firm for alternative profitable investment. The amount of loss thus suffered is, therefore, compensated by the income otherwise earned by the firm.

5.6 OPTIMUM SIZE OF RECEIVABLES

The optimum investment in receivables will be at a level where there is a trade-off between costs and profitability. When the firm resorts to a liberal credit policy, the profitability of the firm increases on account of higher sales. However, such a policy results in increased investment in receivables, increased chances of bad debts and more collection costs. The total investment in receivables increases and, thus, the problem of liquidity is created. On the other hand, a stringent credit policy reduces the profitability but increases the liquidity of the firm. Thus, optimum credit policy occurs at a point where there is a “Trade-off” between liquidity and profitability.

5.7 COSTS OF MAINTAINING RECEIVABLES

The costs with respect to maintenance of receivables can be identified as follows

1. **Capital costs** - Maintenance of accounts receivable results in blocking of the firm’s financial resources in them. This is because there is a time lag between the sale of goods to customers and the payments by them. The firm has, therefore, to arrange for additional funds to meet its own obligations, such as payment to employees, suppliers of raw materials, etc., while awaiting for payments from its customers. Additional funds may either be raised from outside or out of profits retained in the business. In first the case, the firm has to pay interest to the outsider while in the latter case, there is an opportunity cost to the firm, i.e., the money which the firm could have earned otherwise by investing the funds elsewhere.
2. **Administrative costs** - The firm has to incur additional administrative costs for maintaining accounts receivable in the form of salaries to the staff kept for maintaining accounting records relating to customers, cost of conducting investigation regarding potential credit customers to determine their credit worthiness etc.
3. **Collection costs** - The firm has to incur costs for collecting the payments from its credit customers. Sometimes, additional steps may have to be taken to recover money from defaulting customers.

4. **Defaulting costs** - Sometimes after making all serious efforts to collect money from defaulting customers, the firm may not be able to recover the over dues because of the inability of the customers. Such debts are treated as bad debts and have to be written off since they cannot be realized.

5.8 BENEFITS OF MAINTAINING RECEIVABLES

1. **Increase in Sales** - Except a few monopolistic firms, most of the firms are required to sell goods on credit, either because of trade customers or other conditions. The sales can further be increased by liberalizing the credit terms. This will attract more customers to the firm resulting in higher sales and growth of the firm.
2. **Increase in Profits** - Increase in sales will help the firm (i) to easily recover the fixed expenses and attaining the break-even level, and (ii) increase the operating profit of the firm. In a normal situation, there is a positive relation between the sales volume and the profit.
3. **Extra Profit** - Sometimes, the firms make the credit sales at a price which is higher than the usual cash selling price. This brings an opportunity to the firm to make extra profit over and above the normal profit.
4. **To Face the Competition** – The firm may efficiently face the challenges pose by the competitors.

5.9 CREDIT POLICY : NATURE AND GOALS

The credit policy of a firm affects the working capital by influencing the level of debtors. The firm should use discretion in granting credit terms to its customers. Depending upon the individual case, different terms may be given to different customers. A liberal credit policy, without rating the credit-worthiness of customers, will be detrimental to the firm and will create a problem of collection later on. The firm should be prompt in making collections. A high collection period will mean tie-up of large funds in debtors. Slack collection procedures can increase the chance of bad debts.

In order to ensure that unnecessary funds are not tied up in debtors, the firm should follow a rationalized credit policy based on the credit standing of customers and other relevant factors. The firm should evaluate the credit standing of new customers and periodically review the credit-worthiness of the existing customers. The case of delayed payments should be thoroughly investigated.

- (A) **CREDIT POLICY VARIABLES** : In establishing an optimum credit policy, the financial manager must consider the important

decision variables which influence the level of receivables. The major controllable decision variables include the following:

- Credit standards and analysis
- Credit terms
- Collection policy and procedures

The financial manager or the credit manager may administer the credit policy of a firm. It should, however, be appreciated that credit policy has important implications for the firm's production, marketing and finance functions. Therefore, it is advisable that a committee that consists of executives of production, marketing and finance departments formulates the firm's credit policy. Within the framework of the credit policy, as laid down by this committee, the financial or credit manager should ensure that the firm's value of share is maximized. He does so by answering the following questions:

- What will be the change in sales when a decision variable is altered?
- What will be the cost of altering the decision variable?
- How would the level of receivable be affected by changing the decision variable?
- How are expected rate of return and cost of funds related?

The most difficult part of the analysis of impact of change in the credit policy variables is the estimation of sales and costs. Even if sales and costs can be estimated, it would be difficult to establish an optimum credit policy, as the best combination of the variables of credit policy is quite difficult to obtain. For these reasons, the establishment of credit policy is a slow process in practice. A firm will change one or two variables at a time and observe the effect. Based on the actual experience, variables may be changed further, or change may be reversed. It should also be noted that the firm's credit policy is greatly influenced by economic conditions. As economic conditions change, the credit policy of the firm may also change. Thus, the credit policy decision is not one time static decision. The impacts of changes in the major decision variables of credit policy are discussed below.

- (B) CREDIT STANDARDS :** Credit standards are the criteria which a firm follows in selecting customers for the purpose of credit extension. The firm may have tight credit standards, that is, it may sell mostly on cash basis and may extend credit only to the most reliable and financially strong customers. Such standards will result in no bad debt losses and less cost of credit administration but the firm may not be able to expand sales. The profit sacrificed

on lost sales may be more than the costs saved by the firm. On the contrary, if credit standards are loose, the firm may have larger sales but the firm will have to carry larger receivable. The costs of administering credit and bad-debt losses will also increase. Thus, the choice of optimum credit standards involves a trade-off between incremental return and incremental costs.

(C) CREDIT ANALYSIS : Credit standards influence the quality of the firm's customers. There are two aspects of the quality of customers: (i) the time taken by customers to repay credit obligation and (ii) the default rate. The average collection period (ACP) determines the speed of payment by customers. It measures the number of days for which credit sales remain outstanding. The longer the average collection period, the higher the firm's investment in accounts receivable. Default rate can be measured in terms of bad-debt losses ratio the proportion of uncollected receivable. Bad-debt losses ratio indicates default risk. Default risk is the likelihood that a customer will fail to repay the credit obligation. On the basis of past practice and experience, the financial or credit manager should be able to form a reasonable judgment regarding the chances of default. To estimate the probability of default, the financial or credit manager should consider three *C*'s: (a) character (b) capacity and (c) condition.

(a). Character : It refers to the customer's willingness to pay. The financial or credit manager should judge whether the customers will make honest efforts to honour their credit obligations. The moral factor is of considerable importance in credit evaluation in practice.

(b). Capacity : It refers to the customer's ability to pay. Ability to pay can be judged by assessing the customer's capital and assets which he may offer as security. Capacity is evaluated by the financial position of the firm as indicated by analysis of ratios and trends in firm's cash and working capital position. The financial or credit manager should determine the real worth of assets offered as collateral (security).

(c). Condition : It refers to the prevailing economic and other conditions which may affect the customers' ability to pay. Adverse economic conditions can affect the ability or willingness of a customer to pay. An experienced financial or credit manager will be able to judge the extent and genuineness to which the customer's ability to pay is affected by the economic conditions.

Information on these variables may be collected from the customers themselves, their published financial statements and outside agencies which may be keeping credit information about customers. A firm should use this information in preparing

categories of customers according to their creditworthiness and default risk. This would be an important input for the financial or credit manager in formulating its credit standards. The firm may categorize its customers, at least, in the following three categories:

- **Good accounts**, that is, financially strong customers.
- **Bad accounts**, that is, financially very weak, high risk customers.
- **Marginal accounts**, that is, customers with moderate financial health and risk (falling between good and bad accounts).

The firm will have no difficulty in quickly deciding about the extension of credit to good accounts and rejecting the credit request of bad accounts. Most of the firm's time will be taken in evaluating marginal accounts, that is, customers who are not financially very strong but are also not so bad to be outrightly rejected. A firm can expand its sales by extending credit to marginal accounts. But the firm's costs and bad-debt losses may also increase. Therefore, credit standards should be relaxed upon the point where incremental return equals incremental cost.

5.10 CREDIT EVALUATION OF CUSTOMER

Credit evaluation of the customer involves the following 5 stages

- i. Gathering credit information** of the customer through:
 - a) Financial statements of a firm,
 - b) Bank references,
 - c) References from Trade and Chamber of Commerce,
 - d) Reports of credit rating agencies,
 - e) Credit bureau reports,
 - f) Firm's own records (Past experience),
 - g) Other sources such as trade journals, Income-tax returns, wealth tax returns, sales tax returns, Court cases, Gazette notifications etc.
- ii. Credit analysis** : After gathering the above information about the customer, the creditworthiness of the applicant is to be analyzed by a detailed study of 5 C's of credit as mentioned below in the determinants of credit policy.
- iii. Credit decision** : After the credit analysis, the next step is the decision to extend the credit facility to potential customer. If the analysis of the applicant is not up to the standard, he may be offered cash on delivery (COD) terms even by extending trade

discount, if necessary, instead of rejecting the credit to the customer.

- iv. **Credit limit** : If the decision is to extend the credit facility to the potential customer, a limit may be prescribed by the financial manager, say, Rs. 25,000 or Rs. 1,00,000 or so, depending upon the credit analysis and credit-worthiness of the customer.
- v. **Collection procedure** : A suitable and clear-cut collection procedure is to be established by a firm and the same is to be intimated to every customer while granting credit facility. Cash discounts may also be offered for the early payment of dues. This facilitates faster recovery.

5.11 DETERMINANTS OF CREDIT POLICY

The following are the aspects of credit policy:

- i) Level of credit sales required to optimize the profit.
- ii) Credit period i.e. duration of credit, whether it may be 15 days or 30 or 45 days etc.
- iii) Cash discount, discount period and seasonal offers.
- iv) Credit standard of a customer: 5 C's of credit:
 - (a) Character of the customer i.e. willingness to pay.
 - (b) Capacity-ability to pay.
 - (c) Capital-financial resources of a customer.
 - (d) Conditions-special conditions for extension of credit to doubtful customers and prevailing economic and market conditions and;
 - (e) Collateral security.
- v) Profits.
- vi) Market and economic conditions.
- vii) Collection policy.
- viii) Paying habits of customers.
- ix) Billing efficiency, record-keeping etc.
- x) Grant of credit size and age of receivables.

5.12 OPTIMUM CREDIT POLICY

A firm should establish receivables policies after carefully considering both benefits and costs of different policies. These policies relate to:

- (i) Credit Standards,
- (ii) Credit Terms, and
- (iii) Collection Procedures.

Each of these has been explained below :

- (i) **Credit standards** - The term credit standards represent the basic criteria for extension of credit to customers. The levels of sales and receivables are likely to be high if the credit standards are relatively loose, as compared to a situation when they are relatively tight. The firm's credit standards are generally determined by the five "C's". Character, Capacity, Capital, Collateral and Conditions. Character denotes the integrity of the customer, i.e. his willingness to pay for the goods purchased. Capacity denotes his ability to manage the business. Capital denotes his financial soundness. Collateral refers to the assets which the customer can offer by way of security. Conditions refer to the impact of general economic trends on the firm or to special developments in certain areas of economy that may affect the customer's ability to meet his obligations.

Information about the five C's can be collected both from internal as well as external sources. Internal sources include the firm's previous experience with the customer supplemented by its own well developed information system. External resources include customer's references, trade associations and credit rating organisations such as Don & Brad Street Inc. of USA. This Organisation has more than hundred years' experience in the field of credit reporting. It publishes a reference book six times a year containing information about important business firms region wise. It also supplies credit reports about different firms on request.

An individual firm can translate its credit information into risk classes or groups according to the probability of loss associated with each class. On the basis of this information, the firm can decide whether it will be advisable for it to extend credit to a particular class of customers.

- (ii) **Credit terms** - It refers to the terms under which a firm sells goods on credit to its customers. As stated earlier, the two components of the credit terms are (a) Credit Period and (b) Cash Discount. The

approach to be adopted by the firm in respect of each of these components is discussed below:

- (a) **Credit period** - Extending the credit period stimulates sales but increases the cost on account of more tying up of funds in receivables. Similarly, shortening the credit period reduces the profit on account of reduced sales, but also reduces the cost of tying up of funds in receivables. Determining the optimal credit period, therefore, involves locating the period where the marginal profits on increased sales are exactly offset by the cost of carrying the higher amount of accounts receivable.
- (b) **Cash discount** - The effect of allowing cash discount can also be analyzed on the same pattern as that of the credit period. Attractive cash discount terms reduce the average collection period resulting in reduced investment in accounts receivable. Thus, there is a saving in capital costs. On the other hand, cash discount itself is a loss to the firm. Optimal discount is established at the point where the cost and benefit are exactly offsetting.
- (iii) **Collection procedures** - A stringent collection procedure is expensive for the firm because of high out-of-pocket costs and loss of goodwill of the firm among its customers. However, it minimizes the loss on account of bad debts as well as increases savings in terms of lower capital costs on account of reduction in the size of receivables. A balance has therefore to be struck between the costs and benefits of different collection procedures or policies.

OPTIMUM CREDIT POLICY : A MARGINAL COST-BENEFIT ANALYSIS

The firm's operating profit is maximized when total cost is minimized for a given level of revenue. Credit policy at point A in Figure represents the maximum operating profit (since total cost is minimum). But it is not necessarily the optimum credit policy. Optimum credit policy is one which maximizes the firm's value. The value of the firm is maximized when the incremental or marginal rate of return of an investment is equal to the incremental or marginal cost of funds used to finance the investment. The incremental rate of return can be calculated as incremental operating profit divided by the incremental investment in receivable. The incremental cost of funds is the rate of return required by the suppliers of funds, given the risk of investment in accounts receivable. Note that the required rate of return is not equal to the borrowing rate. Higher the risk of investment, higher the required rate of return. As the firm loosens its credit policy, its investment in accounts receivable becomes more risky because of increase

in slow-paying and defaulting accounts. Thus the required rate of return is an upward sloping curve.

In sum, we may state that the goal of the firm's credit policy is to maximize the value of the firm. To achieve this goal, the evaluation of investment in accounts receivable should involve the following four steps:

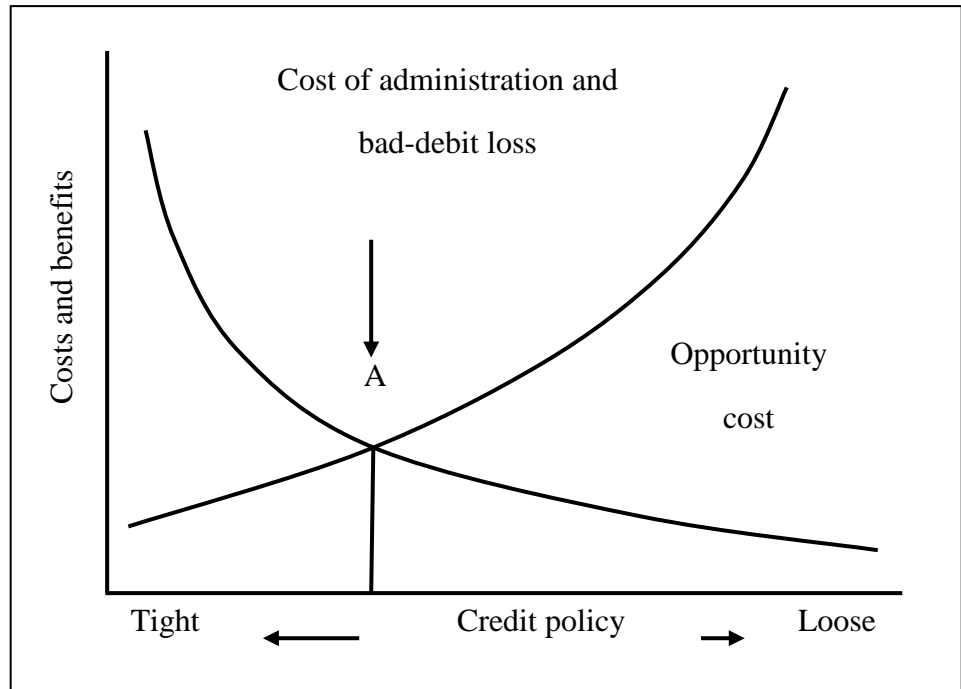


Figure Costs of Credit Policy

- Estimation of incremental operating profit.
- Estimation of incremental investment in accounts receivable.
- Estimation of the incremental rate of return of investment.
- Comparison of the incremental rate of return with the required rate of return.

5.13 SUMMARY

Receivables mean the book debts or debtors and these arise, if the goods are sold on credit. Debtors form about 30% of current assets in India. Debt involves an element of risk and bad debts also. Hence, it calls for careful analysis and proper management. The goal of receivables management is to maximize the value of the firm by achieving a tradeoff between risk and profitability. The optimum investment in receivables will be at a level where there is a trade-off between costs and profitability. When the firm resorts to a liberal credit policy, the profitability of the firm

increases on account of higher sales. However, such a policy results in increased investment in receivables, increased chances of bad debts and more collection costs.

The levels of three kinds of inventories for a firm depend on the nature of its business. Firms also maintain a fourth kind of inventory, supplies or stores and spares. Supplies include office and plant maintenance materials like soap, brooms, oil, fuel, light bulbs, etc. These materials do not directly enter production, but are necessary for production process. Usually, these supplies are small part of the total inventory and do not involve significant investment. Because of huge investment involved in inventory many organizations give special emphasis to the management of inventory. The finance manager is to maintain the inventory and acquire the benefit of holding the inventory. In order to manage the inventory efficiently, a large number of techniques are being employed.

5.14 SELF-ASSESSMENT QUESTIONS

1. Explain receivable management.
2. Describe the nature of receivable.
3. Illustrate the concept of optimum credit policy.
4. What are the objectives of Receivable Management?
5. Explain the factors affecting the size of receivables.
6. What is the optimum size of receivables?
7. Describe the costs of maintaining receivables.
8. Explain the role played by various credit policy variables.
9. "In establishing an optimum credit policy, the financial manager must consider the important decision variables which influence the level of receivables." Discuss the importance of credit policy.
10. Write short notes on the following:
(i) raw materials (ii) work-in-process (iii) finished goods.
11. Write a note on the cash and benefit associated with receivables management.
12. What are the firm's credit standards?
13. Discuss the credit evaluation of customer.
14. What are the benefits of receivable management?

15. Critically examine the marginal cost-benefit analysis of optimum credit policy.

5.15 TEXT AND REFERENCES

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UNIT-06 MANAGEMENT OF CASH

Unit Framework

- 6.1 Objectives
- 6.2 Introduction
- 6.3 Meaning and Nature of Cash
- 6.4 Meaning and Significance of Cash Management
- 6.5 Functions or Reasons for Holding Cash
- 6.6 Goals of Cash Management
- 6.7 Difference between Cash Management and Working Capital Management
- 6.8 The Strategies for Cash Management
- 6.9 Summary
- 6.10 Self-Assessment Questions
- 6.11 Text and References

6.1 OBJECTIVES

In this unit we will focus on the necessity for managing cash. Cash being one of the important constituents of working capital, it is essential to have an efficient cash management system for the smooth conduct of the business. After studying this unit, you should be able to describe:

- Meaning of Cash; Nature of Cash
- Reasons for Holding Cash
- Meaning of cash management
- Goals of Cash Management
- Difference between Cash Management and Working Capital Management
- The Strategies for Cash Management

6.2 INTRODUCTION

Cash is the medium of exchange on the common purchasing power and which is the most important component of working capital. It includes coins, currency, cheques held by the firm and the balances in its bank accounts. Sometimes near-cash items also are included.' Cash is the basic input required to keep the firm running on a continuous basis. At the same time it is the ultimate output expected to be realized by selling goods and

services A firm should hold sufficient cash, neither more, not less. An excessive cash remains idle which simply increases the cost without contributing anything towards the profitability of the firm and in the opposite case, trading and/ or manufacturing operation will be disrupted.

Not only that, it largely upholds, under given condition, the quantum of other ingredients of working capital, viz., inventories and debtors, that may be needed for a given scale and type of operation. Cash is, no doubt, a most important asset and that is why a firm wants to get hold of it in the shortest time possible. In the absence of sufficient quantity of cash at the proper time, payment of bills including dividend and others may not have to be made.

6.3 MEANING AND NATURE OF CASH

MEANING OF CASH : Cash is one of the current assets of a business. It is needed at all times to keep the business going. A business concern should always keep sufficient cash for meeting its obligations. Any shortage of cash will hamper the operations of a concern and any excess of it will be unproductive. It is in this context that cash management has assumed much importance.

NATURE OF 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. 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.

6.4 MEANING AND SIGNIFICANCE OF CASH MANAGEMENT

MEANING OF CASH MANAGEMENT : Cash management is one of the key areas of working capital management. Cash is the most liquid current assets. Cash is the common denominator to which all current assets can be reduced because the other major liquid assets, i.e. receivable and inventory get eventually converted into cash. This underlines the importance of cash management.

The term “Cash” with reference to management of cash is used in two ways. In a narrow sense cash refers to coins, currency, cheques, drafts and deposits in banks. The broader view of cash includes near cash assets such as marketable securities and time deposits in banks. The reason why these near cash assets are included in cash is that they can readily be converted into cash.

Usually, excess cash is invested in marketable securities as it contributes to profitability. Cash is one of the most important components of current assets. Every firm should have adequate cash, neither more nor less.

Inadequate cash will lead to production interruptions, while excessive cash remains idle and will impair profitability. It is interesting to note that cash management involves the three following factors:

- (i) Ascertainment of the minimum cash balance;
- (ii) Proper arrangement to be made for collection and payment of cash in such a way so that minimum balance can be maintained; and
- (iii) Surplus cash to be invested in temporary investments or to be invested in fixed assets.

Similarly, cash is not productive directly like other assets, viz., it is sterile. For example, fixed assets are acquired for the purpose of earning revenue. Accounts receivables are generated by granting credit to customers etc.

SIGNIFICANCE OF CASH MANAGEMENT

1. **Cash planning** - Cash is the most important as well as the least unproductive of all current assets. Though, it is necessary to meet the firm's obligations, yet idle cash earns nothing. Therefore, it is essential to have sound cash planning neither excess nor inadequate. Cash planning is a technique to plan and control the use of cash. A project cash flow statement may be prepared, based on the present business operations and anticipated future activities.
2. **Management of cash flows** - This is another important aspect of cash management. Synchronization between cash inflows and cash outflows rarely happens. Sometimes, the cash inflows will be more than outflows because of receipts from debtors, and cash sales in huge amounts. At other times, cash outflows exceed inflows due to payment of taxes, interest and dividends etc. Hence, the cash flows should be managed for better cash management.
3. **Maintaining optimum cash balance** - Every firm should maintain optimum cash balance. The management should also consider the factors determining and influencing the cash balances at various point of time. The cost of excess cash and danger of inadequate cash should be matched to determine the optimum level of cash balances.
4. **Investment of excess cash** - The firm has to invest the excess or idle funds in short term securities or investments to earn profits as idle funds earn nothing. This is one of the important aspects of management of cash.

Thus, the aim of cash management is to maintain adequate cash balances at one hand and to use excess cash in some profitable way on the other hand.

6.5 FUNCTIONS OR REASONS FOR HOLDING CASH

REASONS FOR HOLDING CASH : The firm's needs for cash may be attributed to the following needs:

- 6.5.1 Transactions reason,
- 6.5.2 Precautionary reason and
- 6.5.3 Speculative reason
- 6.5.4 Compensation reason

6.5.1 TRANSACTIONS REASON

This reason refers to the holding of cash, to meet routine cash requirements in the ordinary course of business. A firm enters into a number of transactions which requires cash payment. For example, purchase of materials, payment of wages, salaries, taxes, interest etc. Similarly, a firm receives cash from cash sales, collections from debtors, return on investments etc. But the cash inflows and cash outflows do not perfectly synchronize. Sometimes, cash receipts are more than payments while at other times payments exceed receipts. The firm must have to maintain sufficient (funds) cash balance if the payments are more than receipts. Thus, the transactions reason refers to the holding of cash to meet expected obligations whose timing is not perfectly matched with cash receipts. Though, a large portion of cash held for transactions reason is in the form of cash, a part of it may be invested in marketable securities whose maturity conform to the timing of expected payments such as dividends, taxes etc.

6.5.2 PRECAUTIONARY REASON

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. 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. The cash maintained for contingency needs is not productive or it remains idle. However, such cash may be invested in short-period or low-risk marketable securities which may provide cash as and when necessary.

Apart from the non-synchronization of expected cash receipts and payments in the ordinary course of business, a firm may be failed to pay cash for unexpected contingencies. For example, strikes, sudden increase in cost of raw materials etc. Cash held to meet these unforeseen situations is known as precautionary cash balance and it provides a caution against

them. The amount of cash balance under precautionary reason is influenced by two factors i.e. predictability of cash flows and the availability of short term credit. The more unpredictable the cash flows, the greater the need for such cash balances and vice versa. If the firm can borrow at short-notice, it will need a relatively small balance to meet contingencies and vice versa. Usually precautionary cash balances are invested in marketable securities so that they contribute something to profitability.

6.5.3 SPECULATIVE REASON

The speculative reason 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. These transactions are speculative because prices may not move in a direction in which we suppose them to move. For example, if the firm expects that the material prices will fall, it can delay the purchases and make purchases in future when price actually declines. Similarly, with the hope of buying securities when the interest rate is expected to decline, the firm will hold cash. By and large, firms rarely hold cash for speculative purposes.

6.5.4 COMPENSATION REASON

This reason to hold cash balances is to compensate banks and other financial institutes for providing certain services and loans. Banks provide a variety of services to business firms like clearance of cheques, drafts, transfer of funds etc. Banks charge a commission or fee for their services to the customers as indirect compensation. Customers are required to maintain a minimum cash balance at the bank. This balance cannot be used for transaction purposes. Banks can utilize the balances to earn a return to compensate their cost of services to the customers. Such balances are compensating balances. These balances are also required by some loan agreements between a bank and its customers. Banks require a chest to maintain a minimum cash balance in his account to compensate the bank when the supply of credit is restricted and interest rates are rising.

Thus cash is required to fulfill the above reasons. Out of the four reasons of holding cash balances, transaction reason and compensation reasons are very important. Business firms usually do not speculate and need not have speculative balances. The requirement of precautionary balances can be met out of short-term borrowings.

6.6 GOALS OF CASH MANAGEMENT

The basic goals of cash management are (i) to make the payments when they become due and (ii) to minimize the cash balances. The task before the cash management is to reconcile the two conflicting nature of goals.

6.6.1 MEETING THE PAYMENTS SCHEDULE

The basic objective of cash management is to meet the payment schedule. In the normal course of business, firms have to make payments of cash to suppliers of raw materials, employees and so on regularly. At the same time firm will be receiving cash on a regular basis from cash sales and debtors. Thus, every firm should have adequate cash to meet the payments schedule. In other words, the firm should be able to meet the obligations when they become due. The firm can enjoy certain advantages associated with maintaining adequate cash. They are:

- A. INSOLVENCY** - The question of insolvency does not arise as the firm will be able to meet its obligations.
- B. GOOD RELATIONS** - Adequate cash balance in the business firm helps in developing good relations with creditors and suppliers of raw materials.
- C. CREDIT WORTHINESS** - The maintenance of adequate cash balances increase the credit worthiness of the firm. Consequently it will be able to purchase raw materials and procure credit with favorable terms and conditions.
- D. AVAILING DISCOUNT FACILITIES** - The firm can avail the discounts offered by the creditors for payments before the due date.
- E. TO MEET UNEXPECTED FACILITIES** - The firm can easily meet the unexpected cash expenditure in situations like strikes, competition from customers etc. with little strain.

So, every firm should have adequate cash balances for effective cash management.

6.6.2 MINIMISING FUNDS COMMITTED TO CASH BALANCES

The second important objective of cash management is to minimise cash balance. In minimizing the cash balances two conflicting aspects have to be reconciled. A high level of cash balances will ensure prompt payment together with all advantages, but at the same time, cash is a non- earning asset and the larger balances of cash impair profitability. On the other hand, a low level of cash balance may lead to the inability of the firm to meet the payment schedule. Thus the objective of cash management would be to have an optimum cash balance.

Factors determining cash needs - Maintenance of optimum level of cash is the main problem of cash management. The level of cash holding differs from industry to industry, organisation to organisation. The factors determining the cash needs of the industry is explained as follows:

- (i) **MATCHING OF CASH FLOWS** - The first and very important factor determining the level of cash requirement is matching cash inflows with cash outflows. If the receipts and payments are perfectly coinciding or balance each other, there would be no need for cash balances. The needs for cash management are due to the non-synchronization of cash receipts and disbursements. For this purpose, the cash inflows and outflows have to be forecast over a period of time say 12 months with the help of cash budget. The cash budget will pin point the months when the firm will have an excess or shortage of cash.
- (ii) **SHORT COSTS** - Short costs are defined as the expenses incurred as a result of shortfall of cash such as unexpected or expected shortage of cash balances to meet the requirements. The short costs includes, transaction costs associated with raising cash to overcome the shortage, borrowing costs associated with borrowing to cover the shortage i.e. interest on loan, loss of trade-discount, penalty rates by banks to meet a shortfall in compensating, cash balances and costs associated with deterioration of the firm's credit rating etc. which is reflected in higher bank charges on loans, decline in sales and profits.
- (iii) **COST OF CASH ON EXCESS BALANCES** - One of the important factors determining the cash needs is the cost of maintaining cash balances i.e. excess or idle cash balances. The cost of maintaining excess cash balance is called excess cash balance cost. If large funds are idle, the implication is that the firm has missed opportunities to invest and thereby lost interest. This is known as excess cost. Hence the cash management is necessary to maintain an optimum balance of cash.
- (iv) **UNCERTAINTY IN BUSINESS** - Uncertainty plays a key role in cash management, because cash flows cannot be predicted with complete accuracy. The first requirement of cash management is a precautionary cushion to cope with irregularities in cash flows, unexpected delays in collections and disbursements, defaults and expected cash needs the uncertainty can be overcome through accurate forecasting of tax payments, dividends, capital expenditure etc. and ability of the firm to borrow funds through overdraft facility.
- (v) **COST OF PROCUREMENT AND MANAGEMENT OF CASH** - The costs associated with establishing and operating cash management staff and activities determining the cash needs of a business firm. These costs are generally fixed and are accounted for by salary, storage and handling of securities etc. The above factors are considered to determine the cash needs of a business firm.

6.7 DIFFERENCE BETWEEN CASH MANAGEMENT AND WORKING CAPITAL MANAGEMENT

Apart from the fact that it is the most liquid current asset, cash is the common denominator to which all current assets can be reduced because the other major current/liquid assets, viz., receivables, inventories etc., get eventually converted into cash.

It is the significance of cash management which is the key area of working capital management. Cash management is important since it is very difficult to estimate correctly the inflow of cash. Practically, it is not so easy to make a proper synchronization of inflows and outflows of cash.

As a new small business owner, there are numerous tasks that now have to deal with on a daily basis. You have to make sure employees deliver the right services and products to customers. You also need accurate accounting services to manage business revenue, payroll, and expenses. So when people start throwing out new terms such as “working capital” and “cash flow,” you can start to become confused.

Differences between cash management and working capital management

Sr. No.	Cash Management	Working Capital Management
1	Cash flow tells you how much cash your business can generate over a specific period of time.	Working capital provides a snapshot of your company's current financial situation.
2	Your monthly or quarterly cash flow will differ from the amount of money generated in a year. As a result, working capital gives you a good idea about how quickly your company can pay immediate liabilities, while cash flow is more forward-looking.	If working capital is low but cash flow is strong, your company can generate sufficient cash, if given enough time. However, if creditors aren't willing to give you enough time, you may be facing some serious financial difficulty, including the possibility of bankruptcy.
3	if you were to rely on knowing your cash flow, you wouldn't know the true financial position of your business, as it relates to debt.	If your working capital is greater than your liabilities, you can be reasonably confident that you can pay any debts that are due within a year.

4	Cash flow represents all the money that is flowing into and out from your business during a specified time frame. Cash flow can consist of accounts receivable, accounts payable, and inventory. So your sales transactions with customers, collection processes, invoices you have to pay to suppliers, office rent, loan payments and merchandise are considered cash flow.	Working capital refers to all the current assets as well as current liabilities in your small business. A current asset isn't just the cash that you keep in your cash register. It also represents any assets such as equipment or inventory that can be converted into cash, which is called operating liquidity. Current liabilities are all expenses and debts that become due within a 12-month period.
5	If your business has fantastic cash flow moving into your operations doesn't mean that you have positive working capital. Your business may have incurred large, ongoing debts or you have invested significant amounts of money into the facilities where one slow sales season could see your business in financial trouble.	If you have positive working capital, this phrase means that your small business is bringing in cash flow and current assets that can cover all business liabilities. If you have negative working capital, it means that your business cannot cover the current liabilities as you have more cash flow moving out of your business than what you are moving into it.

Some other aspects should be considerable.

1. The best way to manage working capital and cash flow is to have accurate financial records throughout the life of your company so you can make the right financial decisions. You need to get back to your accounting basics and optimize your accounts receivable/accounts payable tasks so that you are invoicing your customers correctly and in a timely manner to further generate cash flow.
2. You also need to make smarter inventory management decisions. You want your small business to have the right amount of inventory to satisfy sales orders without sinking too much money into buying products that won't move off the shelves fast enough.
3. Another thing to consider is how you are investing in your company. Are you purchasing equipment and products that are essential to operations and business growth or just throwing money away on the newest innovations that won't have a significant impact on processes? Also, consider whether it is the right time to acquire debt from bank loans for business expansion, or if you are

acquiring too much long-term debt that can make it difficult for your business to eventually repay.

4. Having accurate bookkeeping and financial records will always allow you to keep track of your working capital and cash flow for your small business. If you are worried about the financial health of your business, hiring outside accounting services can help you audit your financial records, spot mistakes, and offer advice on how to get your business back on track when you want to improve your working capital and cash flow management.

6.8 THE STRATEGIES FOR CASH MANAGEMENT

6.8.1 PROJECTION OF CASH FLOWS AND PLANNING

The cash planning and the projection of cash flows is determined with the help of cash budget. The cash budget is the most important tool in cash management. It is a device to help a firm to plan and control the use of cash. It is a statement showing the estimated cash inflows and cash outflows over the firm's planning horizon. In other words the net cash position i.e., surplus or deficiency of a firm is highlighted by the cash budget from one budgeting period to another period.

6.8.2 DETERMINING OPTIMAL LEVEL OF CASH HOLDING IN THE COMPANY

One of the important responsibilities of a finance manager is to maintain sufficient cash balances to meet the current obligations of a company. Determining optimum level of cash balance is influenced by a tradeoff between risk and profitability. Every business enterprise holding cash balances for transaction purposes and to meet precautionary, speculative and compensative reasons. With the help of cash budget the finance manager predicts the inflows and outflows of cash during a particular period of time and there by determines the cash requirements of the company. While determining the optimum level of cash balance (neither excess nor inadequate cash balances) the finance manager has to bring a tradeoff between the liquidity and profitability of the firm. The optimum level of cash balances of a company can be determined in various ways: They are

- a) Inventory model (Economic Order Quantity) to cash management
- b) Stochastic model
- c) Probability model
- d) The BAT Model

- A) Inventory model (EOQ) to cash management** - Economic Order Quantity (EOQ) model is used in determination of optimal level of cash of a company. According to this model optimal level of cash balance is one at which cost of carrying the inventory of cash and cost of going to the market for satisfying cash requirements is minimum. The carrying cost of holding cash refers to the interest foregone on marketable securities whereas cost of going to the market means cost of liquidating marketable securities in cash.

Optimum level of cash balance can be determined as follows:

Q = Where Q = Optimum level of cash inventory

A = Total amount of transaction demand

O = Average fixed cost of securing cash from the market (ordering cost of cash / securities)

C = Cost of carrying cash inventory,

i.e., interest rate on marketable securities for the period involved.

Assumptions: The model is based on the following assumptions:

- 1) The demand for cash, transactions costs of obtaining cash and the holding costs for a particular period are given and do not change during that period.
- 2) There is a constant demand for cash during the period under consideration.
- 3) Cash payments are predictable
- 4) Banks do not impose any restrictions on firms with respect of maintenance of minimum cash balances in the bank accounts.

For example : Teja & Company estimated cash payments of Rs. 36,000 for a period of 30 days. The average fixed cost for securing capital from the market (ordering cost) is Rs. 100 and the carrying cost or interest rate on marketable securities is 12% per annum. Determine the optimum quantity of cash balance?

A = Monthly requirement = Rs. 36,000

O = Fixed Cost for securing capital = Rs. 100

C = Cost of interest on marketable securities = 12% per year Per month: 1% or (0.1)

Therefore: $Q = \left(\frac{AO}{C} \right)^{1/2}$

Optimum transaction of cash: Rs. 8,485.28

Limitations - The EOQ model to determine the optimum size of cash balances is suffered with several practical problems. The first and important problem (limitation) is related with determination of fixed cost associated with replenishing cash. The fixed cost includes both explicit

cost (interest rate at which required capital can be secured from the market and implicit cost (time spent in placing an order for getting financial assistance etc.) The computation of implicit cost is very difficult. The model is not useful and applicable where the cash flows are irregular in nature.

B) Stochastic (irregular) Model - This model is developed to avoid the problems associated with the EOQ model. This model was developed by Miller and Orr. The basic assumption of this model is that cash balances are irregular, i.e., changes randomly over a period of time both in size and direction and form a normal distribution as the number of periods observed increases. The model prescribes two control limits Upper control Limit (UCL) and Lower Control Limit (LCL). When the cash balances reaches the upper limit a transfer of cash to investment account should be made and when cash balances reach the lower point a portion of securities constituting investment account of the company should be liquidated to return the cash balances to its return point. The control limits are converting securities into cash and the vice – versa, and the cost carrying stock of cash.

The **Miller and Orr model** is the simplest model to determine the optimal behavior in irregular cash flows situation. The model is a control limit model designed to determine the time and size of transfers between an investment account and cash account. There are two control limits.

Upper Limit (U) and lower limit (L).According to this model when cash balance of the company reach the upper limit, cash equal to “U – O” should be invested in marketable securities so that new cash balance touches “O” point. If the cash balance touch the “L’ point, finance manager should immediately liquidate that much portion of the investment portfolio which could return the cash balance to ‘O’ point. (O is optimal point of cash balance or target cash balance) The “O” optimal point of cash balance is determined by using the formula

$O =$

Where,

O = target cash balance (Optimal cash balance)

T= Fixed cost associated with security transactions

I = Interest per day on marketable securities

V = Variance of daily net cash flows.

Limitations : This model is subjected to some practical problems

- 1) The first and important problem is in respect of collection of accurate data about transfer costs, holding costs, number of transfers and expected average cash balance.
- 2) The cost of time devoted by financial managers in dealing with the transfers of cash to securities and vice versa.
- 3) The model does not take in account the short term borrowings as an alternative to selling of marketable securities when cash balance reaches lower limit.

Besides the practical difficulties in the application of the model, the model helps in providing more, better and quicker information for management of cash. It was observed that the model produced considerable cost savings in the real life situations.

- C) **Probability Model** - This model was developed by William Beranek. Beranek observed that cash flows of a firm are neither completely predictable nor irregular (stochastic). The cash flows are predictable within a range. This occurrence calls for formulating the demand for cash as a probability distribution of possible outcomes.

According to this model, a finance manager has to estimate probabilistic out comes for net cash flows on the basis of his prior knowledge and experience. He has to determine what is the operating cash balance for a given period, what is the expected net cash flow at the end of the period and what is the probability of occurrence of this expected closing net cash flows.

The optimum cash balance at the beginning of the planning period is determined with the help of the probability distribution of net cash flows. Cost of cash shortages, opportunity cost of holding cash balances and the transaction cost.

Assumptions :

1. Cash is invested in marketable securities at the end of the planning period say a week or a month.
2. Cash inflows take place continuously throughout the planning period.
3. Cash inflows are of different sizes.
4. Cash inflows are not fully controllable by the management of firm.
5. Sale of marketable securities and other short term investments will be effected at the end of the planning period.

The probability model prescribed the decision rule for the finance manager that the finance manager should go on investing in marketable securities from the opening cash balance until the expectation, that the ending cash balance will be below the optimum cash balance, where the ratio of the

incremental net return per rupee of investment is equal to the incremental shortage cost per rupee.

D) The BAT Model

The Baumol-Allais-Tobin (BAT) model is a classic means of analyzing the cash management problem. It is a straightforward model and very useful for illustrating the factors in cash management and, more generally, current asset management.

To develop the BAT model, suppose the Golden Socks Corporation starts at Time 0 with a cash balance of C 5 \$1.2 million. Each week, outflows exceed inflows by \$600,000. As a result, the cash balance drops to zero at the end of Week 2. The average cash balance is the beginning balance (\$1.2 million) plus the ending balance (\$0) divided by 2, or $(\$1.2 \text{ million} + \$0)/2 = \$600,000$ over the two-week period. At the end of Week 2, Golden Socks replaces its cash by depositing another \$1.2 million.

As we have described, the cash management strategy for Golden Socks is very simple and boils down to depositing \$1.2 million every two weeks. Implicitly, we assume the net cash outflow is the same every day and it is known with certainty. These two assumptions make the model easy to handle. We indicate what happens when they do not hold in the next section.

If C were set higher, say, at \$2.4 million, cash would last four weeks before the firm would have to sell marketable securities, but the firm's average cash balance would increase to \$1.2 million (from \$600,000). If C were set at \$600,000, cash would run out in one week and the firm would have to replenish cash more frequently, but its average cash balance would fall from \$600,000 to \$300,000.

Because transaction costs must be incurred whenever cash is replenished (for example, the brokerage costs of selling marketable securities), establishing large initial balances lowers the trading costs connected with cash management. However, the larger the average cash balance, the greater is the opportunity cost (the return that could have been earned on marketable securities).

6.8.3 STRATEGY FOR ECONOMIZING CASH

Once cash flow projections are made and appropriate cash balances are established, the finance manager should take steps towards effective utilization of available cash resources. A number of strategies have to be developed for this purpose they are: a) Strategy towards accelerating cash inflows, and b) Strategy towards decelerating cash outflows

A) Strategy towards accelerating cash inflows - In order to accelerate the cash inflows and maximize the available cash the firm has to employ several methods such as reduce the time lag between the movement of a payment to the company is mailed and the movement of the funds are ready for redeployment by the company. This includes the quick deposit of customer's cheques, establishing collection centers and lock – box system etc.

i) Quick deposit of customer's cheques - The inflow is accelerated through quick deposit of cheques in the banks, the moment they are received. Special attention should be given to deposit the cheques without any delay.

ii) Establishing collection centres - In order to accelerate the cash inflows the organization may establish collection centres in various marketing centres of the country. These centres may collect the cheques or payments from the customers and deposit them in the local bank.

Thus, these cheques are collected immediately at the collection center and the bank can transfer the surplus money, if any, to the company's main bank. Thus, the decentralized collection system of the company reduced the time lag in cash remittances and collections.

iii) Lock-box method - The new device which is popular in recent past is lock-box method which will help to reduce the time interval from the mailing of the cheques to the use of funds by the company. Under this arrangement, the company rents lock-box from post offices through its service area. The customers are instructed to mail cheques to the lock-box. The company's bank collects the mail from the lock-box several times a day and deposit them directly in the company's account on the same day. This will reduce the time in mailing cheques, deposit them in bank and thereby reduce overhead costs to the company. But one of the serious limitations of the system is that the banks will charge additional service costs to the company. However, this system is proved useful and economic to the firm.

B) Strategy for slowing cash outflows - In order to accelerate cash availability in the company, finance manager must employ some devices that could slow down the speed of payments outward in addition to accelerating collections. The methods of slowing down disbursements are as flows:

i) Delaying outward payment - The finance manager can increase the cash turnover by delaying the payment on bills until the due date of the no-cost period. Thus, he can economize cash resources of the firm.

- ii) **Making pay roll periods less frequent** - The firm can economize its cash resources by changing the frequency of disbursing pay to its employees. For example, if the company is presently paying wages weekly, it can effect substantial cash savings if the pay is disbursed only once in a month.
- iii) **Solving disbursement by use of drafts** - A company can delay disbursement by use of drafts on funds located elsewhere. When the firm pays the amount through drafts, the bank will not make the payment against the draft unless the bank gets the acceptance of the issuer firm. Thus the firm need not have balance in its bank account till the draft is presented for acceptance. On the other hand, it will take several days for the draft to be actually paid by the company. Thus finance manager can economize large amounts of cash resources for at least a fortnight. The funds saved could be invested in highly liquid low risk assets to earn income there on.
- iv) **Playing the float** - Float is the difference between the company's cheque book balance and the balance shown in the bank's books of accounts. When the company writes a cheque, it will reduce the balance in its books of accounts by the amount of cheque. But the bank will debit the amount of its customers only when the cheque is collected. On the other hand, the company can maximize its cash utilization by ignoring its book balance and keep its cash invested until just before the cheques are actually presented for payment. This technique is known as "playing the float".
- v) **Centralized payment system** - A firm can delay payments through centralized payment system. Under this system, payments will be made from a single central account. This will benefit the company.
- vi) **By transferring funds** from one bank to another bank firm can maximize its cash turnover.

6.9 SUMMARY

Management of cash is one of the key areas of working capital management. Cash is required to meet a firm's transactions and precautionary needs. A firm needs cash to make payments for acquisition of resources and services for the normal conduct of business. It keeps additional funds to meet any emergency situation. Some firms may also maintain cash for taking advantages of speculative changes in prices of input and output. The aim of finance manager in cash management is to minimize the investments in cash and at the same time ensure that the firm has sufficient liquidity. The main objective of cash management is to

trade-off liquidity and profitability in order to maximize the firm's value. Credit standing of the firm, relations with bank, management policies regarding holding inventory, liquidity preference etc. effects cash requirement of a firm. The finance manager can formulate strategies of cash management by (i) determining optimum level of cash (ii) cash planning and control (iii) managing the cash flows (iv) investing surplus cash. Cash budget is probably the most important tool of cash management.

The basic strategies that can be employed to minimize the operating cash balance are (a) Accelerating cash collection - Concentration banking, Lock box system deserve specific mention as principal methods of establishing a decentralized collection network. (b) Slowing disbursements - Centralized disbursement center, Avoidance of early payments and playing the float are the important techniques for slowing disbursement, but this slow down should not impair the credit rating or reputation of the firm.

The cash planning and the projection of cash flows is determined with the help of cash budget. The cash budget is the most important tool in cash management. It is a device to help a firm to plan and control the use of cash. It is a statement showing the estimated cash inflows and cash outflows over the firm's planning horizon. Determining optimum level of cash balance is influenced by a tradeoff between risk and profitability. Every business enterprise holding cash balances for transaction purposes and to meet precautionary, speculative and compensative reasons. With the help of cash budget the finance manager predicts the inflows and outflows of cash during a particular period of time and there by determines the cash requirements of the company. While determining the optimum level of cash balance (neither excess nor inadequate cash balances) the finance manager has to bring a tradeoff between the liquidity and profitability of the firm.

6.10 SELF-ASSESSMENT QUESTIONS

1. What do you understand by meaning and nature of cash?
2. "Efficient cash management will aim at maximizing the cash inflows and showing cash outflows."
3. What is a lock box system? How does it help to reduce the cash balances?
4. What is management of cash? Explain the reasons for holding cash.
5. What are the goals of cash management? Discuss the functions of cash management?

6. Write short notes on : -
 - a. Concentration Banking
 - b. Lock Box System
 - c. Optimum Cash Balance
 - d. Playing the Float
7. Explain the techniques that can be used to accelerate the firm's collection.
8. How can the optimum level of operating cash balance be determined?
9. Explain the criteria that a firm should use in choosing the short term investment alternative in order to invest surplus cash.
10. What is Miller-Orr Model of cash management?
11. What are the differences between Stochastic model and Probability of cash management?
12. Explains the Inventory model (Economic Order Quantity) and BAT model of cash management.

6.11 TEXT AND REFERENCES

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UNIT-07 MANAGEMENT OF MARKETABLE SECURITIES

Unit Framework

- 7.1 Objectives
- 7.2 Introduction
- 7.3 Requirement for Investments in Securities
- 7.4 Features of Marketable Securities
- 7.5 Types of Marketable Securities
- 7.6 Market for Short-term Securities
- 7.7 Shortcomings of Indian Money Market
- 7.8 Policies for Managing Securities
- 7.9 Summary
- 7.10 Self-Assessment Questions
- 7.11 Text and References

7.1 OBJECTIVES

After completing this unit you will be able to:

- to explain the requirement for investments in securities
- to determine types of marketable securities
- to know the market for short-term securities
- to discuss the features of marketable securities
- to elaborate shortages of Indian money market
- to discuss the policies for managing securities.

7.2 INTRODUCTION

The short term money market instruments are readily encashable therefore they are called liquid assets. The marketable securities are one such asset. Investment in marketable securities is an integral part of management of cash as this may serve both the purposes of liquidity as well as cash. As the working capital needs fluctuate over a period of time, it is advisable to park excess funds in some short term securities, which can be liquidated as and when the need for cash arises.

In the international financial markets, many companies such as Procter & Gamble (US), Gibson Greetings (US), Showa Shell (Japan),

Allied Lyons (UK), Orange County (US), British Councils (UK), etc., have lost millions of dollars by entering into financial transactions of wrong types. In the domestic markets too, several firms have incurred huge loss during the last few years and many of them have taken a public stand in the company's annual general body meeting that they will not excessively deal in the securities market. In 1992, securities scam hurt many companies; particularly the public sector companies had incurred huge losses in their dealings in government securities. Nevertheless, as an old saying goes "No risk no gain", many companies are still willing to deal with marketable securities at different levels. While some of them have active treasury management and willing to take a risk, others have restricted themselves in investing their short-term surplus money for a limited period.

There is both inherent risk and advantages of investing the surplus money in the short term. On one hand, the idle surplus money is put to profitable use, on the other, it is still reasonably liquid. To mitigate the risk and enhance the profitability from investing into marketable securities the managers need to acquire some basic knowledge on the nature of marketable securities, operation of markets where such securities are traded and finally the models used in recognizing short-term surplus and managing such surplus to improve the overall profitability of the firm.

7.3 REQUIREMENT FOR INVESTMENTS IN SECURITIES

Marketable Securities are the financial instruments that one can easily buy or sell in the market. The maturities of these financial instruments are usually less than a year. Since they have high liquidity, these investments are good for businesses that need quick cash. Some examples of these financial instruments are government bonds, common stock or certificates of deposit. Marketable securities result from investment decisions that really are not the main part of the firm's business. But marketable securities cannot be ignored, as they constitute a part of the value of the firm that is entrusted to management.

The firms were chosen because of their familiarity and also because of the differences between them. There are several reasons for such difference in the investments in marketable securities between the firms and between the years. For instance, companies like Lakshmi Machine Works Ltd. (LMW) and NEPC Micon, leading manufacturers of textile machinery and windmill power equipment's, used to have an order booking for one to three years. Companies, which place the order with LMW and NEPC pay advances along with the order. Most companies in the auto-cars segment like Maruti Udyog Ltd (MUL) and Telco that entered the small car segment collects advances when they launch new models. However, they cannot use these short-term surplus cash flows for any long-term purposes.

Surplus cash is thus invested in marketable securities primarily to earn an income, which otherwise remains idle within the firm. Companies may not always have an opportunity to demand advances from the customers. For instance, the recession in textile industry and general economic recession has affected the order flow of LMW and NEPC. Intensive competition between the car manufacturers forces many of them to sell the cars without demanding any initial amount from the customers. Thus, companies, which were flushed with money at one point of time and investing heavily in marketable securities, may issue short-term securities to others and borrow money at another point of time.

Many companies, which adopted the profit centre concepts, have made the finance department as one of the profit centres. It means the finance department has to add revenue to the firm. Top management wants financial department to show how they helped the company to improve the bottom-line. By dealing with marketable securities in the form of securities and foreign exchange derivatives, financial managers' ought to demonstrate their ability to cut down the cost or increase the benefit. Investments in marketable securities also depend on the aggressiveness of the financial managers' in dealing with such assets.

The task of financial managers, who become involved with marketable securities either full-time or part-time, consists of three issues. First, managers must understand the detailed characteristics of different short-term investment opportunities. Second, managers must understand the markets in which those investment opportunities are bought and sold. Third, managers must develop a strategy for deciding when to buy and sell marketable securities, which securities to hold, and how much to buy or sell in each transaction.

7.4 FEATURES OF MARKETABLE SECURITIES

The overriding characteristic of marketable securities is their liquidity, or the ability to convert them into cash and use them as an intermediary in other economic transactions. The security is further made liquid by its relative supply and demand in the market and the volume of its transactions. Because marketable securities have short maturities and can be sold easily with price quotes available instantly, they typically have a very low rate of return, paying less interest than other instruments. But they are usually perceived as low-risk as well. From a liquidity standpoint, investments are marketable when they can be bought and sold easily. If an investor or a business needs some cash in a pinch, it is much easier to enter the market and liquidate common stock than, say, a non-negotiable certificate of deposit (CD).

This introduces the element of intent as a characteristic of "marketability." And in fact, many financial experts and accounting courses claim intent as a differentiating feature between marketable securities and other investment securities. Under this classification,

marketable securities must satisfy two conditions. The first is ready convertibility into cash; the second condition is that those who purchase marketable securities must intend to convert them when in need of cash. In other words, a note purchased with short-term goals in mind is much more marketable than an identical note bought with long-term goals in mind. In general, marketable securities are like money market securities which fulfill the requirements of safety and liquidity. Marketable securities types are listed below.

1. Some money market securities, such as government securities, have no default risk; the ones that do have very little default risk.
2. Due to the short maturity of money market securities and the fact that they are generally issued by large banks or corporations (who are not likely to get into deep financial trouble in a short time), their default risk is low.
3. Even so, a manager can look at the credit ratings by Moody's, Standard & Poor's, and Fitch for an evaluation of the default risk of any particular money market security.
4. Money market securities have relatively little interest rate risk. Because these securities are short-term, their values are not as affected by changes in interest rates as, say, a 10-year U.S. Treasury security.

7.5 TYPES OF MARKETABLE SECURITIES

We will give an overview of these securities below.

7.5.1 DEBT SECURITIES

Marketable debt securities are government bonds and corporate bonds. One can trade these on the public exchange and their market price is also readily available. In the balance sheet, all marketable debt securities are shown as current at the cost, until a company realizes a gain or loss on the sale of the debt instrument.

Marketable debt securities are considered to be any short-term bond issued by a public company held by another company. Marketable debt securities are normally held by a company in lieu of cash, so it's even more important that there is an established secondary market. All marketable debt securities are held at cost on a company's balance sheet as a current asset, until a gain or loss is realized upon the sale of the debt instrument. Marketable debt securities are held as short-term investments and are expected to be sold within one year. If a debt security is expected to be held for longer than one year, it should be classified as a long-term investment in the company's balance sheet.

7.5.2 MONEY MARKET INSTRUMENTS

Money market securities are short-term bonds, like Treasury bills (T-bills), banker's acceptances and commercial paper. Big financial entities purchase these in massive quantities.

- (i) **Treasury Bills (T-Bills)** : Treasury Bills, one of the safest money market instruments, are short term borrowing instruments of the Central Government of the Country issued through the Central Bank (RBI in India). They are zero risk instruments, and hence the returns are not so attractive. It is available both in the primary market as well as the secondary market. It is a promise to pay a said sum after a specified period. T-bills are short-term securities that mature in one year or less from their issue date. They are issued with three-month, six month and one-year maturity periods. The Central Government issues T- Bills at a price less than their face value (par value). They are issued with a promise to pay full face value on maturity. So, when the T-Bills mature, the government pays the holder its face value. The difference between the purchase price and the maturity value is the interest income earned by the purchaser of the instrument. T-Bills are issued through a bidding process at auctions. The bid can be prepared either competitively or non-competitively. At present, the Government of India issues three types of treasury bills through auctions, namely, 91-day, 182-day and 364-day. There are no treasury bills issued by State Governments. Treasury bills are available for a minimum amount of Rs.25K and in its multiples. While 91-day T-bills are auctioned every week on Wednesdays, 182-day and 364- day T-bills are auctioned every alternate week on Wednesdays. The Reserve Bank of India issues a quarterly calendar of T-bill auctions which is available at the Banks' website. It also announces the exact dates of auction, the amount to be auctioned and payment dates by issuing press releases prior to every auction. On the other hand, when RBI purchases back these instruments at a specified date mentioned at the time of the transaction, liquidity is infused in the market. This is called Repo (Repurchase) transaction.
- (ii) **Repurchase Agreements** : Repurchase transactions, called Repo or Reverse Repo are transactions or short term loans in which two parties agree to sell and repurchase the same security. They are usually used for overnight borrowing. Repo/Reverse Repo transactions can be done only between the parties approved by RBI and in RBI approved securities viz. GOI and State Govt. Securities, T-Bills, PSU Bonds, FI Bonds, Corporate Bonds etc. Under repurchase agreement the seller sells specified securities with an agreement to repurchase the same at a mutually decided future date and price. Similarly, the buyer purchases the securities with an agreement to resell the same to the seller on an agreed date at a predetermined price. Such a transaction is called a Repo when

viewed from the perspective of the seller of the securities and Reverse Repo when viewed from the perspective of the buyer of the securities. Thus, whether a given agreement is termed as a Repo or Reverse Repo depends on which party initiated the transaction. The lender or buyer in a Repo is entitled to receive compensation for use of funds provided to the counterparty. Effectively the seller of the security borrows money for a period of time (Repo period) at a particular rate of interest mutually agreed with the buyer of the security who has lent the funds to the seller. The rate of interest agreed upon is called the Repo rate. The Repo rate is negotiated by the counterparties independently of the coupon rate or rates of the underlying securities and is influenced by overall money market conditions.

- (iii) **Call money :** The call money market is an essential part of the Indian Money Market, where the day-to-day surplus funds (mostly of banks) are traded. The money market is a market for short-term financial assets that are close substitutes of money. To meet sudden demand for funds arising out of large outflows. Participants in the call money market are banks and related entities specified by the RBI. Scheduled commercial banks (excluding RRBs), co-operative banks (other than Land Development Banks) and Primary Dealers (PDs), are permitted to participate in call/notice money market both as borrowers and lenders.
- (iv) **Commercial Paper :** Commercial paper is a low-cost alternative to bank loans. It is a short term unsecured promissory note issued by corporates and financial institutions at a discounted value on face value. They are usually issued with fixed maturity between one to 270 days and for financing of accounts receivables, inventories and meeting short term liabilities. Say, for example, a company has receivables of Rs 1 lacs with credit period 6 months. It will not be able to liquidate its receivables before 6 months. The company is in need of funds. It can issue commercial papers in form of unsecured promissory notes at discount of 10% on face value of Rs 1 lacs to be matured after 6 months. The company has strong credit rating and finds buyers easily. The company is able to liquidate its receivables immediately and the buyer is able to earn interest of Rs 10K over a period of 6 months. They yield higher returns as compared to T-Bills as they are less secure in comparison to these bills; however chances of default are almost negligible but are not zero risk instruments. Commercial paper being an instrument not backed by any collateral, only firms with high quality credit ratings will find buyers easily without offering any substantial discounts. They are issued by corporates to impart flexibility in raising working capital resources at market determined rates. Commercial Papers are actively traded in the secondary market since they are issued in the form of promissory notes and are freely transferable in demat form.

(v) **Certificates of Deposit** : It is a short term borrowing more like a bank term deposit account. It is a promissory note issued by a bank in the form of a certificate entitling the bearer to receive interest. The certificate bears the maturity date, the fixed rate of interest and the value. It can be issued in any denomination. They are stamped and transferred by endorsement. Its term generally ranges from three months to five years and restricts the holders to withdraw funds on demand. However, on payment of certain penalty, the money can be withdrawn on demand also. The returns on a certificate of deposits are higher than T-Bills because it assumes a higher level of risk. While buying a Certificate of Deposit, return method should be seen. Returns can be based on Annual Percentage Yield (APY) or Annual Percentage Rate (APR). In APY, interest earned is based on compounded interest calculation. However, in APR method, simple interest calculation is done to generate the return. Accordingly, if the interest is paid annually, equal return is generated by both APY and APR methods. However, if interest is paid more than once in a year, it is beneficial to opt APY over APR.

(vi) **Bankers Acceptances** : It is a short term credit investment created by a non-financial firm and guaranteed by a bank to make payment. It is simply a bill of exchange drawn by a person and accepted by a bank. It is a buyer's promise to pay to the seller a certain specified amount at certain date. The same is guaranteed by the banker of the buyer in exchange for a claim on the goods as collateral. The person drawing the bill must have a good credit rating otherwise the Banker's Acceptance will not be tradable. The most common term for these instruments is 90 days. However, they can vary from 30 days to 180 days. For corporations, it acts as a negotiable time draft for financing imports, exports and other transactions in goods and is highly useful when the creditworthiness of the foreign trade party is unknown. The seller need not hold it until maturity and can sell off the same in the secondary market at discount from the face value to liquidate its receivables.

For example, someone might write himself a check as a simple means of transferring funds from one bank account to another. In this case, the drawer and payee are the same person. When a draft guarantees payment for goods in international trade, it is called a bill of exchange.

Government Securities or Securities Guaranteed by the Government : Government securities traded in the money markets fall within 5 distinct categories.

- a) Treasury Bills
- b) Central Loans
- c) State Loans

- d) Central Guaranteed loans
- e) State Guaranteed loans

Few corporates purchase treasury bills, preferring to deposit funds or buy instruments with maturities that match more precisely their own cash flow forecasts or to obtain a higher yield by investing in safe but riskier instruments. Securities issued by the U.S. Government that have maturities of one month, three months, and six months. These securities are readily marketable and considered as default-free.

7.5.3 EQUITY INVESTMENTS

Marketable equity securities are common stock and most preferred stock as well. One can also easily trade them on the public exchanges and their market price information is easily available. All marketable equity securities are shown in the balance sheet at either cost or market whichever is lower.

- (a). **Common Stock** : Common stock is a security that represents ownership in a corporation. Holders of common stock exercise control by electing a board of directors and voting on corporate policy. So the formula for calculation of common stock is the number of outstanding shares is issued stock minus the number of treasury shares of the company.
- (b). **Preferred Stock** : The term "stock" refers to ownership or equity in a firm. There are two types of equity - common stock and preferred stock. Preferred stockholders have a higher claim to dividends or asset distribution than common stockholders. The details of each preferred stock depend on the issue. Preferred shareholders have priority over common stockholders when it comes to dividends, which generally yield more than common stock and can be paid monthly or quarterly. These dividends can be fixed or set in terms of a benchmark interest rate like the LIBOR (London Inter-Bank Offered Rate) and are often quoted as a percentage in the issuing description. Adjustable-rate shares specify certain factors that influence the dividend yield, and participating shares can pay additional dividends that are reckoned in terms of common stock dividends or the company's profits.
- (c). **Contingent Claim Securities** : In finance, a contingent claim is a derivative whose future payoff depends on the value of another "underlying" asset, or more generally, that is dependent on the realization of some uncertain future event. These are so named since there is only a payoff under certain contingencies.
 - 1. Options Management of Inventory
 - 2. Warrants
 - 3. Convertible securities

4. Futures contracts

7.6 MARKET FOR SHORT-TERM SECURITIES

7.6.1 MONEY MARKET FUNDS (MMFs)

Money market funds are the best option over the traditional overnight bank deposit and offer a number of advantages. While there has been tremendous widespread use of money market funds in the United States for some time it is only comparatively recently that they have appeared in Europe. Money market funds are more flexible. Funds can be deposited and withdrawn from MMFs on a daily basis. Money market funds are a better option for higher returns than those available on the traditional bank deposit. Most Money market funds have AAA ratings higher than that currently appreciated by virtually all banks and provide better security.

Money market funds are essentially diversified investment vehicles. So they invest in a broad range of liquid assets, including certificates of deposit, treasury bills, and short-dated commercial paper, they offer the advantage of a widely diversified portfolio of investments. Since investors redeem their investments at different times, an MMF can invest further along the yield curve, and as a result, achieve higher returns than an overnight deposit.

To achieve a AAA rating, the profile of the MMFs investments needs, among other things, to meet the following broad criteria:

- A weighted average maturity not exceeding 60 days.
- No single security has a maturity of more than 13 months + 1 day.
- Exposure any one counterparty cannot exceed 5 percent.
- At least 50 percent of investments must be with AAA-rated securities.

7.6.2 MARKET FOR LONG-TERM SECURITIES

Marketable equity securities can be either common stock or preferred stock. They are equity securities of a public company held by another corporation, and are listed in the balance sheet of the holding company. If the stock is expected to be liquidated or traded within one year, the holding company will list it as a current asset. Conversely, if the company expects to hold the stock for longer than one year, it will list the equity as a non-current asset. All marketable equity securities, both current and non-current, are listed at the lower value of cost or market.

If, however, a company invests in another company's equity in order to acquire or control that company, the securities aren't considered

marketable equity securities. The company instead lists them as a long-term investment on its balance sheet.

7.6.3 MARKET FOR DERIVATIVE SECURITIES

Derivatives are the investments that are dependent on another security for their value, like futures, options, and warrants. Derivative securities (also called derivatives) are financial contracts whose values are derived from the values of underlying financial assets (such as securities). Each derivative security's value tends to be related to the value of the underlying security in a manner that is understood by firms and investors. Consequently, derivative securities allow firms and investors to take positions in the securities on the basis of their expectations of movements in the underlying financial assets. In particular, investors commonly speculate on expected movements in the value of the underlying financial asset without having to purchase the financial asset. In many cases, a speculative investment in the derivative position can generate a much higher return than the same investment in the underlying financial asset. However, such an investment will also result in a much higher level of risk for the investors.

Derivative securities are used not only to take speculative positions but also to hedge, or reduce exposure to risk. For example, firms that are adversely affected by interest rate movements can take a particular position in derivative securities that can offset the effects of interest rate movements. By reducing a firm's exposure to some external force, derivative securities can reduce its risk.

7.7 SHORTCOMINGS OF INDIAN MONEY MARKET

Indian money market is relatively underdeveloped when compared with advanced markets like New York and London Money Markets. Its' main features / defects are as follows

- 1. Absence of Organized Bill Market :** A bill market refers to a mechanism where bills of exchange are purchased and discounted by banks in India. A bill market provides short term funds to businessmen. The bill market in India is not popular due to overdependence of cash transactions, high discounting rates, problem of dishonour of bills etc.
- 2. Inefficient and Corrupt Management :** One of the major problems of Indian Money Market is its inefficient and corrupt management. Inefficiency is due to faulty selection, lack of training, poor performance appraisal, faulty promotions etc. For the growth and success of money market, there is need for well trained and dedicated workforce in banks. However, in India some of the bank officials are inefficient and corrupt.

3. **Lack of Co-ordination and Integration :** It is difficult for RBI to integrate the organized and unorganized sector of money market. RBI is fully effective in organized sector but unorganized market is out of RBI's control. Thus there is lack of integration between various sub-markets as well as various institutions and agencies. There is less co-ordination between co-operative and commercial banks as well as State and Foreign banks. The indigenous bankers have their own ways of doing business.
4. **Inadequate Banking Facilities :** Though the commercial banks, have been opened on a large scale, yet banking facilities are inadequate in our country. The rural areas are not covered due to poverty. Their savings are very small and mobilization of small savings is difficult. The involvement of banking system in different scams and the failure of RBI to prevent these abuses of banking system shows that Indian banking system is not yet a well-organized sector.
5. **Diversity in Interest Rates :** There are different rates of interest existing in different segments of money market. In rural unorganized sectors the rate of interest are high and they differ with the purpose and borrower. There are differences in the interest rates within the organized sector also. Although wide differences have been narrowed down, yet the existing differences do hamper the efficiency of money market.
6. **Dichotomy :** A major feature of Indian Money Market is the existence of dichotomy i.e. existence of two markets: -Organized Money Market and Unorganized Money Market. Organized Sector consists of RBI, Commercial Banks, and Financial Institutions etc. The Unorganized Sector consists of IBs, MLs, Chit Funds, Nidhis etc. It is difficult for RBI to integrate the Organized and Unorganized Money Markets. Several segments are loosely connected with each other. Thus there is dichotomy in Indian Money Market.
7. **Shortage of Funds :** In Indian Money Market demand for funds exceeds the supply. There is shortage of funds in Indian Money Market an account of various factors like inadequate banking facilities, low savings, lack of banking habits, existence of parallel economy etc. There is also vast amount of black money in the country which has caused shortage of funds. However, in recent years development of banking has improved the mobilization of funds to some extent.
8. **Seasonality of Money Market :** Indian agriculture is busy during the period November to June resulting in heavy demand for funds. During this period money market suffers from Monetary Shortage resulting in high rate of interest. During slack season rate of interest falls & there are plenty of funds available. RBI has taken

steps to reduce the seasonal fluctuations, but still the variations exist.

7.8 POLICIES FOR MANAGING SECURITIES

Using this set of information and knowledge, the financial manager has to design a policy in managing securities. In developing a policy, the first and foremost issue is an understanding of the firm's cash flow behaviour. This is essential because the model, which is useful for managing the securities, depends on the cash flow behaviour. An analysis of historical cash flows and volatility measures such as variance or cash out positions will be useful to set control limits. In other words, the first set of actions in developing a policy is to come out with a reasonable cash management model for the firm.

The second step in the process of designing the policy is the extent to which the firm should take risk while investing in securities. In other words, in stage one, we have identified the amount available for investments but we haven't specified the nature of investments. A set of guidelines needs to be developed that will direct the operational managers while taking investment decisions. For instance, many banks have a clearly defined investment policy that lists the kind of securities where the surplus cash can be invested. It is advisable to prescribe the proportion of investments in different securities like government securities 60%, corporate securities 20%, etc. The firm should have a clear mechanism to get the risk of the portfolio and this information should be made available to chief of treasury operations. If the level of operation is very high, it is worth to implement the concepts like Value-at-Risk (VAR) to avoid major losses on such transactions.

The last step is to develop systems in continuous monitoring of this activity and improving the reporting system. Many companies during the securities scam period have suffered because of lack of monitoring and faulty system.

7.9 SUMMARY

The marketable securities are considered to be the part of liquid asset as they come handy in churning out cash out of it in short notices or using them as an intermediary in other economic transactions. They typically have a low rate of return but they are usually perceived as low-risk investments. Businesses have been tempted to use idle working capital and put them in profitable use. Some examples of these financial instruments are government bonds, common stock or certificates of deposit.

The task of the financial manager is to understand the detailed characteristics of different short-term investment opportunities, understand the markets and develop strategies on when to buy and sell marketable

securities, which securities to hold, and how much to buy or sell in each transaction.

Debt securities are typically government bonds and corporate bonds whereas Money market securities are like Treasury bills (T-bills), Repurchase transactions, Banker's acceptances, Commercial papers and Certificate of deposit. Treasury Bills, one of the safest money market instruments, are short term borrowing instruments of the Central Government issued through the Central Bank. They are zero risk instruments, and hence the returns are not so attractive. It is available both in the primary market as well as the secondary market. Repurchase transactions are short term loans also known as Repo or Reverse Repo in which two parties agree to sell and repurchase the same security. The call money is a Money Market where the day-to-day surplus funds (mostly of banks) are traded. Commercial paper is a low-cost alternative to bank loans. It is a short term unsecured promissory note issued by corporates and financial institutions at a discounted value on face value. Certificate of Deposit: It is a short term borrowing more like a bank term deposit account. It is a promissory note issued by a bank in the form of a certificate entitling the bearer to receive interest. Bankers Acceptances is a short term credit investment created by a non-financial firm and guaranteed by a bank to make payment. It is simply a bill of exchange drawn by a person and accepted by a bank. The Government securities are also traded in the money markets which could be simple loans, guaranteed loan or treasury bills.

At times Marketable equity securities are common stock, most preferred stock or a contingent claim, a derivative whose future payoff depends on the value of another underlying asset.

There are several issues grappling the Indian money market like miniscule organized bill market due to overdependence of cash transactions, high discounting rates, problem of dishonour of bills etc., inefficient management in the institutions operating in money market, lack of integration between various institutions and agencies, inadequate banking facilities, the existence of different rates of interest in different segments of money market, a dichotomy in the form of organized Money Market and unorganized Money Market besides issues of seasonality and frequent shortage of funds.

7.10 SELF-ASSESSMENT QUESTIONS

1. What characteristics should an investment have to qualify as an acceptable marketable security?
2. Discuss the different kinds of instruments in the money market.
3. What is call money market?
4. Describe briefly the capital market for the Government Securities?
5. What do you understand by repurchase agreements?

6. What are the features of marketable securities?
7. What are the options available to a firm for investing surplus cash?
8. Explain the policies available to a firm for investing surplus cash?
9. What are the shortages of Indian money markets?
10. Explain the objective of management of marketable securities system. How do you deal with the conflicting nature of the objectives?

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UNIT-08 MANAGEMENT OF INVENTORY

Unit Framework

- 8.1 Objectives
- 8.2 Introduction
- 8.3 Meaning of Inventory and Inventory Management
- 8.4 Objectives of Inventory Management
- 8.5 Benefits of Holding Inventory
- 8.6 Factors Affecting Level of Inventory
- 8.7 Risk and Costs Associated With Holding Inventory
- 8.8 Techniques of Inventory Management
- 8.9 Computerized Inventory Control Systems
- 8.10 Summary
- 8.11 Self-Assessment Questions
- 8.12 Text and References

8.1 OBJECTIVES

After Studying this unit you should be able to:

- Explain the concept of inventory management.
- List out various objectives for holding inventories.
- Identify the factors affecting investment level in inventory.
- Describe the risk and cost associated with holding inventory.
- Explain re-ordering, physical verification systems of inventory management.
- Determine stock levels, reorder point and economic order quantity.
- Use selective inventory management techniques like ABC, VED, JIT etc.

8.2 INTRODUCTION

The role of capital is crucial in this increased pace of industrialization. The capital raised by a firm is invested in fixed assets and current assets for carrying on its activities. Inventory constitutes the largest portion of current assets. As such, inventories are a vital element in the efforts of the firm to achieve desired goals.

The concept of inventory management has been one of the many analytical aspects of management. It involves optimization of resources available for holding stock of various materials. Excessive inventory leads to unnecessarily blockage of funds, resulting decreased profit. On the other hand, lack of inventory not only impairs the profitability but also results in interruption in production and causes inefficiencies. Often one is inclined to agree with the observation that “when you need money, look at your inventories, before you look at your banker.” Even, if there is no shortage of funds in a business the financial manager has to participate actively in the formulation of inventory policies with a view to speeding inventory turnover ratio and maximizing return on investment.

8.3 MEANING OF INVENTORY AND INVENTORY MANAGEMENT

Inventories are resources of any kind having an economic value.

S.E. Bolten defines it as "The term 'Inventory' refers to the stockpile of the product, a firm is offering for sale and the components that make up the product."

The Accounting Research and Terminology Bulletin defines the term inventory as "The aggregate of those items of tangible personal property which;

- (a) are held for sale in the ordinary course of business,
- (b) are in the process of production for such sales, or
- (c) are to be currently consumed in the production of goods or services to be available for sale."

CIMA defines it as "The function of ensuring that sufficient goods are retained in stock to meet all requirements without carrying unnecessarily large stocks."

The following items are included in inventory:

1. **Raw Materials** : These are goods that have not yet been committed to production in a manufacturing firm i.e. stored for use in future production.
2. **Works-in-Progress** : This category includes those materials that have been committed to the production process but have not been completed at the end of a financial year. Thus, these are neither raw materials nor finished goods.
3. **Finished Goods** : These are completed products awaiting sale. For a trading concern inventory always means finished goods, while for a manufacturing firm they are the final output of the production process.

4. **Consumables and Stores** : Loose tools, cotton, lubricant, oil, grease etc. which are required for running and maintenance of plant and machineries are called consumables and stores. Though these are not held for sale, but have significant importance.

The problems of managing inventories in manufacturing enterprises are relatively complex.

INVENTORY MANAGEMENT : The area of inventory management covers the following individual phases: determining the size of inventory to be carried and lot sizes for new orders, establishing timing schedules and procedures, ascertaining safety levels, providing proper storage facilities, coordinating inventory policies with sales and production, arranging the procurement and disbursement of materials, record keeping, assigning responsibilities for carrying out the inventory control functions and providing necessary reports for supervising the overall activity. Within these individual phases acquisition, Unit/physical control i.e. material handling and production related decision are made by persons within purchasing and production departments. The financial executive is only one of the persons in top management who is concerned with the levels and fluctuations of investment in inventories. He is concerned with any aspect of inventory management that is controllable from the stand point of reducing inventory costs and risks. This is also called value control.

As per **Gordon B. Carson**, "Inventory control refers to the process by which the investment in materials and parts carried in stock are regulated within pre-determined limits set in accordance with the inventory policy established by the management".

Thus, inventory management refers to a system which ensures the supply of required quantity and quality of inventory at the required time and at the same time prevents unnecessary investment in inventories.

8.4 OBJECTIVES OF INVENTORY MANAGEMENT

Reducing inventories without impairing operating efficiency frees working capital that can be effectively employed elsewhere. The aim of a sound inventory management system is to secure the best balance between "too much and too little." Too much inventory carries financial burden and too little reacts adversely on continuity of productions and competitive dynamics. The real problem is not the reduction of the size of the inventory as a whole but to secure a scientifically determined balance between several items that make up the inventory. Thus, Inventory management should strike a balance between excess inventory and too little inventory. The primary objects of inventory management are-

- I. to minimize wastage and losses of material in course of purchase, storage, handling and uses,

- II. to achieve maximum economy in purchasing and inventory holding,
- III. to make minimum investment in working capital by forecasting the demand and production in advance,
- IV. to ensure uninterrupted flow of materials of the right quality for continuous production,
- V. to provide better service to customers by maintaining an adequate inventory level.

8.5 BENEFITS OF HOLDING INVENTORY

Primarily, inventory is held for transaction purposes. Today's inventory is tomorrow's consumption. An enterprise cannot ensure uninterrupted production unless it maintains adequate inventory of raw materials. By holding inventories the firm is able to separate the processes of purchasing, producing and selling. By doing the separation of these functions, the firm realizes a number of specific benefits:

1. **Avoid Losses of Sale:** Inadequate inventory may disturb the production function and resulting the firm may not be in a position to deliver the goods within the scheduled time to its customers and it may lose customer forever. The ability of the firm to give quick service and to provide prompt delivery is closely tied to the proper management of inventory.
2. **Gaining Quantity Discounts:** If a firm is willing to maintain large inventory in selected product lines, it may be able to make bulk purchases of goods at heavy discount. Suppliers frequently offer a greatly reduced price if the firm orders double or triple of its normal order. By paying less for its goods, the firm can increase profits, as long as the costs of maintaining the inventories are less than the amount of the discount.
3. **Continuity in Production:** Inadequate inventory may cause production interruption and inefficiencies. It is very difficult to procure raw material whenever it is needed. If the firm has scheduled a long run and begins production, only due to shortage of a vital raw material, the production may be halted at considerable cost to the firm. So it is necessary to maintain an adequate level of inventory to continue the production process without any interruption.
4. **Low Ordering Cost:** Every time a firm places an order it incurs certain costs. The variable cost associated with individual orders can be reduced if the firm places a few large rather than numerous small orders.

5. **To Meet Contingencies:** Inventory is also held as a precaution or as a contingency for increase in lead time or consumption rate. This increase may be due to suppliers strike, labour strike, transporters strike, short supplies or bulk orders etc.
6. **Optimum Utilization of Resources:** In a manufacturing concern production planning can be done with an object to have optimum utilization of resources namely men, machines and materials. This objective can be achieved only if we hold sufficient inventory.

8.6 FACTORS AFFECTING LEVEL OF INVENTORY

As stated above, a firm should maintain its inventory at reasonable level. There are different factors, which determine the level of inventory; the important among them are as follows.

1. **Nature of the Product :** The nature of the product greatly affects the quantity of inventory, like in case of perishable and fashion goods. It is not feasible to store large quantity. If the firm deals in such type of products for which raw material is available only in a particular season, then the organisation has to invest a huge fund in the season.
2. **Nature of Business :** If the business deals with luxury and consumer products, then it may maintain lower level of inventory. But if it deals with industrial goods it has to maintain a higher level of inventory.
3. **Terms of Purchase :** If supplier provides heavy discount and liberal credit facilities on bulk purchase, then firm may maintain high level of inventory. Similarly, if supply conditions are favourable, no disturbance in supply chain then inventory level can be low, but in adverse condition or uncertainty, firm should maintain high level of inventory.
4. **State of Economy :** In case of booming economy, firm will maintain high level of inventory to grab the high chances of emerging large orders and vice-versa.
5. **Inventory Turnover Rate :** When the turnover rate is high, investment in inventories tends to be low and vice-versa.
6. **Value of the Product :** In case of high value product, firm cannot afford to have large inventory. In case of low value products, firm can keep large quantities in stock.
7. **Attitude of Management :** Conservative management does not bother much in forecasting, demand and consider it safer to carry large stocks, while energetic or dynamic manager decides this by using advanced techniques of forecasting.

8. **Other Factors** : Many other factors like market structure, fluctuations in price level, availability of funds, government policies, period of operating cycle etc. also affect the level of inventories.

8.7 RISK AND COSTS ASSOCIATED WITH HOLDING INVENTORY

When a firm holds goods for future sale, it exposes itself to a number of risks and costs. Inventories constitute a large percentage of the total cost. Inventory management is one of balancing tactics of various costs so that the total cost can be minimized. These costs are as follows:

1. **Material Cost** : These are the cost of purchasing the goods plus transportation and handling charges. This may be calculated by adding the purchase price, the delivery charges and the sales tax charged by the supplier (if any).
2. **Cost of Ordering** : It is the cost of placing an order and securing the supplies. The ordering cost is of variable nature and increases in proportion to the number of orders placed but has negative relation with level of inventory. It includes the following:
 - Preparation of purchase order.
 - Documentation processing costs.
 - Costs of receiving goods (Inspection and handling).
 - Quality analysis expenses.
 - Transport costs.
 - Addition costs of frequent or small quantity order, rejecting faulty goods.
 - Follow up costs.
 - Where goods are manufactured internally, the set up and tooling costs associated with each production run, which is also known as 'set up cost'.
3. **Cost of Holding or Carrying Inventory** : These are the expenses of storing goods. Once the goods have been accepted, they become part of the firm's inventories. It comes around 30% of the total inventory cost in most of the industrial undertakings. Cost of carrying stocks includes the following:
 - Storage costs (rent, lighting, heating, refrigeration, air conditioning etc.)
 - Stores staffing, equipment maintenance and running costs.

- Material handling costs.
 - Capital cost and opportunity cost.
 - Accounting, audit, stock taking or perpetual inventory costs.
 - Product risk costs (deterioration and obsolescence)
 - Insurance and security costs.
 - Pilferage, damage and theft cost.
4. **Under Stocking Costs** : It is the penalty incurred to the concern on account of the inability to meet the demand in time. It includes the following:
- Loss of goodwill.
 - Loss of profit due to reduction in sales.
 - Machine and man hours lost due to unavailability of materials.
 - Loss of future sales because customers go elsewhere.
 - Compensation payable on account of non- fulfillment of orders.
 - Extra costs associated with urgent purchases.
5. **Over Stocking Costs** : In situations where disproportionate amount of funds are invested in inventories, excessive borrowing or financing would be required. It increases interest expenses and reduces profits. It also involves increase in associated costs like opportunity, obsolescence, loss due to decline in prices etc.

The costs of ordering opposes the cost of carrying while the under stocking costs opposes overstocking costs. If these costs operate in the same direction, there will be no inventory problem. The under stocking and overstocking costs, help an industrial unit to determine the service level that has to be maintained for the inventory. The costs of ordering and the cost of carrying enable us to optimize on the number of orders and the quantity of inventory to be ordered.

8.8 TECHNIQUES OF INVENTORY MANAGEMENT

In managing inventories, the firm's objective should be in consonance with the shareholder wealth maximization principle. To achieve this, the firm should determine the optimum level of inventory. Efficiently controlled inventories make the firm flexible. Inefficient inventory control results in unbalanced inventory and inflexibility-the firm may sometimes run out of stock and sometimes may pile up unnecessary

stocks. This increases the level of investment and makes the firm unprofitable.

Designing a sound inventory management system is a large prerequisite for balancing operations. Reducing inventories without impairing operating efficiency frees working capital that can be effectively employed elsewhere. Various techniques applied for inventory management are as follows :

I. REORDERING SYSTEMS

- (a) Two bins system
- (b) Order cycling system
- (c) Min max system

II. PHYSICAL VERIFICATION SYSTEMS

- (a) Continuous stock taking
- (b) Periodic stock taking

III. ACCOUNTING SYSTEMS

- (a) Perpetual inventory system
- (b) Establishment of system of budgets

IV. INVENTORIES CONTROL RATIOS

- (a) Input output ratio
- (b) Inventory turnover ratio

V. SETTING OF VARIOUS STOCK LEVELS

VI. ECONOMIC ORDER QUANTITY

VII. ABC ANALYSIS

VIII. VED ANALYSIS

IX. JIT SYSTEM

I. REORDERING SYSTEMS

- (a) **Two Bin System** : Bin means the drawer, Almira or other place of keeping the goods. Under the two bin system, each item of material is stored in two bins and material is continuously issued from one bin until the stock of materials is emptied in that bin. Then material from the second bin is started using and action will be taken to replenish the materials in the first bin. The material in the second bin will be sufficient enough until the fresh delivery is received. The major advantage of this system is that stock can be kept at a lower level because of the ability to re-order whenever stock

falls to a low level, rather than waiting for the next re-order date.

- (b) **Order Cycling System :** In case of this system the review of materials in hand is undertaken periodically. If the review discloses that stock of a particular material will last before the next review date keeping in view of its consumption rate, an order for replenishment of that material is made immediately. The review period differs from material to material. Critical items of stock have a shorter review period; on the other hand less critical stock items will have a larger interval. This technique is also called as periodic order system.
- (c) **Min Max System :** According to this plan, for every material two levels are fixed (i) minimum level and (ii) the maximum level. The minimum level functions as the re-order point. As soon as the stock of material comes down to minimum level a new order is placed for quantity which will bring it to the maximum level. This method is one of the oldest methods of materials control. It is very simple to operate and easy to understand.

II. PHYSICAL VERIFICATION SYSTEMS

- (a) **Continuous Stock Taking:** Under this system, physical stock verification is made for each item of stock on continuous basis. It is physical checking of the stock records with actual stock on continuous basis. It is a method of verification of physical stock on a continuous basis instead of at the end of the accounting period. It is a verification conducted round the year, thus covering each item of store twice or thrice. Valuable items are checked more frequently than the stocks with lesser value.

CIMA defines "Continuous stock taking is the process of counting and valuing selected items at different times on a rotating basis."

The main benefits of this technique are that day to day work is not disturbed; discrepancies, irregularities or changes are detected at early stage. Thus it acts as an effective deterrent to malpractices.

Continuous stock taking is not, however without disadvantages. It imposes regular strain on the stores staff and unless carried out very carefully, may lead to misplacement of materials.

- (b) **Periodic Stock Taking:** Under this system the stock levels are reviewed at fixed intervals e.g., at the end of every month

or three months. All the items of stocks in the store are reviewed periodically.

CIMA defines periodic stock taking as "a process where by all stock items are physically counted and then valued". The aim of periodic stock taking is to find out the physical quantities of materials of all types are physically counted at a given date.

III. ACCOUNTING SYSTEMS :

- (a) **Perpetual Inventory System:** Basically it is a method of accounting for inventory. Under this system inventory records are maintained in such a way that it can show the balance of the stock after each receipt and issue. Bin cards and stores ledger are used under this system.

CIMA defines perpetual inventory system as "the recording as they occur of receipts, issues and the resulting balances of individual items of stock in either quantity or quantity and value".

The main benefit of this system is that every time we have updated record of inventory and the checking and verification is done at any time without disturbing the normal function. It is worthwhile to mention the difference between perpetual inventory system and physical verification system. Under the perpetual inventory system only balances are updated on concurrent basis while in the physical verification system the inventory is physically verified and checked with the actual balances drawn from the stores ledger.

- (b) **Establishment of Systems of Budgets:** To control investment in the inventories, it is necessary to know in advance about the inventories requirement during a specific period usually a year. Under this technique estimates are prepared regarding the requirement of various materials and on the basis of these estimate budget is prepared. Such a budget will discourage the unnecessary investment in inventories.

IV. INVENTORY CONTROL RATIOS

Inventory control ratios also play a vital role in controlling the inventory. The ratios work as a comparison tool. The various ratios are as given below:

- (a) **Input Output Ratio:** This ratio indicates the relation between the quantity of material used in the production and the quantity of final output. This acts as a performance indicator of a particular production center.

$$\text{Input output ratio} = \frac{\text{Input Units}}{\text{Output Units}} \times 100$$

- (b) **Inventory Turnover Ratio:** This ratio indicates the movement of average stock holding of each item of material in relation to its consumption during the accounting period

$$\text{Inventory Turnover ratio} = \frac{\text{Cost of materials consumed}}{\text{Costs of average stock held during the period}}$$

$$\text{Inventory Turnover ratio (in days)} = \frac{\text{Days during the period}}{\text{Inventory turnover ratio}}$$

Stock turnover figures may reveal the following types of stocks:

- (i) **Fast Moving Stock :** These are materials which are in great demand. An attempt should be made to keep these materials in stock at all the times.
 - (ii) **Slow Moving Stock :** These are materials which have a low turnover ratio. Thus inventory of such materials should be maintained at very low level.
 - (iii) **Dormant Stock :** Materials which have no demand are classified as dormant stocks. The purchase officer, the store-keeper, the production controller and cost accountant should sit together to decide whether to retain these materials because of good chance of future demand or to decide whether demand or to cut losses by scrapping the materials while they may have some market value.
 - (iv) **Obsolete Stock :** These are materials which are no longer in demand because a better substitute has been found. These materials should either be scrapped or discarded.
- (c) **Other Ratio :** Other ratio like inventory as a percentage of current assets, total assets are also useful.

V. SETTING OF VARIOUS STOCK LEVELS

Various stock levels are fixed for effective management of inventories. These levels serve as indices for initiating action on time so that the quantity of each item of inventory is controlled.

- **Re-Order Level :** This is the point fixed between the maximum and minimum stock levels and at this time, it is essential to initiate purchase action for fresh supplies of the material. In order to cover the abnormal usage of material or unexpected delay in delivery of fresh supplies, this point will

usually be fixed slightly higher than the minimum stock level. The following factors are taken into account while fixing the re-order level:

1. Maximum usage of materials
2. Maximum lead time
3. Maximum stock level
4. Minimum stock level

Re-order level is the level of stock availability when a new order should be raised. The stores department will initiate the purchase of material when the stock of material reaches at this point. This level is fixed between the minimum and maximum stock levels. The re-order level can be determined by applying the following formula:

Re-Order level= (Maximum consumption rate x Maximum re-order period)

Or

Re-order level= (Lead time x Usage rate per day) + Safety stock

While deciding this level (i) the rate of consumption of the material, and (ii) the time required in receiving the supply are kept in mind. Re- order level is the determined so much above the minimum stock level that by the time new stock is received, if the material is consumed at the normal rate, actual stock in the store may not go below the minimum stock level.

- **Minimum Stock Level :** Minimum stock level is the lower limit below which the stock of any stock item should not normally be allowed to fall. This level is also called safety stock or buffer stock level. The main object of establishing this level is to protect against stock- out of a particular stock item.

The following factors are taken into account while fixing the minimum stock level:

1. Average rate of consumption of material.
2. Average lead time. The shorter the lead time, the lower is the minimum level.
3. Re-order level.
4. Nature of the item.
5. Stock out cost.

The following two points are kept in view while determining the minimum stock level:

- (a) **Time Required for Receiving Fresh Stock:** After order for purchase of some item is placed, it takes some time in receiving the goods. If this time is more, the minimum stock level should be kept more; and if the time taken is less, minimum stock level will also be kept low.
- (b) **Rate of Consumption of the Material:** If a material is consumed in large quantity per day, its minimum stock level has to be kept higher. If the consumption per day is in small quantity, its minimum stock level is kept low.

Minimum stock level is computed by using following formula:

Minimum stock level = Re-order level - (Normal consumption rate x Normal re-order period)

Or

Minimum stock level = Usage rate per day x Days of safety

- **Maximum Stock Level :** Maximum stock level represents the upper limit beyond which the quantity of any item is not normally allowed to rise to ensure that unnecessary working capital is not blocked in stock items. The maximum level of stock is fixed after due consideration of the storage costs of holding excessive stock, cost of insurance, cost of obsolescence, risk of deterioration, cost of capital, time required in receiving fresh stock and average rate of consumption. It represents the total of safety stock level and economic order quantity.

The following factors are taken into consideration while fixing the maximum stock level:

1. Average rate of consumption of material.
2. Lead time.
3. Re-order level.
4. Maximum requirement of materials for production at any time.
 - (a). Total Cost
 - (b). Carrying Costs
 - (c). Ordering Cost
 - (d). Quantity per order Cost

5. Storage space available cost of storage and insurance.
6. Financial consideration such as price fluctuations, availability of capital, discounts due to seasonal and bulk purchases, etc.
7. Keeping qualities e.g. risk of deterioration, obsolescence, evaporation, depletion and natural waste, etc.
8. Any restrictions imposed by local or national authority in regard to materials i.e. purchasing from small scale industries and public sector undertakings, price preference clauses, import policy, explosion in case of explosive materials, risk of fire, etc.; and
9. Economic ordering quantity is also considered.

It is computed by the following formula:

$$\text{Maximum stock level} = (\text{Re-order level} + \text{Re-order quantity}) - (\text{Minimum consumption rate} \times \text{Minimum re-order period})$$

Or

$$\text{Maximum stock level} = \text{Economic order quantity} + \text{Safety stock}$$

- **Average Stock Level:** Average stock level is obtained by adding the minimum and maximum stock levels and dividing the sum by two.

$$\text{Average stock level} = (\text{Minimum stock level} + \text{Maximum stock level})/2$$

Or

$$\text{Average stock level} = \text{Minimum stock level} + 1/2 \text{ Re-order quantity}$$

- **Danger Level:** This is the level below the minimum stock level. When the stock reaches this level, immediate action is needed for replenishment of stock. As the normal lead time is not available, regular purchase procedure cannot be adopted resulting in higher purchase cost. Hence, this level is useful for taking corrective action only. If this is fixed below the re-order level and above the minimum level, it will be possible to take preventive action.

Danger level of stock is fixed below the minimum stock level and if stock reaches below this level, urgent action for replenishment of stock should be taken to prevent stock out position.

Danger Stock level= Minimum rate of consumption x
Minimum re-order period.

Illustration 1 : In a factory components A and B are used weekly as follows:

Normal Usage		50 units
Maximum Usage		75 units
Minimum Usage		25 units
Re-order Quantity	A =	300 units
	B =	500 units
Re- order Period	A =	4 to 6 weeks
	B =	2 to 4 weeks

Calculate for each component:

- (i) Re-order Level
- (ii) Maximum Stock Level
- (iii) Minimum Stock Level

Solution : Calculation of various stock levels

- (1) Re- Order Level = (Max. Usage x Max. re-order period)

$$\text{Component A} = (6 \times 75) = 450 \text{ units}$$

$$\text{Component B} = (4 \times 75) = 300 \text{ units}$$

- (2) Maximum Stock Level = (Re-order level + Re-order quantity) - (Minimum consumption rate x Minimum re-order period)

$$\text{Component A} = (450+300) - (25 \times 4) = 650 \text{ units}$$

$$\text{Component B} = (300+500) - (25 \times 2) = 750 \text{ units}$$

- (3) Minimum Stock Level = Re-order level - (Normal Usage x Normal re-order period)

$$\text{Component A} = 450 - (50 \times 5) = 200 \text{ units}$$

$$\text{Component B} = 300 - (50 \times 3) = 150 \text{ units}$$

VI. ECONOMIC ORDER QUANTITY

It is important to note that only the correct quantity of materials is to be purchased. For this purpose, the factors such as maximum level, minimum level, danger level, re-ordering level, and quantity already on order, quantity reserved, availability of funds, quantity discount, and interest on capital, average consumption and availability of storage accommodation are to be kept in view. There should not be any over stock vis-à-vis a question of non-stock. Balance should be

made between the cost of carrying and cost of non-carrying i.e. cost of stock-out. Cost of carrying includes the cost of storage, insurance, obsolescence, interest on capital invested. Cost of not carrying includes the costly purchase, loss of production and sales and loss of customer's goodwill. Economic Ordering Quantity (EOQ) is the quantity fixed at the point where the total cost of ordering and the cost of carrying the inventory will be the minimum. If the quantity of purchases is increased, the cost of ordering decreases while the cost of carrying increases. If the quantity of purchases is decreased, the cost of ordering increases while the cost of carrying decreases. But in this case, the total of both the costs should be kept at minimum. Thus, EOQ may be arrived at by Tabular method by preparing purchase order quantity tables showing the ordering cost, carrying cost and total cost of various sizes of purchase orders.

The economic order quantity refers to the order size that will result in the lowest total of order and carrying costs for an item of inventory. If a firm places unnecessary orders, it will incur unneeded ordering cost. If it places too few orders, it must maintain large stocks of goods and will have excessive carrying cost. So it is clear that there is negative co-relation between ordering cost and carrying cost. By calculating an economic order quantity, the firm identifies the number of units to order that results in the lowest total of these two costs.

Assumptions of Economic Order Quantity :

- The rate of demand is known and sales occur at a constant rate.
- The lead time, the time between the placement of order and the receipt of the order, is known and constant.
- Stock holding costs are not changed with time factor and are known.
- There are no price discount and no quantity discount.
- Ordering costs are in proportion to number of orders.
- The replenishment is made instantaneously.

Economic order quantity can be computed by using the following formula:

$$EOQ = \sqrt{2AB/CS}$$

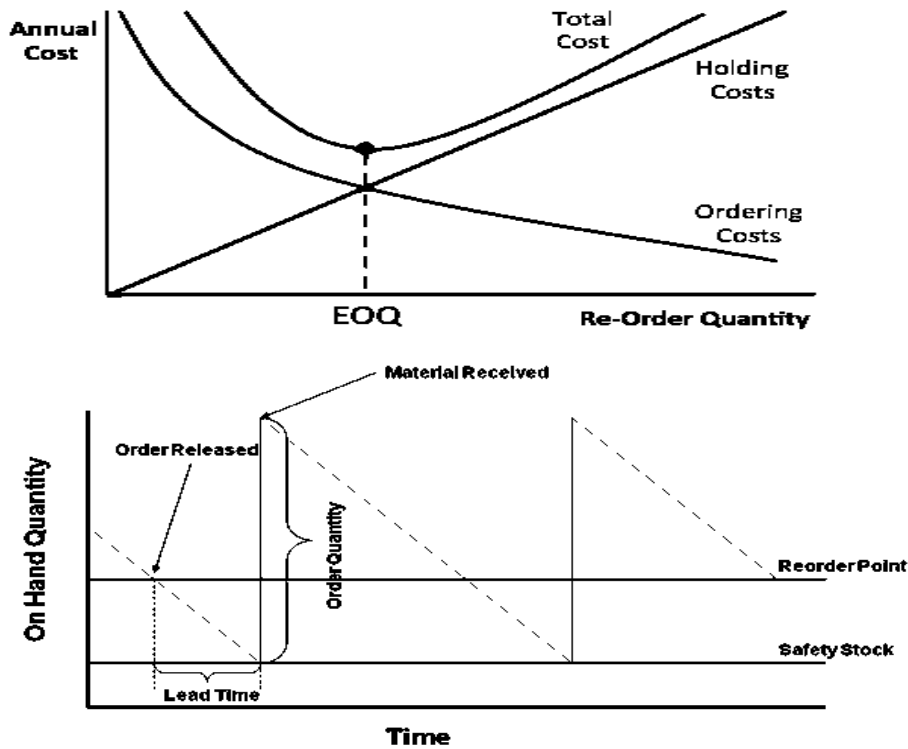
Here, EOQ = Economic order quantity

A = Annual consumption

B = Buying or ordering cost per order

C = Cost per unit

S = Storage or inventory carrying cost



One of the major inventory management problems to be resolved is how much inventory should be added when inventory is replenished. If the firm is buying raw materials, it has to decide the lots in which it has to be purchased on replenishment. If the firm is planning a production run, the issue is how much production to schedule (or how much to make). These problems are called order quantity problems, and the task of the firm is to determine the optimum or economic order quantity (or economic lot size). Determining an optimum inventory level involves two types of costs: (a) ordering costs and (b) carrying costs. The economic order quantity is that inventory level that minimizes the total of ordering and carrying costs.

- (a) **Ordering costs** : The term ordering costs is used in case of raw materials (or supplies) and includes the entire costs of acquiring raw materials. They include costs incurred in the following activities: requisitioning, purchase ordering, transporting, receiving, inspecting and storing (store placement). Ordering costs increase in proportion to the number of orders placed.
- (b) **Carrying costs** : Costs incurred for maintaining a given level of inventory are called carrying costs. They include storage, insurance, taxes, deterioration and obsolescence. The storage costs comprise cost of storage space (warehousing cost), stores handling costs and clerical and staff service costs (administrative costs), incurred in recording and providing special facilities such as fencing, lines, racks etc.

Carrying costs vary with inventory size. This behaviour is contrary to that of ordering costs which decline with increase in inventory size. The economic size of inventory would thus depend on trade-off between carrying costs and ordering costs.

- (c) **Ordering and carrying costs trade-off** : The optimum inventory size is commonly referred to as **economic order quantity**. It is that order size at which annual total costs of ordering and holding are the minimum.
- (d) **Order-formula approach** : The trial and error, or analytical, approach is somewhat tedious to calculate the EOQ. An easy way to determine EOQ is to use the order-formula approach. Let us illustrate this approach.

Illustration 2 : The annual usage of a refrigerator manufacturing company is 1,60,000 units of a certain component. The order placing cost is Rs. 100 per order and the cost of carrying one unit for a year is 10% of the cost per unit which is Rs. 80. Calculate the economic order quantity.

Solution :

$$\begin{aligned} \text{EOQ} &= \sqrt{2AB/CS} \\ &= \sqrt{2 \times 1,60,000 \times 100 / 10\% \text{ of Rs. } 80} \\ &= 2,000 \text{ units} \end{aligned}$$

Illustration 3: From the following information find out economic order quantity-

1. Annual usage = 3,200 units
2. Price per unit : Rs. 30
3. Cost of placing an order : Rs. 100
4. Cost of working capital : 10 % per annum
5. Cost of rent, insurance, tax etc. per unit per annum: Re. 1

Solution :

$$\begin{aligned} \text{EOQ} &= \sqrt{2AB/CS} \\ &= \sqrt{2 \times 3,200 \times 100 / 4} \\ &= 400 \text{ units} \end{aligned}$$

Note :- Inventory carrying cost = Cost of rent, insurance etc.+ Interest

$$= 1 + 30 \times 10\%$$

$$= 1 + 3 = \text{Rs. 4 per unit}$$

Illustration 4 : For one of the A class item the purchase manager spent Rs. 500 in procuring 1,000 units in a single lot in a year and thereby avails a discount of 5% on the price of Rs. 10 per unit. No discount will be given for any other order quantity. Inventory carrying charges work out to 40%. If he follows EOQ policy what would be the gain or loss to the organisation?

Solution :

$$\begin{aligned} \text{(a)} \quad &= \sqrt{2AB/CS} \\ &= \sqrt{2 \times 1,000 \times 500 / 4} \\ &= 500 \text{ units} \end{aligned}$$

Note : No. of orders per year = $1,000/500 = 2$ orders

(b) If 5% discount is availed

$$\begin{aligned} \text{No. of orders} &= 1 \text{ order} \\ \text{Product price} &= 10 - 5\% \text{ of } 10 \\ &= \text{Rs. } 9.5 \\ \text{Inventory carrying cost} &= 9.5 \times 40/100 \\ &= \text{Rs. } 3.80 \end{aligned}$$

	Without discount	With 5% discount
EOQ units	500	1,000
Ordering cost	$2 \times 500 = 1,000$	$1 \times 500 = 500$
carrying cost	$(500/2) \times 4 = 1,000$	$(1,000/2) \times 3.8 = 1,900$
Material Purchase cost	$1,000 \times 10 = 10,000$	$1,000 \times 9.5 = 9,500$
Total cost	12,000	11,900

Suggestion : - If he follows EOQ, organization will bear a loss of Rs. 100 (12,000 - 11,900), so 5% discount were be beneficial for the organisation.

Advantages of EOQ

- Constant or uniform demand: The demand or usage is even through-out the period
- Known demand or usage: Demand or usage for a given period is known i.e. deterministic
- Constant unit price: Per unit price of material does not change and is constant irrespective of the order size
- Constant Carrying Costs: The cost of carrying is a fixed percentage of the average value of inventory
- Constant ordering cost: Cost per order is constant whatever be the size of the order

Limitations of EOQ are :

- Only Applicable to Non-Perishable products with staple demand.
- Ignores Delivery Quantities & Discounts.
- Assumes Storage space is unlimited.
- Assumes retailer controls delivery Scheduling.

VII. ABC ANALYSIS

ABC analysis is a basic analytical management tool which enables top management to place the effort where the result will be greatest. This is a rational approach for determining the degree of control that should be exercised on each item of inventory. The technique tries to analyse the distribution of any characteristics by stock value of importance in order to determine its priority. This is also known as 'Always Better Control' techniques. Under this technique the items in inventory are classified in three categories:

- **Category A :** In this category such items are selected which are comparatively costly and are substantial in the cost structure. Number of such items is very small, but these items represent the major portion of the total value of materials. Items selected in this group are very sensitive in nature.
- **Category B :** In this category those items of material are included which are less important and less costly as compared to those included in group 'A'. Capital needed for purchase of these items is neither too large nor too small.
- **Category C :** Items of the material in the store which have very low cost are included in this category. Number of such items is large, but these represent a very small fraction of the total cost of material. As the purchase of these items requires

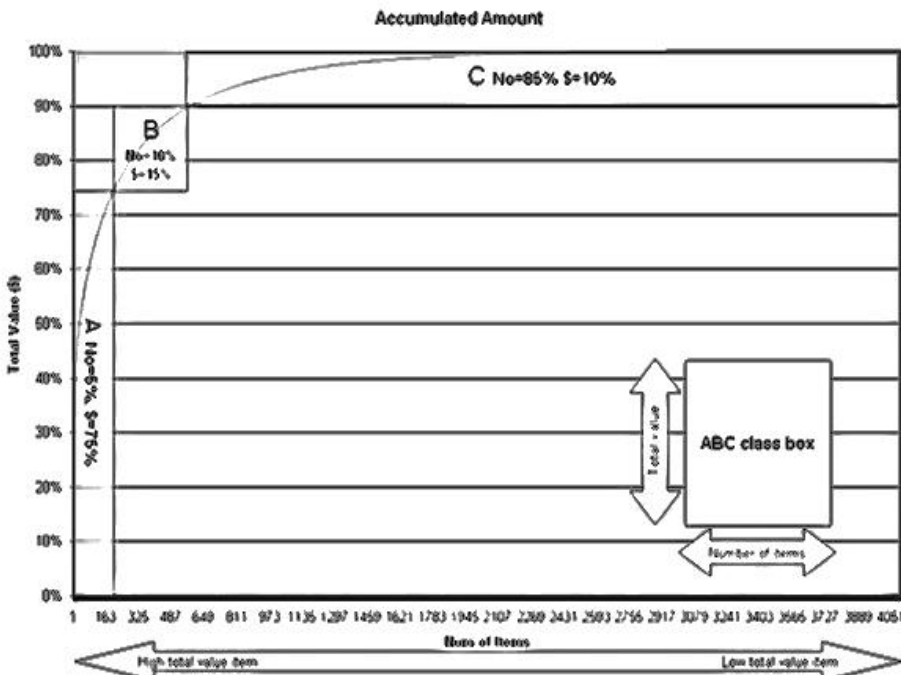
only a small capital, such items are purchased in large quantity at a time.

Obviously, 'A' class items should be subject to strict management control under either continuous review or periodic review with short review cycles. Constant attention is paid by purchases and stores management i.e. no or very low safety stock is maintained, centralized and frequent purchase system is followed, rigorous value analysis is done, efforts for minimization of wastage are done etc. 'C' class items require little attention and can be relegated down the line for periodic review. Control over 'B' class items should be somewhere in between.

Classification of Inventory

Category	% of items	% of value	Control Required	Supervision
A	10% to 15%	50% to 70%	Strict control system	Top management
B	25% to 30%	25% to 30%	Continuous watch over inventory	Middle management
C	60% to 65%	10% to 15%	General control	Lower management

The graphic presentation of ABC classification is as follows;



Note : The number (percentage) is just indicative and actual break up can vary from situation to situation. In inventory management, this technique has been applied in those areas which need selective control, such as criticality of items, obsolete stocks, purchasing orders, and receipts of materials, inspection, store keeping and verification of bills. This approach helps the material manager to exercise selective control and focus his attention only on a few items when he is confronted with lakhs of stores items. Many organisations those adopted this technique have claimed that ABC analysis has helped in reducing the clerical costs and resulted in better planning and improved inventory turnover.

The general procedure for classifying A, B or C items is as follows:

1. Ascertain the cost and consumption of each material over a given period of time.
2. Multiply unit cost by estimated usage to obtain net value.
3. List out all the items with quantity and value.
4. Arrange them in descending order in value i.e., ranking according to value.
5. Ascertain the monetary limits for A, B or C classification.
6. Accumulate value and add up number of items of A items. Calculate percentage on total inventory in value and in number.
7. Similar action for B and C class items.

Advantages of ABC Analysis

1. To minimize purchasing cost and carrying cost (i.e. holding cost).
2. Closer and stricter control on these items which represent a high portion of total stock value.
3. Ensuring availability of supplies at all times.
4. Clerical costs can be reduced.
5. Inventory is maintained at optimum level and thereby investment in Inventory can be regulated and will be minimum. 'A' items will be ordered more frequently and as such the investment in inventory is reduced.
6. Maintaining enough safety stock for 'C' items.
7. Equal attention to A, B and C items are not desirable as it is expensive.

8. It is based on the concept of Selective Inventory Management and it helps in maintaining high stock-turnover ratio.

Limitations : Though, ABC analysis is a powerful scientific and systematic approach in the direction of cost reduction and saving time as it helps to control items with a selective approach. Some items though negligible in monetary value, may be vital for smooth functioning of plant and constant attention is needed. For example diesel, oil is categorized in class 'C' items in most of the manufacturing firms, will become the most high value item during power crises. So, the results of ABC analysis have to be periodically reviewed and updated.

VIII. VED CLASSIFICATION

This type of classification divides items into three categories in the descending order of their criticality. Here 'V' stands for vital items and their stock analysis requires more attention, because out of stock situation will result in stoppage of production for example, needle for the machine. Thus, 'V' items must be stored adequately to ensure smooth operation of the plant. 'E' means Essential items. Such items are considered essential for efficient running but without these items the system would not fail but production capacity will be affected. For example lubricant oil for machine etc. is care must be taken to see that they are always in stock. 'D' stands for Desirable items which do not affect the production immediately but availability of such items will lead to more efficiency and less fatigue. This technique is mainly used in the storage of spare parts and more suitable method for automobile industries.

IX. JUST-IN-TIME (JIT) SYSTEMS

Its origin and development in Japan, largely in the 1960s and 1970s and particularly at Toyota, Just-In-Time (JIT) is a very simple idea but one that is essential in modern supply chain management. JIT sets out to cut costs by reducing the amount of goods and materials a firm holds in stock.

Japanese firms popularized the Just-In-Time (JIT) system in the world. In a JIT system, material or the manufactured components and parts arrive to the manufacturing sites or stores just few hours before they are put to use. The delivery of material is synchronized with the manufacturing cycle and speed. JIT system eliminates the necessity of carrying large inventories, and thus, saves carrying and other related costs to the manufacturer. The system requires perfect understanding and coordination between the manufacturer and suppliers, in terms of the timing of delivery and quality of the material. Poor quality material or components could halt the production. The JIT inventory system complements the Total Quality Management (TQM). The success of the system depends on how well a company manages its suppliers. The system puts

tremendous pressure on suppliers. They will have to develop adequate systems and procedures to satisfactorily meet the needs of manufacturers.

ADVANTAGES :

- There should be minimal amounts of inventory obsolescence,
- The very low inventory levels mean that inventory holding costs (such as warehouse space) are minimized.
- The company is investing far less cash in its inventory, since fewer inventories is needed.
- Fewer inventories can be damaged within the company,
- Production mistakes can be spotted more quickly and corrected

8.9 COMPUTERIZED INVENTORY CONTROL SYSTEMS

More and more companies, small or large size, are adopting the computerized system of controlling inventories. A computerized inventory control system enables a company to easily track large items of inventories. It is an automatic system of counting inventories, recording withdrawals and revising the balance. There is an in-built system of placing order as the computer notices that the reorder point has been reached. The computerized inventory system is inevitable for large retail stores, which carry thousands of items. The computer information systems of the buyers and suppliers are linked to each other. As soon as the supplier's computer receives an order from the buyer's system, the supply process is activated.

Out-Sourcing : A few years ago there was a tendency on the parts of many companies to manufacture all components in-house. Now more and more companies are adopting the practice of out-sourcing. Out-sourcing is a system of buying parts and components from outside rather than manufacturing them internally. Many companies develop a single source of supply, and many others help developing small and middle size suppliers of components that they require. Tata Motors has, for example, developed number of ancillary units around its manufacturing sites that supply parts and components to its manufacturing plants. With the help of Tata Motors, the ancillaries are able to maintain the high quality of the manufactured components. The car manufacturing company, Maruti, which is now controlled by Suzuki of Japan, has the similar system of supply.

8.10 SUMMARY

Inventory represents the major portion of the total current assets in most of the concerns. Every business concern maintains some level of inventory, therefore it is important to manage and control the inventory for smooth functioning of business. The basic problem of inventory management is to strike a balance between the operating efficiency and the cost of investment and other costs associated with large inventories. Inventory constitutes an important item in the working capital of many business concerns. Since inventories constitute about 50 to 60 percent of current assets, the management of inventories is crucial to successful working capital management. Working capital requirements are influenced by inventory holding. Hence, the need for effective and efficient management of inventories.

A good inventory management is important to the successful operations of most organisations, unfortunately the importance of inventory is not always appreciated by top management. This may be due to a failure to recognize the link between inventories and achievement of organizational goals or due to ignorance of the impact that inventories can have on costs and profits. Inventory management refers to an optimum investment in inventories. It should neither be too low to effect the production adversely nor too high to block the funds unnecessarily. Excess investment in inventories is unprofitable for the business. Both excess and inadequate investments in inventories are not desirable. The firm should operate within the two danger points. The purpose of inventory management is to determine and maintain the optimum level of inventory investment.

8.11 SELF-ASSESSMENT QUESTIONS

1. What is inventory management?
2. The major objective of inventory management is 'to minimize cash outlays for inventories'. Explain how this can be achieved.
3. What do you mean by 'Economic order quantity'? How is it determined?
4. How would you determine the optional order size when quantity discounts are available? Illustrate your answer with a suitable example?
5. Discuss the selective inventory management techniques.
6. Explain the formulas of determination of minimum and maximum stock levels. What factors are taken into account in fixing these limits?
7. Explain the concept of 'ABC analyses' as a technique of inventory control.

8. Write short notes on:
- (a) ABC analysis
 - (b) Just in time approach
 - (c) Double bin system
9. The average annual consumption of a material is 20,000 units at a price of Rs. 40 per units. The cost of placing an order is Rs. 150 and the storage cost is 40% on average inventory. How much quantity is to be purchased at a time.
10. A company manufactures a special product which requires a component 'A'. The following detail is available-
- (i) Annual demand= 16000 units
 - (ii) Cost per unit = Rs. 800
 - (iii) Carrying cost = 20%
 - (iv) Cost of placing an order = Rs. 400 per order.

The company has been offered a quantity discount of 8% on the purchase of 'A' provided the order size is 8000 components at a time.

You are required to

- (a) Calculate the economic order quantity.
 - (b) Advise whether the company should avail quantity discount.
11. The following information is supplied to you in respect of an item of stores.
- Minimum usage = 100 units
- Maximum usage = 300 units
- Reorder quantity = 1200 units
- Reorder period = 4 to 6 weeks
- You are required to ascertain.
- (i) Reorder level
 - (ii) Minimum stock level
 - (iii) Maximum stock level
 - (iv) Average stock level

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॥ सरस्वती नः सुभगा मयस्कृत ॥

Uttar Pradesh Rajarshi Tandon
Open University

Master of Business Administration

M.B.A.-3.23

Working Capital Management

BLOCK

3

FINANCING OF WORKING CAPITAL NEEDS

UNIT-9

165-180

Bank Credit-Basic Principles and Practices

UNIT-10

181-196

Bank Credit-Methods of Assessment and Appraisal

UNIT-11

197-212

Other Sources of Short Term Finance

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COURSE INTRODUCTION

In **Block-3** you have learnt about the financing of working capital needs; bank credit - basic principles and practices, bank credit - methods of assessment and appraisal, and other sources of short term finance.

Unit-9 discusses about principles of bank lending, style of credit, classification of advances according to security, modes of creating charge over assets, secured advances, and procurement & discounting of bills, non-fund based facilities, and credit worthiness of debtors.

Unit-10 explains bank credit- historical background, permissible bank finance system, required loan element in bank credit, interest rates on bank advances, taxes on bank interest, syndication of credit, practical norms for exposure limits, and syndicate advances.

Unit-11 deals with factoring of receivables, bonds and debentures, inter-corporate loans, commercial paper, and public deposits.

UNIT- 09 BANK CREDIT - BASIC PRINCIPLES AND PRACTICES

Unit Framework

- 9.1 Objectives
- 9.2 Introduction
- 9.3 Principles of Bank Lending
- 9.4 Style of Credit
- 9.5 Classification of Advances According to Security
- 9.6 Modes of Creating Charge over Assets
- 9.7 Secured Advances
- 9.8 Procurement & Discounting of Bills
- 9.9 Non Fund Based Facilities
- 9.10 Credit Worthiness of Debtors
- 9.11 Summary
- 9.12 Self-Assessment Questions
- 9.13 Text and References

9.1 OBJECTIVES

After completing this unit you will be able to :

- to explain the principles of bank lending
- to determine different style of credit
- to know the classification of advances according to security
- to highlight the modes of creating charge over assets
- to discuss the secured advances, procurement & discounting of bills
- to describe the non-fund based facilities and credit worthiness of debtors.

9.2 INTRODUCTION

Bank credit continues to be one among one of the prominent sources of Working Capital for trade and industry. With the growth of banking institutions and the phenomenal rise in their deposit resources, their importance as the suppliers of Working Capital has significantly

increased. More particularly, there has been a significant rise in the credit towards industry in the recent past. The banker's assessment of working capital needs and the quality of marketable securities is the fundamental criteria for extending the finance to a firm though unsecured loans are also granted to parties enjoying high reputation and sound financial positions in the market. In this unit, we shall examine the basic principles of bank credit, followed by a detailed account of the various types of credit facilities offered by banks and the securities required by them.

9.3 PRINCIPLES OF BANK LENDING

While granting loans and advances commercial banks follow the three cardinal principles of lending. These are the principles of security, liquidity and profitability, which have been explained below:

- (a) **Principle of Security** : The most important principle of lending is to ensure the protection of the funds lent. It means that the borrower repays the amount of the loan with interest as per the loan contract. The ability to repay the loan depends upon the borrower's capacity to pay as well as his willingness to repay. To ensure the former, the banker depends upon his tangible assets and the viability of his business to earn profits. Borrower's willingness depends upon his honesty and character. Banker, therefore, takes into account both the above mentioned aspects to determine the credit - worthiness of the borrower and to ensure safety of the funds lent.
- (b) **Principle of Liquidity** : Banks mobilize funds through deposits which are repayable on demand or over short to medium periods. The banker therefore lends his funds for short period and for Working Capital purposes. These loans are largely repayable on demand and are granted on the basis of securities which are easily marketable so that he may realise his dues by selling the securities.
- (c) **Principle of Profitability** : Banks are profit earning institutions. They lend their funds to earn income out of which they pay interest to depositors, incur operational expenses and earn profit for distribution to owners. They charge different rates of interest according to the risk involved in lending funds to various borrowers. However, they do not have to sacrifice safety or liquidity for the sake of higher profitability.

Following the above principles banks pursue the practice of diversifying risk by spreading advances over a reasonably wide area, distributed amongst a good number of customers belonging to different trades and industries. Loans are not granted for speculative and unproductive purposes.

9.4 STYLE OF CREDIT

Commercial banks provide finance for working capital purposes through a variety of methods. The terms and conditions, the rights and privileges of the borrower and the banker differ in each case. We shall discuss below these methods of granting bank credit.

9.4.1 CASH CREDIT SYSTEM

Cash Credit System accounts for the major portion of bank credit in India. This is a method of granting credit by banks. Under this method the bank prescribes a limit, called the Cash Credit limit, upto which the customer is permitted to borrow against the security of tangible assets or guarantee. The borrower may withdraw from the account as and when he needs money. Surplus funds with him may be deposited with the banker any time. Thus, it is running a/c with the banker, wherein withdrawals and deposits may be made frequently in any number of times.

Merits of Cash Credit System

The Cash Credit System has the following merits:

- The borrower need not keep surplus funds idle with him. He can deposit the surplus funds with the banker, reduce his debit balance, and thus minimise the interest burden.
- On the other hand he can withdraw funds at any time to meet his needs.
- Banks maintain one account for all transactions of a customer. As documents are required only once in a year the costs of repetitive documentation is avoided.

Demerits of Cash Credit System

The Cash Credit System, on the other hand, suffers from the following demerits :

- Cash Credit limits are prescribed only once in a year and hence they are fixed keeping in view the maximum amount that can be required within a year.
- Consequently, a portion remains unutilised for part of the year during which bank funds remain unemployed.
- The banker remains unable to verify the end use of funds borrowed by the customer. Such funds may be diverted to unapproved purposes.
- As there is only commitment charge of 1% or less, there will be a tendency on the part of companies to negotiate for a higher limit.

9.4.2 LOAN SYSTEM

Under the loan system, a definite amount is lent at a time for a specific period and a definite purpose. It is withdrawn by the borrower once and interest is payable for the entire period for which it is granted. It may be repayable in installments or in lump sum. If the borrower needs funds again, or wants to renew an existing loan, a fresh proposal is placed before the banker. The banker will make a fresh decision depending upon the availability of cash resources. Even if the full loan amount is not utilised the borrower has to pay the full interest.

Advantages of the Loan System

The loan system has the following advantages over the Cash Credit System:

- This system imposes greater financial discipline on the borrowers, as they are bound to repay the entire loan or its installments on the due date/ dates fixed in advance.
- At the time of granting a new loan or renewing an existing loan, the banker reviews the loan account. Thus unsatisfactory loan accounts may be discontinued at his discretion.
- As the banker is entitled to charge interest on the entire amount of loan, his income from interest is higher and his profitability also increases because of lower transaction cost.

1. Short Term Loans : Short term loans are granted by banks to meet the Working Capital requirements of the borrowers. Such loans are usually granted for a period upto one year and are secured by the tangible movable assets of the borrowers like goods and commodities, shares, debentures etc. Such goods and securities are pledged or hypothecated with the banker.

2. Medium and Long Term Loans : Such loans are generally called 'Term Loans' and are granted by banks with All India Financial institutions like Industrial Development Bank of India, Industrial Finance Corporation of India, Industrial Credit and Investment Corporation of India Ltd. Term loans are granted for medium and long terms, generally above 3 years and are meant for purchase of capital assets for the establishment of new units and for expansion or diversification of an existing unit. These loans are usually secured by the tangible assets like land, building, plant and machinery etc. Though term loans are meant for meeting the project cost but as project cost includes margin for Working

Capital, a part of term loans essentially goes to meet the needs of Working Capital.

3. **Bridge Loans :** Bridge Loan is a short term loan which is usually granted to industrial undertakings to enable them to meet their urgent needs. It is granted when a term loan has already been sanctioned by a bank/financial institution, but its disbursement takes some time or when the company is taking steps to raise funds for the capital market. It is a type of interim finance. Reserve Bank of India has allowed the banks to grant such loans within the ceiling of 5% of incremental deposits of the previous year prescribed for individual banks' investment in Shares/ Convertible debentures. Bridge loans may be granted for a maximum period of one year.
4. **Composite Loans :** Composite loans are those loans which are granted for both, investment in capital assets as well as for working capital purposes. Such loans are usually granted to small borrowers, such as artisans, farmers, small industries etc. Under the composite loan scheme, both term loans and Working Capital are provided through a single window. The limit for composite loans has recently (in Feb., 2000) been increased from Rs. 5 lakhs to Rs.10 lakhs for small borrowers.
5. **Personal Loans :** These loans are granted by banks to individuals specially the salary-earners and others with regular income, to purchase consumer durable goods like refrigerators, T.Vs. cars etc. Personal loans are also granted for purchase/construction of houses. Generally the amount of loans is fixed as a multiple of the borrower's income and a repayment schedule is prepared as per his capacity to save.

9.4.3 OVERDRAFTS

This facility is allowed to the current account holders for a short period. Under this facility, the current account holder is permitted by the banker to draw from his account more than what stands to his credit. The excess amount drawn by him is deemed as an advance taken from the bank. Interest on the exact amount overdrawn by the account-holder is charged for the period of actual utilisation. The banker may grant such an advance either on the basis of collateral security or on the personal security of the borrower. Overdraft facility is granted by a bank on an application made by the borrower. He is also required to sign a promissory note. Therefore, the customer is allowed the amount, upto the sanctioned limit of overdraft as and when he needs it. He is permitted to repay the loan as per his convenience and ability to do so.

9.5 CLASSIFICATION OF ADVANCES ACCORDING TO SECURITY

Banks attach great importance to the safety of the funds, lent as loans and advances. For this purpose, they ask the borrowers to create a charge on their tangible assets in their favour. In some cases, the banks secure their interest by asking for a guarantee given by a third party. Besides the tangible assets or a guarantee, banks rely upon the personal security of the borrower and grant loans which are called unsecured advances' or 'clean loans'. In the balance sheet, banks classify advances as follows:

9.5.1 SECURED ADVANCES

According to Banking Regulation Act 1949, a secured loan or advance means "a loan or advance made on the security of assets, the market value of which is not at any time less than the amount of such loan or advances". An unsecured loan or advance means a loan or advance not so secured. The main features of a secured loan are:

- The advance is made on the basis of security of tangible assets like goods and commodities, life insurance policies, corporate and government securities etc.
- A charge is created on such security in favour of the banker.
- The market value of such security is not less than the amount of loan. If the former is less than the latter, it becomes a partly secured loan.

9.5.2 UNSECURED ADVANCES

Unsecured advances are granted without asking the borrower to create a charge on his assets in favour of the banker. In such cases the security happens to be the personal obligation of the borrower regarding repayment of the loan. Such loans are granted to parties enjoying high reputation and sound financial position.

The legal status of the banker in case of a secured advance is that of a secured creditor. He possesses absolute right to recover his dues from the borrower out of the sale proceeds of the assets over which a charge is created in his favour. In case of an unsecured advance, a banker remains an unsecured creditor and stand at par with other unsecured creditors of the borrower, if the latter defaults.

9.5.3 GUARANTEED ADVANCES

The banker often safeguards his interest by asking the borrower to provide a guarantee by a third party may be an individual, a bank or Government. The person who undertakes this obligation to discharge the liability of another person is called the guarantor or the surety. Thus a guaranteed advance is, in fact, also an unsecured advance i.e. without any specific charge being created on any asset, in favour of the banker. A guarantee carries a personal security of two persons i.e. the principal debtor and the surety to perform the promise of the principal debtor. If the latter fails to fulfill his promise, liability of the surety arises immediately and automatically. The surety therefore, must be a reliable person considered good for the amount for which he has stood as surety. The guarantee given by banks, financial institutions and the government are therefore considered valuable.

9.6 MODES OF CREATING CHARGE OVER ASSETS

As we have noted above, in the case of secured advance, a charge is created over an asset of the borrower in favour of the lender. By creation of charge it is meant that the banker gets certain rights in the tangible assets of the borrower. The borrower still remains the owner of the asset, but the banker gets the right of realizing his dues out of the sale proceeds of the asset. Thus banker's interest is safeguarded. There are several methods of creating a charge over the borrower's assets as shown below:

9.6.1 LIEN

The Indian Contract Act confers upon the banker the right of general lien. The banker is empowered to retain all securities of the customer, in respect of the general balance due from him. The banker gets the right to retain the securities handed over to him in his capacity as a banker until the dues are paid by the borrower. It is deemed as implied pledge.

9.6.2 PLEDGE

Pledge is the most popular method of creating a charge over the movable assets. Pledge is a method of creating a charge over the movable assets of the borrower in favour of the lender. Under the pledge, the movable assets of the borrower are delivered to the banker as a security, which he will return back to the borrower, after he repays the amount due from him in respect of principal and interest. Thus when the borrower pledges his goods with the banker, he delivers the goods to the banker to be retained by him as security for the amount of the loan. Delivery of goods may be either (i) physical delivery or (ii) constructive or symbolic delivery.

The latter does not involve physical delivery of the goods. The handing over of the keys of the godowns storing the goods, or even handing over the documents of title to goods like warehouse receipts, duly endorsed in favour of the banker amounts to constructive delivery. In case the pledger defaults, the pledgee has the right to sell the goods after giving pledger reasonable notice of sale or to file a suit for the amount due from him.

9.6.3 MORTGAGE

It is a method of creating a charge over the immovable property like land and building. Under Mortgage the borrower transfers some of the rights of ownership to the banker (or mortgagee) and retains the remaining rights with himself. The objective is to secure a loan taken from the banker. Actual possession over the property is not passed on to the mortgagee in all cases.

The owner transfers some of the rights of ownership to the mortgagee and retains the remaining with him. The object of transfer of interest in the property must be to secure a loan or to ensure the performance of an engagement which results in monetary obligation. It is not necessary that actual possession of the property be passed on to the mortgagee. The mortgagee, however, gets the right to recover the amount of the loan out of the sale proceeds of the mortgaged property. The mortgagor gets back the interest in the mortgaged property on repayment of the amount of the loan along with interest and other charges.

9.6.4 HYPOTHECATION

Hypothecation is another method of creating a charge creating charge over the movable assets. Under hypothecation the possession over such assets is not transferred to the banker. Only an equitable charge is created in favour of banker. The assets remain in the possession of the borrower, who promises to give possession of the same to the banker, whenever he is requested to do so.

Under hypothecation, neither ownership nor possession over the asset is transferred to the creditor. Only an equitable charge is created in favour of the banker. To enforce the security, the banker should take possession of the hypothecated assets on his own or through the court.

9.6.5 ASSIGNMENT

The borrower may provide security to the banker by assigning any of his rights, properties or debts to the banker. The transferor is called an 'assignor and the transferee an 'assignee'. The borrowers generally assign the actionable claims to the banker under section 130 of the Transfer of Property Act 1882. Actionable claim is defined as a claim to any debt, other than a debt secured by mortgage of immovable property or by

hypothecation or pledge of movable property or to any beneficial interest in movable property not in the possession of the claimant.

A borrower may assign to the banker (i) the book debts, (ii) money due from a government department or semi-government organisation and (iii) life insurance policies.

Assignment may be either a legal assignment or an equitable assignment. In case of legal assignment, there is absolute transfer of actionable claim which must be in writing. The debtor of the assignor is informed about the assignment. In the absence of the above, the assignment is called equitable assignment.

9.7 SECURED ADVANCES

Secured advances account for a significant portion of total advances granted by banks. As we have seen, in the case of secured advances, a charge is created on the assets of the borrowers in favour of the banker, which enables him to realise his dues out of the sale proceeds of the assets. Let us first study the general principle of secured advances:

- (a) **Marketability of Securities** : The banker grants advances on the basis of those securities which are easily marketable without loss of time and money, because in case of non-payment by the borrower, the banker shall have to dispose-off the security to realise his dues.
- (b) **Adequacy of Margin** : Banker also maintains a difference between the value of the security and the amount lent. This is called 'margin'. Suppose a banker grants a loan of Rs. 100 /- on the security valued at Rs. 200/- the difference between the two (i.e. Rs. 200 - Rs. 100 = Rs. 100) is called margin. Margin is necessary to safeguard the interest of the banker as the market value of the security may fall in future and /or interest and other charges become payable by the borrower, thus increasing the liability of the borrower towards the banker. Different margins are prescribed in case of different securities.
- (c) **Documentation** : Banker also requires the borrower to execute the necessary documents e.g. Agreement of pledge, Mortgage Deed, Promissory notes etc. to safeguard his interest.

9.7.1 REAL ESTATE

Real Estate i.e. immovable property like land and building are generally not regarded as suitable security for granting loans for working capital. It is difficult to ascertain that the legal title of the owner is free from any encumbrance. Moreover, their valuation is a difficult task and they are not readily realizable assets. Preparation of mortgage deed and its

registration takes time and is expensive also. Real Estates are, therefore, taken as security for term loans only.

9.7.2 BOOK DEBTS

Sometimes the debts which the borrower has to realise from his debtors are assigned to the banker in order to secure a loan taken from the banker. Such debts have either become due or will accrue due in the near future. The assignor must execute an instrument in writing for this purpose, clearly expressing his intention to pass on his interest in the debt to the assigner (banker). He may also pass an order to his debtor to pay the assigned debt to the banker.

9.7.3 GOODS AND COMMODITIES

Bulks of the advances granted by banks are secured by goods and commodities, raw material and finished goods etc., which constitute the stock-in-trade of business houses. However, agricultural commodities are likely to deteriorate in quality over a period of time. Hence banks grant short term loans only against such commodities.

The problem of valuation of stock pledged with the bank is not a difficult one, as daily quotations are easily available. Banker usually prefers those commodities which have steady demand and a wider market. Such goods are required to be insured against fire and other risks. Such goods either pledged or hypothecated to the banker are released to the borrower in proportion to the amount of loan repaid.

9.7.4 SUPPLY BILLS

Banks also grant advance on the security of supply bills. These bills are offered as security by persons who supply goods, articles or materials to various Govt. departments, semi-govt. bodies and companies, and by the contractors who undertake govt. contract work. After the goods are supplied by the suppliers to the govt. department and he obtains an inspection note or Receipted Chalan from the Dept., he prepares a bill for the goods supplied and gives it to the bank for collection and seeks an advance against such supply bills. Such bills are paid by the purchaser at the expiry of the stipulated period.

9.7.5 DOCUMENTS OF TITLE TO GOODS

These documents represent actual goods in the possession of some other person. Hence they are proof of possession or control over the goods. For example, warehouse receipts, railway receipts, Bill of lading etc. are documents of title to goods. When the owner of goods represented by these documents wants to take a loan from the banker, he endorses such documents in favour of the banker and delivers them to him. The banker is

thus entitled to receive the delivery of such goods, if the advance is not repaid. However, there remains the risk of forgery in such documents and dishonesty on the part of the borrower.

9.7.6 FIXED DEPOSIT RECEIPTS

A Fixed Deposit Receipt issued by the same bank is the safest security for granting an advance because the receipt represents a debt due from the banker to the customer. At the time of taking a loan against fixed deposit receipt the depositor hands over the receipt to the banker duly discharged, along with a memorandum of pledge. The banker is thus authorised by the depositor to appropriate the amount of FDR towards the repayment of loan taken from the banker.

9.7.7 LIFE INSURANCE POLICIES

A life insurance policy is considered a suitable security by a banker as repayment of loan is ensured to the banker either at the time, the policy matures or at the time of death of the insured. Moreover, the policy has a surrender value which is paid by the insurance company, if the policy is discontinued after a minimum period has lapsed.

The policy can be legally assigned to the banker and the assignment may be registered in the books of the insurance company. Banks prefer endowment policies as compared to the whole life policies and insist that the premium is paid regularly by the insured.

9.7.8 STOCK EXCHANGE SECURITIES

Stock Exchange Securities comprise of the securities issued by the Central and State governments, semi-govt. organisations, like Port Trust & Improvement Trust, Shares and Debentures of companies and Units of the Mutual Funds listed on the Stock Exchanges. The Govt. securities are accepted by banks because of their easy liquidity, stability in prices, regular accrual of income and easy transferability.

In case of corporate securities banks prefer debentures of companies vis-à-vis shares because the debenture holder generally happens to be secured creditor and there is a contractual obligation on the company to pay interest thereon regularly. Amongst the shares, banks prefer preference shares, because of the preferential rights enjoyed by the preference shareholders over equity shareholders. Banks accept equity shares of those companies which they approve after thorough screening and examination of all aspects of their working. A charge over such securities is created in favour of the banker.

9.8 PROCUREMENT & DISCOUNTING OF BILLS

Purchase and discounting of bills of exchange is another way banks provide credit to business entities. Bills of exchange and promissory notes are negotiable instruments which arise out of commercial transactions both in inland trade and foreign trade and enable the debtors to discharge their obligations towards their creditors. On the basis of maturity period, bills are classified into (i) demand bills and (ii) usance bills. When a bill is payable at sight 'on demand' or on presentment, it is called a demand bill. If it matures for payment after a certain period of time say 30,60 or ,90 days after date or sight, it is called a usance bill. No stamp duty is required in case of demand bills and on usance bills, if they (i) arise out of the bona fide commercial transactions , (ii) are payable not more than 3 months after date or sight and (iii) are drawn on or made by or in favour of a commercial or cooperative bank.

The practice adopted in case of demand bills is known as purchase of bills. As demand bills are payable on demand, and there is no maturity, the banker is entitled to demand its payment immediately on its presentation before the drawee. Thus the money credited to the drawer's account, after deducting charges/discount, is realised by the banker within a few days.

In case of a usance bill maturing after a period of time generally 30,60,or 90 days, therefore, banker discounts the bill i.e. credits the amount of the bill, less the amount of discount, to the drawer's account. Thereafter, the bill is sent to the bank's branch at the drawee's place which presents it to the drawee for acceptance. Documents of title to goods, if enclosed with the bills, are released to him on accepting the bill. The bill is thereafter retained by the banker till maturity, when it is presented to the acceptor of the bill for payment.

Advantages of Discounting of Bills

A banker derives the following advantages by discounting bills of exchange:

- (a) **Safety of Funds Lent :** Though the banker does not get charge over any tangible asset of the borrower in case of discounting of bills, his interest is safeguarded by the fact that the bills of exchange contains signatures of two parties the drawer and the drawee (acceptor)— who are responsible to make payment of the bill. If the acceptor fails to make payment of the bill the banker can claim the whole amount from his customer, the drawer of the bill. The banker can debit the customer's account and recover the money on the due date. The banker is able to recover the amount as he discounts the bills drawn by parties of standing and good reputation.

- (b) **Certainty of Payment** : Every usance bill matures on a certain date. Three days of grace are allowed to the acceptor to make payment. Thus, the amount lent to the customer by discounting the bills is definitely recovered by the banker on its due date. The banker knows the date of payment of the bills and hence can plan the utilisation of his funds well in advance and with profit.
- (c) **Facility of Re-discounting of Bills** : The banker can augment his funds, if need arises, by re-discounting the bills, already discounted by him, with the Reserve Bank of India, other banks and financial institutions and the Discount and Finance House of India Ltd. Reserve Bank of India can also grant loans to the banks on the basis of the bills held by them.
- (d) **Stability in the Value of Bills** : The value of the bills remains fixed and unchanged while the value of all other goods, commodities and securities fluctuate over period of time.
- (e) **Profitability** : In case of discounting of bills, the amount of interest (called discount) is deducted in advance from the amount of the bill. Hence the effective yield is higher than loans and advances where interest is payable quarterly/half yearly.

9.9 NON FUND BASED FACILITIES

The credit facilities explained above are fund based facilities wherein funds are provided to the borrower for meeting their working capital needs. Banks also provide non-fund based facilities to the customers. Such facilities include (i) letters of credit and (ii) bank guarantees. Under these facilities, banks do not immediately provide credit to the customers, but take upon themselves the liability to make payment in case the borrower defaults in making payment or performing the promise undertaken by him.

9.9.1 LETTER OF CREDIT

A letter of Credit (L/C) is a written undertaking given by a bank on behalf of its customer, who is a buyer to the seller of goods, promising to pay a certain sum of money provided the seller complies with the terms and conditions given in the L/C. A Letter of Credit is generally required when the seller of goods and services deals with unknown parties or otherwise feels the necessity to safeguard his interest.

Under such circumstances, he asks the buyer to arrange a letter of credit from his banker. The banker issuing the L/C commits to make payment of the amount mentioned therein to the seller of the goods provided the latter supplies the specified goods within the specified period and comply with other terms and conditions.

Thus by issuing Letter of Credit on behalf of their customers, banks help them in buying goods on credit from sellers who are quite unknown to them. The banker issuing L/C undertakes an unconditional

obligation upon himself, and charge a fee for the same. L/Cs may be revocable or irrevocable. In the latter case, the undertaking given by the banker cannot be revoked or withdrawn.

9.9.2 BANK GUARANTEE

Banks issue guarantees to third parties on behalf of their customers. These guarantees are classified into (i) Financial guarantee, and (ii) Performance guarantee. In case of the financial guarantees, the banker guarantees the repayment of money on default by the customer or the payment of money when the customer purchases the capital goods on deferred payment basis.

A bank guarantee which guarantees the satisfactory performance of an act, say completion of a construction work undertaken by the customer, failing which the bank will make good the loss suffered by the beneficiary is known as a performance guarantee.

9.10 CREDIT WORTHINESS OF DEBTORS

The business of granting advances is a risky one. It is more risky, especially in the case of unsecured advances. The safety of the advance depends upon the honesty and integrity of the borrower, apart from the worth of his tangible assets. The banker has, therefore, to investigate into the borrower's ability to pay as well as his willingness to pay the debt taken. Such an exercise is called credit investigation. Its aim is to determine the amount for which a person is considered creditworthy. Credit worthiness is judged by a banker on the basis of borrower's (i) character, (ii) capacity and (iii) capital.

- (i) **Character** : It includes a number of personal characteristics of a person e.g. his honesty, integrity, promptness in fulfilling his promises and repaying the dues, sense of responsibility, reputation and goodwill enjoyed by him. A person having all these qualities, without any doubt in the minds of others, possesses an excellent character and hence his creditworthiness is considered high.
- (ii) **Capacity** : If the borrower possesses necessary technical skill, managerial ability and experience to run a particular business or industry, the success of such an enterprise is taken for granted except in some unforeseen circumstances, such a person is considered creditworthy by the banker.
- (iii) **Capital** : The borrower is also expected to have a financial stake in the business, because in case the business fails, the banker will be able to realise his money out of the capital put in by the borrower. It is a sound principle of finance that debt must be supported by sufficient equity.

The relative importance of the above factors differs from banker to banker and from borrower to borrower. Banks are granting advances to technically qualified and experienced entrepreneurs but they are required to put in a small amount as their own capital. Reserve Bank of India has recently directed the banks to dispense with the collateral requirement for loans upto Rs. 1 lakh. This limit has recently been further increased to Rs. 5 lakh for the tiny sector.

9.11 SUMMARY

In this unit we have discussed the basic concepts, principles and practices of bank credit as a source of working capital. Banks follows the principles of security, liquidity and profitability and diversifies their risk by spreading advances over a reasonably wide range of trades and industries. Various forms in which bank credit viz. Overdrafts, secured and unsecured loans, cash credit and discounting of bills etc. are discussed with their merits and demerits. Different types of loans and their classification on the basis of security and guarantee have also been explained. While explaining the various modes of creating a charge over the borrower's assets such as by way of Lien, Pledge, Mortgage, Hypothecation or Assignment, we have discussed the merits and demerits of different types of securities taken by banks. Purchase and discounting of premature bills of exchange and promissory notes is another way banks provide credit to business entities. Bankers conduct an exercise called credit investigation to assess the credit worthiness of its borrower to ascertain the risk of their investment. Banks also charge their clients a certain amount of fee and create unconditional, revocable or irrevocable obligation on them. Such assurances from banks indirectly offer credit for financial transactions between the two parties. These obligations are in the form of a letter of credit, financial guarantee or performance bank guarantee.

9.12 SELF-ASSESSMENT QUESTIONS

1. Elucidate the principles of Bank lending. Why does a bank as a general rule not lend on long term basis?
2. What do you understand by Margin money for Working Capital? How is it financed?
3. Explain three important demerits of the Cash Credit System
4. What do you understand by Term Loans? For what purposes are they granted by banks?
5. What is meant by Bridge Loan? What is the necessity for granting such loans?
6. Define style of credit. Describe the classification of advances according to security.

7. What are the modes of creating charge over assets? Elaborate secured advances of working capital.
8. Distinguish between a secured advance and a guaranteed advance.
9. Distinguish between pledge and hypothecation. Which provides better security to the banker and why?
10. What are the advantages of discounting of bills to the banks? Is it compulsory for corporate borrowers to use bills of Exchange?
11. What factors are taken into account by the banker to determine credit-worthiness?
12. Discuss the different ways by which banks provide credit to business entities?
13. Explain the procurement & discounting of bills. What is the non-fund based facilities?

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UNIT-10 BANK CREDIT–METHODS OF ASSESSMENT AND APPRAISAL

Unit Framework

- 10.1 Objectives
- 10.2 Introduction
- 10.3 Bank Credit- Historical Background
- 10.4 Permissible Bank Finance System
- 10.5 Required Loan Element in Bank Credit
- 10.6 Interest Rates on Bank Advances
- 10.7 Taxes on Bank Interest
- 10.8 Syndication of Credit
- 10.9 Practical Norms for Exposure Limits
- 10.10 Syndicate Advances
- 10.11 Summary
- 10.12 Self-Assessment Questions
- 10.13 Text and References

10.1 OBJECTIVES

After completing this unit you will be able to:

- to explain the bank credit- historical background
- to determined acceptable bank finance system
- to know the required loan element in bank credit
- to highlight taxes on bank interest and syndication of credit
- to discuss practical norms for exposure limits and syndicate advances

10.2 INTRODUCTION

In the previous unit, we have studied the principles of bank lending, the style of credit and the securities taken by a banker from his customers. The basic task before the banker remains how to assess the working capital needs of a customer for bank credit. The requirement of the working capital and the need for the bank credit is incident upon the borrower's operating cycle i.e. the period between the times, the payments for purchase of raw material are due and the time until the sale proceeds

are realised in cash. The need for bank credit, it also depends upon the business fluctuations and the inventories held by the borrowers in different forms-raw materials, semi-manufactured goods and finished goods. The quality of receivables, credit terms offered by the borrower to his customers and the collection efforts made by him also determine the working capital requirements. RBI has laid down several guidelines and flexibilities from time to time for the bankers to help them extend loans of set parameters. A careful assessment of all these aspects is required to be made by the banker to assess the working capital requirements of a customer and finance their operations.

10.3 BANK CREDIT-HISTORICAL BACKGROUND

In India, traditionally the Cash Credit System has been in vogue for a very long time and to a larger extent. There are two main defects in this system. First, the level of advances in a bank is determined not by how much a banker can lend at a particular point of time but by the borrower's decision to borrow at that time.

Secondly, the Cash Credit advances, though repayable on demand by the banker, are generally rolled over and thus never fall below a certain level during the course of a year. Thus the business concerns employ bank funds on a quasi-permanent basis.

Realizing these drawbacks in the Cash Credit System, Reserve Bank of India appointed a study group, under the chairmanship of Shri P.L. Tandon to frame guidelines for the follow up of bank credit. Accepting the recommendations of Tandon Study Group, Reserve Bank of India advised the banks in 1975 to follow a reformed system of Cash Credit, which is known as 'Maximum Permissible Bank Finance System'. In 1980, necessary modifications were made in the above in the light of the recommendations of another working group known as 'Chore Committee'. The Maximum Permissible Bank Finance System (MPBF) was substantially liberalized in 1993. Ultimately, in April 1997, the MPBF System was made optional to the banks. Reserve Bank of India has permitted the banks to follow any of the following methods for assessing the working capital requirements of the borrower :

- (a). The Turnover Method for small borrowers, already enforced, may be continued for this category of borrowers,
- (b). The Cash Budget System may be followed by banks for large borrowers, who prepare Cash Budget,
- (c). The existing Maximum Permissible Bank Finance System may be retained, if necessary, with modifications.
- (d). Any other system.

Thus sufficient operational flexibility has been given to the banks in their efforts to assess working capital needs. But, on the other hand, compulsion has been enforced on banks to introduce a compulsory loan component in bank credit and exposure norms have been prescribed. In case of large borrowers flexibility is allowed to form consortium or to go for syndication.

10.4 PERMISSIBLE BANK FINANCE SYSTEM

This system of assessing the working capital needs was introduced by the Reserve Bank of India in 1975. In this method the norms for holding the main types of current assets for different industries have been laid down. On the basis of such norms, the working capital gap is estimated. A portion of this gap is required to be met by owned funds and long term sources and the rest may be provided by banks. This forms the maximum limit on bank finance permissible. Initially, it was made obligatory for all borrowers with credit limits of Rs. 10 lakh and above. The Tandon Committee, while suggesting this system, made a significant attempt towards modernizing the methodology of credit appraisal. The Chore Committee strengthened the system further. In the wake of liberalization policy, the MPBF System was substantially liberalized in the year 1993. In April 1997, it ceased to be mandatory and banks were permitted to adopt this system with modification, if any, or to adopt any other system of credit appraisal. As the MPBF System is still relevant in India, we shall study its salient features as modified /amended in 1993.

10.4.1 METHODS OF LENDING

The MPBF system permits the banks to finance only a portion of the borrowers' working capital requirements from bank credit. The borrower is expected to depend less and less on banks to finance his working capital needs. The Tandon Committee suggested the following three methods of lending for determining the permissible level of bank borrowing. It is to be noted that each successive method is intended to increase progressively the involvement of long term funds comprising borrower's owned funds and term borrowings to support current assets. The three methods of lending are as follows:

- 1. First Method of Lending :** Under this method, banks have to work out the working capital gap by deducting current liabilities other than bank borrowings from the current assets. Bank can provide a maximum credit upto 75 percent of working capital gap. The balance is to be met by the own funds of the borrower and term loans.
- 2. Second Method of Lending :** Under this method, the borrower has to provide for a minimum of 25 percent of the total current assets out of long term funds i.e. own funds plus term borrowings. After deducting current liabilities other than bank borrowings from

the rest of the current assets, the balance of current assets are to be financed through bank borrowings. Thus the total current liabilities inclusive of bank borrowing will not exceed 75 percent of current assets.

3. **Third method of Lending :** This is the same as the second method except one difference. The core current assets, i.e. the permanent current assets which should be financed from long term funds are deducted from the total current assets. Of the balance of current assets, 25% are financed from long term sources and the rest out of current liabilities including bank borrowings.

10.4.2 STYLE OF CREDIT

On the recommendation of the Tandon Committee, the Reserve Bank of India prescribed at the time of introduction of MPBF System that banks should bifurcate accommodation into (1) loan comprising the minimum level of borrowing which the borrower expects to use throughout the year and (2) a demand cash credit to meet the fluctuating requirements of credit. A slightly higher rate of interest on demand Cash Credit component than for loan component was also suggested. Reserve Bank of India directed the banks that the interest rate on demand Cash Credit should be higher by one percent over the rate of interest on the loan component.

10.4.3 PEAK LEVEL AND NON-PEAK LEVEL LIMITS

The Chore Committee suggested significant modification in the MPBF System, which were enforced by the Reserve Bank of India in December 1980. Hitherto credit limits were sanctioned on the basis of peak level requirements of the borrowers, but a portion of the same remained unutilized during the non-peak season. The MPBF System was, therefore, modified so as to require the banks to fix credit limits for the normal peak level and non-peak level requirements of the borrower separately.

These limits are to be fixed on the basis of the utilisation of such limits in the past. The period during which they have to be utilised is also required to be specified. Seasonal limits are required to be fixed in case of all agro-based industries and consumer goods industries having seasonal demand. For other industries only one limit is to be fixed.

10.4.4 WITHDRAWAL OF FUNDS

After the peak level and non- peak level credit limits are sanctioned by the banks as stated above, the borrower is required to indicate, before the commencement of each quarter, his expected requirements of funds in that quarter. Such requirements are called the 'operating limits'. Borrower is expected to withdraw funds from the banks

as per his requirements within the operating limit in that quarter subject to a tolerance of 10% either way. Banks also require the borrower to submit monthly stock statements to determine his drawing power within the operating limit. Hence the actual amount availed of as bank credit will be the operating limit or the drawing power, whichever is lower. If a borrower draws more than or less than these tolerance limits, it must be considered as an irregularity in the account. In such situation banks should take necessary corrective steps to avoid the repetition of such irregularity in future.

10.4.5 SUBMISSION OF QUARTERLY STATEMENTS

Each borrower enjoying fund-based working capital limit of Rs. 2 crore or more is required to submit to the banker the following two quarterly statements:

1. Statement giving estimates of production, sales, stock position and current liabilities. (This statement is to be submitted in the week preceding the commencement of the quarter to which it relates).
2. Statement showing actual performance in the quarter. This statement is to be submitted within six weeks from the end of the quarter. In addition to these, the borrowers are also required to submit half yearly operating statement and funds flow statement, along with a half yearly balance sheet within 2 months from the close of the half year.

Reserve Bank of India has also prescribed penalties for non-submission of the above statements within the prescribed period as follows:

1. Banks are permitted to invariably charge penal interest of at least 1 percent per annum for a period of one quarter on the outstanding's under various working capital limits sanctioned to a borrower.
2. If the default is of a serious nature or persists for two consecutive quarters, banks may consider charging a rate of interest higher than the normal lending rate determined for a borrower on his entire outstanding, under the working capital limits sanctioned, until such time as the position relating to timely submission of various statements is regularized.
3. In case of continuous/persisting defaults, banks may further consider freezing the operations in the account after giving due notice to the borrower.
4. Sick units which remain closed, and borrowers affected by political disturbances, riots, natural calamities are excluded from the requirements of submission of statements.

10.4.6 COMMITMENT CHARGE

It is a charge at a nominal rate; say ½% or 1%, which the banks impose on the unutilized portion of Cash Credit Limit. Banks are permitted to levy a minimum commitment charge of 1 percent per annum on the unutilised portion of the working capital limits, subject to tolerance level of 15 percent of such limits. This is applicable in case of borrowing units with aggregate fund-based working capital credit limits of Rs. 1 crore and above from the banking system. The commitment charge will be exclusive of overall ceiling of 2 percent of penal additional interest, as stipulated by the Reserve Bank of India. The commitment charge will not apply to

- (a). Drawing in excess of the operating limit
- (b). Working Capital limits sanctioned to sick/weak units
- (c). Limits sanctioned for export credit as well as against export incentives
- (d). Inland Bill limit
- (e). Credit limit granted to commercial banks, financial institutions and cooperative banks.

10.4.7 AD-HOC CREDIT LIMITS

Since 1993 banks are permitted to decide the quantum as also period of any ad-hoc credit facilities based on their commercial judgment and merits of individual cases. Banks will also have the discretion to decide about charging of interest for sanctioning ad-hoc credit limits.

10.4.8 NORMS FOR INVENTORIES AND RECEIVABLES

The main thrust of this system is on assessing the credit needs of a borrower on the basis of holding of current assets, as per the prescribed norms. Initially, the Committee suggested norms for holding various current assets for 15 industries. Later on, almost all industries were covered. The norms were prescribed for various current assets as follows:

- (a) For raw materials expressed as so many months' consumption. Raw materials include store and other items used in the process of manufacture.
- (b) For stock-in-process, expressed as so many months' cost of production
- (c) For finished goods, expressed as so many months' cost of sales,
- (d) For receivables, expressed as so many months' sales.

These norms were to be treated as the maximum quantity of current assets to be held by a borrower. If a borrower had managed with less quantity in the past, he should continue to do so. The norms were for the average level of holding of a particular current asset and not for a particular item of a current asset. For most of the industries a combined norm was prescribed for finished goods and receivables. The objective of laying down the norms of inventories was to ensure that banks assess the credit needs of a borrower on the basis of reasonable level of inventories held as per the norms. Thus the credit granted was intended to be need-based.

However, the Reserve Bank permitted the banks to deviate from the norms in specified circumstances. In 1993, Reserve bank of India provided more flexibility to the banks in this regard. Banks were permitted to make their own assessment of credit requirements of borrowers based on their own study of the borrowers' business operations i.e. taking into account the production/processing cycle of the industry as well as the financial and other relevant parameters of the borrowers. Banks are now allowed to decide the levels of holding of each item of inventory and receivables, which in their view would represent a reasonable buildup of current assets for being supported by bank finance.

Reserve Bank of India now does not prescribe norms for each item of inventory and receivables. Its role is now confined to advising the overall levels of inventories and receivables of different industries for the guidance of the banks. The above guidelines were made applicable to all borrowers enjoying aggregate fund-based working capital limit of Rs. 2 crore and above from the banking system. (Instead of Rs. 10 lakhs earlier) All borrowers enjoying aggregate fund based credit limits of up to Rs. 2 crore from the banking system were exempted from the above guidelines. Their working capital needs are now assessed on the basis of projected Turnover Method (which has been explained in a subsequent section in this unit) which was earlier applicable to village and tiny industries and other small scale industries enjoying fund based working capital limits up to Rs. 50 lakhs.

10.5 REQUIRED LOAN ELEMENT IN BANK CREDIT

In April 1995, Reserve Bank of India introduced a reform of far reaching significance in the delivery system of bank credit. Reserve Bank introduced a compulsory loan component in the credit granted by banks to large borrowers and issued guidelines to the banks in this regard. The salient features of these guidelines as amended upto date are as follows:

1. Initially in April 1995, the loan component was made compulsory in case of borrowers with maximum permissible bank finance of Rs. 20 crore and above.

2. For borrowers with working capital credit limits of less than Rs. 10 crore, the Reserve Bank of India has permitted the banks to settle with their customers the levels of loan and cash credit components. Such borrowers may like to avail of bank credit in the form of loans because of lower rate of interest applicable on loan component.
3. Reserve Bank has also permitted the banks to identify the business activities which may be exempted from the loan system of delivery of bank credit on the ground that such business activities are cyclical and seasonal in nature or have inherent volatility and hence application of loan component may create difficulties.
4. The minimum period of the loan for working capital purposes is to be fixed by banks in consultation with the borrowers. Banks are also permitted to split the loan component according to the needs of the borrowers with different maturities for each segments and allow roll over of loans.
5. Banks are permitted to fix their prime lending rate and spread over the prime lending rate separately for loan component and cash credit component.
6. Reserve Bank of India has permitted that a borrower can avail of the loan component for working capital purpose, at more than the specified level of 80% of MPBF. In such cases the cash credit component shall stand reduced. A borrower can also draw the loan component first.
7. An ad hoc limit may be sanctioned only after the borrower has fully utilised the cash credit and the loan components.
8. In case of consortium/syndicate, member banks should share the cash credit component and the loan component on a pro rata basis depending upon their individual share in MPBF.
9. Bill limit for inland bills should be carved out of the loan component.
10. The Reserve Bank has allowed the banks to permit the borrowers to invest their short term/temporary surplus in short term money market instruments like commercial paper, certificate of deposits and in term deposits with banks.
11. Export credit limit (both post-shipment and pre-shipment) are to be excluded from MPBF for the purpose of bifurcation of credit limits into loan and cash credit components.
12. The loan component would be applicable to borrowable accounts classified as standard and sub-standard.

The basic objective behind the bifurcation of credit limits into loan component and Cash Credit component is to bring about discipline in the

utilisation of bank credit and to gain better control over the flow of credit. As you already know, there is no financial discipline on the borrower in case of cash credit system. He may borrow any amount within the operating limit at any time and may repay the same as per his choice and convenience. The banker, therefore, remains unable to plan the utilisation of his resources in advance and his earnings are affected, as he earns interest on the actual amount utilised by the borrower. By introducing a compulsory loan component which now accounts for the major part of bank credit, banks can ensure that their resources are utilised for the full period of the loan and thus their earnings are enhanced. Such a system will also compel the borrowers to resort to planning in utilizing the funds.

10.6 INTEREST RATES ON BANK ADVANCES

Interest rates charged by banks on their advances were, to a great extent regulated by the Reserve Bank of India for over two decades (1971-1991). The Narasimham Committee 1991 recommended deregulation of interest rates on advances in a phased manner. Accepting its recommendation, Reserve Bank of India abolished the minimum lending rate on advances of Rs. 2 lakh in October 1994 and asked the banks to fix their own prime lending rate which will be their minimum lending rate.

Concessional interest rate of 12% was prescribed for advances upto Rs. 25,000 and a higher rate of 13.5% was prescribed for advances over Rs. 25,000 and upto Rs. 2 lakh. In October 1996, Reserve Bank of India asked the banks to announce the maximum spread over the Prime Lending rate for all advances other than the consumer credit. Banks have also been permitted to prescribe different Prime Lending Rates for the loan component and the cash credit component in order to encourage the borrowers to prefer the loan component because of lower spread.

Banks were allowed to fix their Prime Lending Rates and spread after taking into consideration their cost of funds, transaction cost and minimum spread. In April 1998, Reserve Bank further extended the process of deregulation by permitting the banks to charge interest on advances below Rs. 2 lakh at a rate not exceeding their Prime Lending Rate, which is available to the best borrowers of the bank concerned.

The lending rates of banks are at present completely deregulated. Banks prescribe their own Prime Lending Rate for their best borrowers and a spread thereon. The Prime Lending Rate happens to be the maximum rate for borrowers up to Rs. 2 lakh each, whereas it is the minimum rate for all other borrowers. Since October 1997 banks have been permitted by the Reserve Bank of India to prescribe their Prime Lending Rate for term loans of 3 years and above. In April 1999 banks have been granted further freedom to operate different Prime Lending Rates for different maturities. Banks are also permitted to offer fixed rate loans for project finance.

Though the Reserve bank has granted freedom to the commercial banks to prescribe their own Prime Lending Rates, the changes in the Bank Rate announced by the Reserve Bank of India from time to time do exert their influence on the bank's decisions on their Prime Lending Rates. For instance, the reduction of Bank Rate by Reserve Bank of India by one percentage point from 9% to 8% effective March 1, 1999 was immediately followed by similar reduction in the Prime Lending Rate of State bank of India and all other commercial banks. The Reserve Bank of India has thus made the bank rate a reference rate for other interest rates.

10.7 TAXES ON BANK INTEREST

The Government of India re-introduced interest tax on income from interest accruing to the financial institutions with effect from October 1, 1991 and has withdrawn it in the budget for 2000-2001. Interest Tax was payable on gross interest income of banks and credit institutions like cooperative societies engaged in the business of banking (excluding cooperative societies providing credit facilities to farmers and village artisans), public financial institutions, state financial corporations and finance companies.

Interest Tax was charged @ 2% on the gross amount of interest earned by banks, including the commitment charges and discount on promissory notes and bills of exchange. Interest earned on Cash Reserves maintained with Reserve Bank of India, discount on Treasury bills and interest on loans to other credit institutions was not included in the income from interest for this purpose. Banks were permitted to reimburse themselves by making necessary adjustments in the interest charges. Hence the real burden of this tax was borne by the borrowers themselves as credit became costlier to them by the amount of interest tax.

10.8 SYNDICATION OF CREDIT

Credit needs of large borrowers may be met by banks in any of the following ways:

10.8.1 SOLE BANKING

Sole banking i.e. lending by a single bank to a large borrower, subject to the resources available with it and limited to the exposure limits imposed by the Reserve Bank of India. When the credit requirements of a borrower are beyond the capacity of a single bank, the borrower may resort to multiple banking i.e borrowing from a number of banks simultaneously and independent of each other, under separate loan agreements with each of them. Securities are charged to them separately.

10.8.2 SYNDICATE LENDING

Syndicate lending also called joint financing or participation financing, is also undertaken by a number of banks but against a common security which remains charged to all the banks for the total advance. Usually, in case of consortium lending one of the banks acts as a consortium leader and takes a leading part in the processing of the loan proposal, its documentation, recovery etc. The participating banks enter into an agreement setting out the terms and conditions of such participation arrangement.

10.8.3 RESERVE BANK DIRECTIVES

Syndicate lending by banks in India commenced in 1974 when Reserve Bank of India issued guidelines to the banks in this regard. In 1978 formation of consortium was made obligatory where the aggregate credit limits sanctioned to a single borrower amounted to Rs. 5 crore or more. In October 1993, these threshold limits for formation of consortium was raised to Rs. 50 crore and the guidelines were also suitably revised. Following the policy of liberalization and deregulation in the financial sector, the Reserve Bank of India decided in October 1996, that whenever a consortium is formed either on a voluntary basis or on obligatory basis, the ground rules of the consortium arrangement would be framed by the participating banks in the consortium. These rules may relate to the following:

1. Number of participating banks
2. Minimum share of each bank
3. Entry into/exit from a consortium
4. Sanction of additional/ad hoc limit in emergency situation/contingencies by lead bank/other banks
5. The fee to be charged by the lead bank for the services rendered by it
6. Grant of any facility to the borrower by a non-member bank
7. Deciding time frame for sanctions/ renewals.

In April 1997, Reserve Bank of India withdrew the mandatory requirements on formation of consortium for working capital requirements under multiple banking arrangements. Reserve bank has advised the banks to evolve an appropriate mechanism for adoption of a sole bank/multiple bank/consortium or syndication approach by framing necessary ground rules on operational basis. While the aforesaid flexibility has been granted to the banks, they are required not to exceed the single borrower/group exposure limits laid down by the Reserve Bank. Banks have been advised to ensure to have an effective system for appraisal, flow of information on the borrower among the participating banks, commonality in approach and

sharing of lending resources, under the single window concept. Banks have also been permitted to adopt the syndication route, if the arrangement suits the borrower and the financing banks.

10.9 PRACTICAL NORMS FOR EXPOSURE LIMITS

In case of large borrowers, credit requirements are also large and lending large funds is not without risks. Hence to ensure that banks do not commit large resources to a single borrower or a group of borrowers. Reserve Bank of India has prescribed the limits upto which they may lend to them. These exposure limits are linked to the net worth of the bank concerned.

Practical norms for exposure limits are the credit requirements of large business houses invariably large. Banks follow the policy of diversifying their risks by spreading their lending over different borrowers who are engaged in different types of trades and industries, in order to minimise their risks. They do not commit large resources to a single borrower or a group of borrowers for better risk management. Reserve Bank of India has laid down prudential norms for banks, for exposure to a single borrower or group of borrowers as follows:

1. The overall exposure to a single borrower shall not exceed 20% of the net worth of the bank. The exposure ceiling has been reduced from 25% to 20% effective April 12, 2000. In case it exceeds 20% of capital funds as on October 31, 1999, banks are expected to reduce it to 20% by the end of October 2001, and
2. The overall exposure to a group of borrowers shall not exceed 50% of the net worth of the bank.

For determining exposure to a single borrower/ group, credit facilities will include the following:

- (a). Advances by way of loans, cash credit, overdrafts
- (b). Bill purchased/discounted
- (c). Investment in debentures,
- (d). Guarantees, letters of credit, co-acceptances, underwriting etc.
- (e). Investment in Commercial Paper

The non-fund based facilities shall be counted @ 50% of sanctioned limit and added to total fund based limits. While the Reserve Bank of India has granted flexibility to the banks to assess the credit requirements of the borrowers as already noted, the above prudential norms are to be invariably complied by the banks.

10.10 SYNDICATE ADVANCES

When the credit needs of a large borrower are met by a number of banks together, it is called syndicate lending. Under it, a common security remains charged to all the banks for the total advance. One of the banks acts as consortium leader and takes a leading part in the processing of the loan proposal, its documentation, recovery etc. Participating banks enter into an agreement amongst themselves. As you have noted in the previous section, Reserve Bank of India has permitted the banks to adopt syndication route to provide credit in lieu of consortium advance. A syndicated credit differs from consortium advance in certain aspects. The salient features of a syndicated credit are as follows:

- A loan agreement is signed by all the participating banks
- The borrower is required to give prior notice to the Lead Manager or his agent for drawing the loan amount so that the latter may tie up disbursement with the other lending banks.
- It is an agreement between two or more banks to provide a borrower a credit facility using common loan documentation.
- Under the system, the borrower has the freedom in terms of competitive pricing. Discipline is also imposed through a fixed repayment period under syndicated credit.
- The prospective borrower gives a mandate to a bank, commonly referred to a 'Lead Manager, to arrange credit on his behalf. The mandate gives the commercial terms of the credit and the prerogatives of the mandated bank in resolving contentious issues in the course of the transaction.
- On the basis of the Information Memorandum each bank makes its own independent economic and financial evaluation of the borrower. It may collect additional information from other sources also.
- Thereafter, a meeting of the participating banks is convened by the mandated bank to discuss the syndication strategy relating to coordination, communication and control within the syndication process and to finalize the deal timings, charges for management, cost of credit, share of each participating bank in the credit etc.
- The mandated bank prepares an Information Memorandum about the borrower in consultation with the latter and distributes the same amongst the prospective lenders, inviting them to participate in the credit.

10.11 SUMMARY

How working capital needs of the borrowers are being accessed by banks was the subject area of this chapter. We have explained in detail, the updated version of the Determined Permissible Bank Finance System (MPBF System) as it prevailed as a required prescription for banks till 1997. Since then they are permitted to follow the alternative methods also. The initial recommendation on financing the working capital requirement of the borrower was worked out by Tandon committee. RBI later came up with the discrete guidelines for the banks which were later relaxed on some parameters. The MPBF system initially allowed credit limits to be sanctioned on the basis of peak level requirements of working capital but later on the recommendation of the chore committee, the banks were allowed to fix credit limits for the normal peak level and non-peak level requirements.

This unit also deals with the measures introduced by the Reserve Bank of India to discipline the big borrowers and to reduce the risks of the lending bankers. Compulsory bifurcation of credit limits into loans and Cash Credit and the introduction of practical norms for exposure limits have been duly explained. Banks have also been granted flexibility in forming syndicate and syndicate to finance the credit needs of big borrowers. The unit explains in detail these new dimensions in granting bank credit.

10.12 SELF-ASSESSMENT QUESTIONS

1. What is bank credit? Discuss it with historical background.
2. What has determined acceptable bank finance system?
3. Give details of the two Quarterly Statements required to be submitted under MPBF Method?
4. Why has the Reserve Bank of India made it compulsory for the banks to introduce loan component in the credit granted to big borrowers?
5. What do you understand by Prime Lending Rate? How is it determined? Are banks free to determine more than one Prime Lending Rate? How is the spread over Prime Lending Rate determined?
6. What do you understand by Practical Norms for Exposure Limits? Why have they been prescribed by Reserve Bank of India?
7. What do you understand by Syndicate Lending? How does it differ from syndication of loans?

8. Explain how the permissible bank finance can be assessed under the Second Method of Lending. How does it differ from the First Method of Lending?
9. What do you understand by practical norms for exposure limits? How is it determined?
10. Discuss “The Formation of Syndicate of banks for working capital requirement is now mandatory”.
11. What do you understand by syndication of credit? Explain it.
12. What are syndicate advances? Elucidate it.

10.13 TEXT AND REFERENCES

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UNIT-11 OTHER SOURCES OF SHORT TERM FINANCE

Unit Framework

- 11.1 Objectives
- 11.2 Introduction
- 11.3 Factoring of Receivables
- 11.4 Bonds and Debentures
- 11.5 Inter-Corporate Loans
- 11.6 Commercial Paper
- 11.7 Public Deposits
- 11.8 Summary
- 11.9 Self-Assessment Questions
- 11.10 Text and References

11.1 OBJECTIVES

After completing this unit you will be able to:

- to discuss factoring of receivables
- to explain the bonds and debentures
- to determined inter-corporate loans
- to know the required public deposits
- to highlight commercial papers

11.2 INTRODUCTION

The two most prevalent modes of financing the working capital in India are Trade credit and commercial bank. The equity shares shall continue to be the most preferred long term source of finance for firms. The short term requirement of funds is the most acute requirement because it has a direct bearing on the day to day functioning of a firm. However, this is the area where most stringent credit policies are followed by banks. The tightening financial discipline imposed by them and the higher cost has led the companies to go in for new and innovative sources of finance. Public Deposits, Factoring of Receivables, Bonds and Debentures, Inter-Corporate Loans and Commercial Paper are some of the alternatives available for the firms to fulfill their working capital requirements.

Raising short term and medium term debt by inviting and accepting deposits from the investing public has become an established practice with a large number of companies both in the private and public sectors. This is the outcome of the process of dis-intermediation that is taking place in Indian economy. Similarly, issuance of Commercial Paper by high net-worth Corporates enables them to raise short-term funds directly from investors at cheaper rates as compared to bank credit. In practice, however, commercial banks have been the major investors in Commercial Paper in India, implying thereby that bank credit flows to the corporate sector through the route of CPs. Inter-Corporate loans and investments enable the cash rich corporations to lend their surplus resources to those who need them for their working capital purpose. Factoring of receivables is a relatively recent innovation which enables corporates to convert their receivables into liquidity within a short period of time. In this unit we shall discuss the salient features of various sources of non-bank finance and the regulatory framework evolved in respect of them.

11.3 FACTORING OF RECEIVABLES

Factoring is an agreement under which the receivables arising out of the sale of goods/services are sold by a firm (called the client) to the factor (a financial intermediary), who becomes responsible for the collection of the receivable on the due date. Factoring of receivables is another source of raising working capital by a business entity. The factor thereafter becomes responsible for the collection of the receivables. In case of credit sale, the purchaser promises to pay the sale proceeds after a period of time. The seller has to wait for that period for realizing his claims from the buyer. His cash cycle is thus prolonged and he needs larger working capital. Factoring of receivables is a device to sell the receivables to a factor, which pays the whole or a major part of dues from the buyer immediately to the seller, thereby reducing his cash cycle and the requirements of working capital. The factor realizes the amount from the buyers on the due date.

Factoring is of recent origin in India. Government of India notified factoring as a permissible activity for the banks in July 1990. They have been permitted to set up separate subsidiaries for this purpose or invest in the factoring companies jointly with other banks. Two factoring companies have been set up by banks jointly with Small Industries Development Bank of India. SBI Factors and Commercial Services Ltd. have been promoted by State Bank of India, Union, Bank of India and the Small Industries Development Bank of India. Canbank Factors Ltd. is another factoring company promoted jointly by Canara Bank, Andhra Bank and SIDBI. The Foremost Factors Ltd. is the first private sector company which has commenced its operations in 1997.

11.3.1 WITH RECOURSE AND WITHOUT RECOURSE FACTORING

Factoring business may be undertaken on 'with recourse' or 'without recourse' basis. Under with recourse factoring, the factor has recourse to the client if the receivable purchased turn out to be irrecoverable. In other words, the credit risk is borne by the client and not the factor. The factor is entitled to recover the amount from the client the amount paid in advance, interest for the period and any other expenses incurred by him. In short, when the factor bears the loss arising out of non-payment of the dues by the buyer, it is called without recourse factoring. In case of 'With Recourse Factoring' he can recover the loss from the client (seller). In case of, without recourse factoring, the factor does not possess the above right of recourse. He has to bear the loss arising out of non-payment of dues by the buyer. The factor, therefore, charges higher commission for bearing this credit risk.

11.3.2 MECHANISM OF FACTORING

1. An agreement is entered into between the seller and the factor for rendering factoring services.
2. After selling the goods to the buyer, the seller sends copy of invoice, delivery challan, instructions to make payment to the factor, to the buyer and also to the factor.
3. The factor makes payment of 80% or more of the amount of receivables to the seller.
4. The seller should also execute a deed of assignment in favour of the factor to enable him to recover amount from the buyer.
5. The seller should also obtain a letter of waiver from the banker in favour of the factor, if the bank has charge over the asset sold to the buyer.
6. The seller should give a letter of confirmation that all conditions of the sale transactions have been completed.
7. The seller should also confirm in writing that all payments receivable from the debtor are free from any encumbrances, charge, right of set off or counter claim from another person, etc.
8. The facility of factoring in India is available to all forms of business organisations in manufacturing, service and trading. Sole proprietary concerns, partnership firms and companies can avail of the services of factors, but a ceiling on the credit which they can avail of in terms of the value of the invoice to be purchased is generally fixed for each client in medium and small scale sectors. Generally the period for which receivables are factored ranges between 30 and 90 days.

9. The factor evaluates the client on the basis of various criteria e.g. level of receivables turnover, the quality of receivables, growth in sales, etc. The factor charges a service fee and a discount. The service fee is charged in advance and depends upon the invoice value for different categories of clients. It ranges between 0.5-0.2% of the invoice value.

Moreover, the factor also charges a discount on the pre-payment made to the client. It is payable in arrears and is generally linked to the bank lending rate. In case of high worth clients, the discount rate is presently one percent point lower than the rate charged under the cash credit system. The cost of funds under, without recourse, factoring is much higher than with recourse, factoring due to the credit risk borne by the factor. However, the service fee and discount charge depends upon the cost of funds and the operational cost.

11.4 BONDS AND DEBENTURES

Bonds and debentures are another form of raising debt for augmenting funds for long term purposes as well as for working capital. It has gained popularity in recent years because of the depressed conditions in the new equities market and the permission given to the banks to invest their funds in such bonds and debentures. These debentures may be fully convertible, partly convertible, or non-convertible into equity shares. The salient points of the Guidelines issued by the Securities and Exchange Board of India (SEBI) in this regard are as follows:

1. Issue of fully convertible debentures having a conversion period more than 36 months will not be permissible unless conversion is made optional with “put” and “call” options.
2. Compulsory credit rating is required, if conversion of fully convertible debentures is made after 18 months.
3. Premium amount on conversion, and time of conversion in stages, if any, shall be predetermined and stated in the prospectus. The rate of interest shall be freely determined by the issuer.
4. Any conversion in part or whole of the debentures will be optional at the hands of the debenture holders, if the conversion takes place at or after 18 months from the date of allotment but before 36 months.
5. In case of Non-Convertible Debentures and Partly convertible debentures, credit rating is compulsory if maturity exceeds 18 months.
6. The discount on the non-convertible portion of the partly convertible debentures, in case they are traded and procedure for their purchase on spot trading basis, must be disclosed in the prospectus.

7. In case, the non-convertible portions of partly Convertible Debentures or Non- Convertible Debentures are to be rolled over without change in the interest rate, a compulsory option should be given to those debenture holders who want to withdraw and in cash their debentures. Positive consent of the debenture holders must be obtained for all-over.
8. Before the rollover, fresh credit rating shall be obtained within a period of six months prior to the due date of redemption and must be communicated to the debenture holders before the rollover. Fresh Trust Deed must be made in case of rollover.
9. The letter of information regarding rollover shall be vetted by SEBI.
10. The disclosure relating to raising of debenture will contain amongst other things
 - (a). The existing and future equity and long term debt ratio,
 - (b). Servicing behaviour of existing debentures,
 - (c). Payment of interest due on due dates on term loans and debentures
 - (d). Certificate from a financial institution or bankers about their no objection for a second or pari passu charge being created in favour of the trustees to the proposed debenture issue.
13. Companies which issue debt instruments through an offer document can issue the same without submitting the prospectus or letter of offer for vetting to SEBI or obtaining an acknowledgement card from SEBI in respect of the said issue, provided the:
 - (a). Company's securities are already listed on any stock exchange
 - (b). Company has obtained at least an 'adequately safe' credit rating for its issue of debt instrument from a credit rating agency.
 - (c). The debt instrument is not convertible, is not issued along with any other security or, without any warrant with an option to convert into equity shares.
14. In case of debentures for working capital, institutional debenture holders and trustees should obtain a certificate from the company's auditors regarding utilisation of funds at the end of each accounting year.
15. Company should not issue debentures for acquisition of shares or for providing loans to any company belonging to the same group. This restriction does not apply to the issue of fully convertible

debentures provided conversion is allowed within a period of 18 months.

11.5 INTER-CORPORATE LOANS

These are loans made by a company to another company, whether its own subsidiary or otherwise. These loans and investments in the securities of another company should be upto the limits specified in section 372 A of the Companies Act. Short term finance for working capital requirements of a company may be raised through accepting inter-corporate loans or deposits. On the other hand, some other companies face financial stringency and need cash resources to meet their immediate liquidity needs. The former lend their surplus resources to the latter through brokers, who charge for their services. Interoperate loans facilitate such lending and borrowings for short periods of time. The rate of interest and other terms and conditions of such loans are determined by negotiations between the lending and borrowing companies. The prevailing market conditions do exert their influence on the determination of interest rates.

11.5.1 STATUTORY PROVISIONS PRIOR TO JANUARY 1999

The Inter-corporate loans were, till recently, governed by the provisions of section 370 of the Companies Act, 1956 and the Rules framed thereunder. This section provided that no company shall (a) make any loan to or (b) give any guarantee or provide any security in connection with a loan given to anybody corporate unless such loan or guarantee has been previously authorised by a special resolution of the lending company. But such special resolution was not required in case of loans made to other bodies corporate not under the same management as the lending company where the aggregate of such loans did not exceed thirty percent of the aggregate of the subscribed capital of the lending company and its free reserves.'

11.5.2 PRESENT STATUTORY PROVISIONS

After the promulgation of Companies (Amendment) Ordinance 1999 in January 1999 the provisions of sections 370 and 372 were made ineffective and instead a new section 372A was inserted to govern both inter-corporate loans and investments. According to the new section 372 A, a company shall, directly or indirectly.

- (a). make any loan to any other body corporate,
- (b). give any guarantee, or provide security in connection with a loan made by any other person to anybody corporate, and

- (c). acquire, by way of subscription, purchase or otherwise, the securities of any other body corporate upto 60% of its paid up capital and free reserves or 100% of the free reserves, whichever is more.

The above provisions of Section 372 A will not apply to any loan made by a Holding company to its wholly owned subsidiary or any guarantee given by the former in respect of loan made to the latter or acquisition of securities of the subsidiary by the holding company. Section 372 A Shall not apply to any loan, guarantee or investment made by a banking company, an insurance company or a housing finance company or a company whose principal business is the acquisition of shares, stocks, debentures etc. or which has the object of financing industrial enterprises or providing infrastructural facilities.

The loan to anybody corporate shall be made at a rate of interest not lower than the Bank rate.

If a default is made in complying with the provisions of section 372A, the company and every officer of the company who is in default shall be punishable with imprisonment upto 2 years or with fine upto Rs. 50,000/-.

11.6 COMMERCIAL PAPER

Commercial paper (C.P) is another source of raising short term funds by highly rated corporate borrowers for working capital purposes. A commercial paper at the same time provides an opportunity to cash rich investors to park their short term funds. The Reserve Bank of India permitted companies to issue Commercial paper in 1989 and issued guidelines entitled “Non-banking Companies (Acceptance of Deposits through Commercial Paper) Directions 1989,” to regulate the issuance of C.Ps. The guidelines have been significantly relaxed and modified from time to time. The salient features of these guidelines (as amended to date) are as follows:

11.6.1 ELIGIBILITY TO ISSUE CPS

Companies (except the banking companies) which fulfill the following requirements are permitted to issue CPs in the money market:

1. The minimum tangible net worth of the company is Rs. 4 crore as per the latest audited balance sheet.
2. The company has fund-based working capital limits of not less than Rs. 4 crore.
3. The shares of the company are listed at one or more stock exchanges. Closely held companies whose shares are not listed on

any stock exchange are also permitted to issue CPs provided all other conditions are fulfilled.

4. The company has obtained minimum credit rating from a Credit rating agency i.e. CP2 from Credit Rating Information Services of India Ltd., A2 from Investment Information & Credit Rating Agency or PR2 from Credit Analysis and Research.

11.6.2 TERMS OF COMMERCIAL PAPER

The Commercial paper may be issued by the companies on the following terms and conditions:

- (a). The minimum period of maturity should be 15 days (It was reduced from 30 days effective May 25, 1998) and the maximum period less than one year.
- (b). The minimum amount for which a CP is to be issued to a single investor in the primary market should be Rs. 25 lakh and thereafter in multiple of Rs. 5 lakh.
- (c). CPs are to be issued in the form of usance promissory notes which are freely transferable by endorsement and delivery.
- (d). CPs are to be issued at a discount to face value. The rate of discount is freely determined by the issuing company and the investors.
- (e). The issuing company shall bear the dealers fee, rating agencies fee, and other charges. Stamp duty shall also be applicable on CPs.
- (f). CPs may be issued to any person, corporate body incorporated in India, or even unincorporated bodies. CPs may be issued to Non-resident Indians only on no repatriation basis and such CPs shall not be transferable.

11.6.3 CEILING ON THE AMOUNT OF ISSUE OF COMMERCIAL PAPER

The amount for which the companies issue Commercial Paper is to be carved out of the fund based working capital limit enjoyed by the company with its banker. The maximum amount that can be raised through issue of commercial paper is equal to 100 percent of the fund based working capital limit. The latter is reduced pro-tanto on the issuance of CP by the company. Effective October 19, 1996 the amount of CP is

permitted to be adjusted out of the loans or cash credit or both as per the arrangement between the issuer of the CP and the concerned bank.

11.6.4 STANDBY FACILITY WITHDRAWN

As stated above, the amount of CP is carved out of the borrower's working capital limit. Till October 1994 commercial banks were permitted to provide standby facility to the issuers of CPs. It ensured the borrowers to draw on their cash credit limit in case there was no roll-over of CP. Thus the repayment of the CP was ensured automatically.

In October 1994 Reserve bank of India prohibited the banks to grant such stand-by facility. Accordingly, banks reduce the cash credit limit when CP is issued. If subsequently, the issuer requires a higher cash credit limit, he shall have to approach the bank for a fresh assessment of his requirement for the enhancement of credit limit. Banks do not automatically restore the limit and consider the sanction of higher limit afresh. In November 1997, Reserve Bank of India permitted the banks to decide the manner in which restoration of working capital limit is to be done on repayment of the CP if the corporate requests for restoration of such limit.

11.6.5 COMMERCIAL PAPER IN INDIA

The Vagul Committee suggested the introduction of commercial paper in India to enable the high worth corporates to raise short term funds cheaper as compared to bank credit. On the other hand, the investors in CPs were expected to earn a better return because of the absence of intermediaries between them and the borrowers.

Banks continue to be the major investors in CPs as they find CPs of top-rated companies very attractive, because of the excess liquidity situation they are presently placed in. As on February 28, 1999, the outstanding investment by scheduled commercial banks in CP amounted to Rs. 5367 crore with an effective discount rate in the range of 10.2% to 13%. Outstanding investments in CPs steadily increased to Rs. 7658 crore as on September 30, 1999 due to easy liquidity. The Reserve Bank of India has issued revised draft guidelines on July 62,000 for the issuance of commercial paper. The important changes proposed were:

1. Corporates are permitted to issue CP upto 50% of their working capital (fund based) under the automatic route, i.e. without prior clearance from the banks.
2. CPs can be issued for wide range of maturities from 15 days to 1 year and can be in denominations of Rs. 5 lakh or multiple thereof.
3. Financial Institutions may also issue CPs.

4. Foreign instructional investors may invest in CPs. Within 30% limit set for their investments in debt instruments
5. Credit rating again will decide the period of validity of the issue.

11.7 PUBLIC DEPOSITS

Public deposits are deposits of money accepted by companies in India from the public for specified period ranging between 3 months and 36 months. These deposits are accepted within the limit and subject to terms prescribed under Companies (Acceptance of Deposits) Rule, 1975. Public deposits are unsecured deposits accepted by companies for specific periods and at specific rates of interest. These deposits have acquired prominence as a source of finance for the companies, as it is more convenient and cheaper to mobilize short term finance through such deposits. Public deposits provide a fine example of dis-intermediation, as the borrower directly accepts the deposits from the lenders, of course with the help of brokers. In India, acceptance of deposits from the public is regulated by sections 58A and 58B of the Companies Act 1956, and the Companies (Acceptance of Deposits) Rules, 1975. The above sections were inserted in the Companies Act in 1974 with the objective to safeguard the interests of the depositors. The regulatory framework in this regard is contained in the Companies Act and the Rules. Their important provisions are stated below:

Sections 58A (1) empowers the Central Government, in consultation with the Reserve Bank of India, to prescribe the limits up to which, the manner in which and the conditions subject to which deposits may be invited or accepted by a company either from the public or from its members. Such deposits are to be invited in accordance with the rules made under this section and after insertion of an advertisement issued by the company. Section 58 (2) (c) which was inserted with effect from March 1, 1997 prohibits a company which is in default in the repayment of any deposit or part thereof or any interest thereupon, from accepting any further deposit.

11.7.1 CATEGORIES OF DEPOSITS AND STATUTORY LIMITS

Rule 3 lays down that the period for which such deposits may be accepted by a company should not be less than 3 months and not more than 36 months from the date of acceptance or renewal of deposit. Companies are not permitted to accept deposits repayable on demand or on notice. Deposits accepted by companies are divided into the following two categories and separate limits have been prescribed for each of them:

i) *Deposits received from specified sources:*

- (a).** Deposits against unsecured debentures

- (b). Deposits from shareholders
- (c). Deposits guaranteed by directors
- (d). The maximum limit upto which such deposits are allowed is 10% of the aggregate paid up share capital and free reserves.

ii) *Deposit received from the general public:*

This category of deposits may be accepted to the extent of 25% of the aggregate paid up capital and free reserves of the company. For government companies, there is only one single limit of 35% of paid up capital and free reserves for all such deposits.

11.7.2 RATES OF INTEREST AND BROKERAGE

The Rules prescribe the maximum rate of interest payable on such deposits. Companies are permitted to pay brokerage to any broker at the rate of 1% of the deposits for a period of upto 1 year, 1½ % for a period more than 1 year but upto 2 years and 2% for a period exceeding 2 years. Such payment shall be on one time basis.

11.7.3 ADVERTISEMENT

Every company intending to invite or accept deposits from the public must issue an advertisement for that purpose in a leading English newspaper and in one vernacular newspaper circulating in the state in which the registered office of the company is situated. The advertisement must be issued on the authority and in the name of the Board of Directors of the company. The advertisement must contain the conditions subject to which deposits shall be accepted by the company and the date on which the Board of Directors has approved the text of the advertisement.

The advertisement shall be valid until the expiry of six months from the date of closure of the financial year in which it is issued or until the date on which the balance sheet is laid before the company at its general meeting, or where Annual General Meeting for any year has not been held, the latest day on which that meeting should have been held as per the Companies Act, whichever is earlier. A fresh advertisement is required to be made in each succeeding financial year. Before issuing an advertisement, a copy of such advertisement shall have to be delivered to the Registrar for registration. Such advertisement should be signed by the majority of the Directors of the company or their duly authorised agents.

The above provision regarding mandatory publication of an advertisement is necessary in case the company invites public deposits. But if the company intends to accept deposits without inviting the same, it is not required to issue an advertisement but a statement in lieu of such advertisement shall have to be delivered to the Registrar for registration,

before accepting deposits. The contents of the statement and its validity period shall be the same as in the case of an advertisement.

11.7.4 PROCEDURE FOR ACCEPTING DEPOSITS

Every company intending to accept public deposits is required to supply to the investors forms, which shall be accompanied by a statement by the company containing all the particulars specified for advertisements. The application must also contain a declaration by the depositor stating that the amount is not being deposited out of the funds acquired by him by borrowing or accepting deposits from any other person.

On accepting a deposit or renewing an existing deposit, every company shall furnish to the depositor or his agent a receipt for the amount received by the company within a period of eight weeks from the date of receipt of money or realisation of cheques. The receipt must be signed by an officer of the company duly authorised by it. The company shall not have the right to alter to the disadvantage of the depositor, the terms and conditions of the deposit after it is accepted.

11.7.5 REPAYMENT OF DEPOSITS

Deposits are accepted by companies for specified period say 12 months, 18 months, 24 months, etc. Companies prescribe different rates of interest for deposits for different periods. Other terms and conditions are also prescribed by the companies and interest is paid at the stipulated rate at the time of maturity of the deposit.

But, if a depositor desires repayment of the deposit, before the period stipulated in the Receipt, companies are permitted to do so, but interest is to be paid at a lower rate. Rules prescribe that if a company makes repayment of a deposit after the expiry of a period of six months from the date of such deposit, but before the expiry of the period for which such deposit was accepted by the company, the rate of interest payable by the company shall be determined by reducing one percent from the rate which the company would have paid had the deposit been accepted for the period for which the deposit had run.

The rules also provide that if a company permits a depositor to renew the deposit, before the expiry of the period for which such deposit was accepted by the company, for availing of benefit of higher rate of interest, the company shall pay interest to such depositor at higher rate, if a) such deposit is renewed for a period longer than the unexpired period of the deposit, and b) the rate of interest as stipulated at the time of acceptance or renewal of a deposit is reduced by one percent for the expired period of the deposit and is paid or adjusted or recovered.

11.7.6 PENALTIES

Sub-section 9 and 10 of section 58 A, which were inserted with effect from 1st September 1989, provide a machinery for repayment of deposits on maturity and also prescribes penalties for defaulting companies. According to sub-section (9), if a company fails to repay any deposit or part thereof in accordance with the terms and conditions of such deposit, the Company Law Board may, if it is satisfied, direct the company to make repayment of such deposit forthwith or within such time or subject to such conditions as may be specified in its order. The Company Law Board may issue such order on its own or on the application of the depositor and shall give a reasonable opportunity of being heard to the company and to other concerned persons.

11.7.7 DEDUCTION OF TAX AT SOURCE

According to section 194 A of the Income Tax Act, 1961, the companies accepting public deposits are required to deduct income tax at source at the prescribed rates if the aggregate interest paid or credited during a financial year exceeds Rs. 5000. This limit has been recently (May 2000) raised from Rs. 2500 to Rs. 5000.

11.7.8 PUBLIC DEPOSITS WITH COMPANIES IN INDIA

Public Deposits constitute an important source of working capital for corporates in India. According to the data published by the Reserve Bank of India, the total amount of Public deposits with the companies as at the end of March 1997 was Rs. 357, 153 crores, out of which 62.7% was held by the Non-finance companies and the rest by finance companies and other Non-banking Companies.

Public deposits with the companies are unsecured deposits and do not carry the cover of deposit insurance while bank deposits are insured by Deposit Insurance and Credit Guarantee Corporation of India to the extent of Rs. 1 lakh in each account. Many companies default in the repayment of the deposits along with interest. In many cases, the District Consumers Disputes Redressal Fora have penalised the companies for not paying their depositors' money. The Fora have held the companies guilty for deficiency of service and maintained that a depositor was a consumer within the meaning of the Consumer Protection Act., 1986 Nevertheless; reputed companies do attract deposits from the public, because of their sound financial position and reputation.

11.8 SUMMARY

In this unit, we have discussed various sources of short term funds, other than bank credit and trade credit which are used by business and industrial houses in India to finance their working capital needs. The unit covers public deposits, commercial paper, inter-corporate loans, bonds and debentures and factoring of receivables. The statutory frameworks, along with rules and regulations concerning these sources have been explained in detail. Relative significance of these sources has also been explained by citing relevant facts and figures. Though these sources are deemed as non-bank sources of finance, involvement of commercial banks in providing such finance is evident, especially in case of commercial paper, bonds and debentures and factoring of receivables.

11.9 SELF-ASSESSMENT QUESTIONS

1. State the existing guidelines regarding maintenance of liquid assets prescribed for a company accepting deposits from the public.
2. What remedy is available to the depositor, if the company fails to repay the deposit as per the terms and conditions of the deposit?
3. State the two broad categories of deposits which non-banking companies can accept to meet their working capital needs.
4. Describe the eligibility conditions prescribed for issuing the Commercial Paper.
5. Why are banks major investors in Commercial Paper?
6. Describe the guidelines issued by SEBI for the conversion of debentures into equity shares.
7. State the conditions under which it is not necessary for a company to issue debt instruments without submitting proposals or letter of offer to SEBI.
8. Explain the mechanism of factoring of receivables.
9. Explain what do you understand by Standby facility?
10. Provision of Section 372 is not applicable to certain companies. Specify them.
11. Can a company repay a deposit before the period stipulated in the Receipt? Will the depositor suffer in such a case?
12. What penalty is imposed on the company if it accepts deposit in excess of the prescribed limits?

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Working Capital Management

BLOCK

4

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Cash Management and Cash Budget

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COURSE INTRODUCTION

In **Block-4** you have learnt about the working capital management: an integrated view; liquidity vs profitability, payables management, short-term international financial transactions and cash management and cash budget.

Unit-12 discusses about liquidity vs profitability, profits, profitability and liquidity, objectives, profitability and liquidity, measuring profitability and liquidity, difference between profitability and liquidity.

Unit-13 explains payables management, payables transactions, overview of payables, invoice processing, types of payments, expense reimbursement, procurement cards, use taxes, finance issues, accounting for payables, closing payables.

Unit-14 deals with short-term international financial transactions, financial techniques to manage transaction exposure, methods for hedging transaction, transaction hedging under uncertainty, operational techniques for managing transaction exposure.

Unit-15 deals with cash management and cash budget: motives for holding cash, cash management, need and importance of liquidity, factors determining cash balances, managing cash flows, models of cash management, cash budget, advantages or importance of cash budget, system of preparing the cash budget.

UNIT-12 LIQUIDITY VS. PROFITABILITY

Unit Framework

- 12.1 Objectives
- 12.2 Introduction
- 12.3 Concept of Liquidity
- 12.4 Measurement of Liquidity
- 12.5 Fundamentals of Liquidity
- 12.6 Effects of Liquidity
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- 12.11 Significance of Liquidity and Profitability in Working Capital Decisions
- 12.12 Summary
- 12.13 Self-Assessment Questions
- 12.14 Text and References

12.1 OBJECTIVES

After completing this unit, you would be able to understand:

- To clarify the concepts of liquidity
- To describe the concepts of profitability
- To discuss the measures of liquidity
- To deliberate the measures of profitability
- To explain the tradeoff between profitability and liquidity
- To highlight the difference between profitability and liquidity
- To scrutinize the significance of liquidity and profitability in taking working capital decisions.

12.2 INTRODUCTION

Working capital is a term of liquidation as per the accountants. For them it is more important to ascertain if the company would be in a position to pay off its liabilities using its cash flows than to what level of

current and non-current resources it holds. The disparity between current assets and current liabilities is therefore considered to be more important than the volume of the investment either in current assets or current liabilities. The success of the management of working capital ultimately depends on the optimal level of liquidity held by the organization. Higher level of liquidity has a bearing on the profitability of the firm whereas lower liquidity level can affect the operations of the firm. There are many factors that contribute to the changes in the level of liquidity but the changes in the composition of the working capital elements is probably the most significant among them all which leads to fluctuations in the cash flows. The fluctuations in the cash flows create uncertainty in the minds of the managers and prompt them to maintain higher levels of liquidity to tie over the difficult times. If cash flows were certain, less working capital would be required, usually, the problem stems from the difficulty in forecasting inflows, vis-à-vis outflows.

12.3 CONCEPT OF LIQUIDITY

By the term 'liquidity' it is meant the debt-repaying capacity of an undertaking. It refers to the firm's ability to meet the claims of suppliers of goods, services and capital. According to Archer and D'Ambrosio, liquidity means cash and cash availability, and it is from current operations and previous accumulations that cash is available, to take care of the claims of both the short-term suppliers of capital and the long-term ones. It has two dimensions; the short-term and the long-term liquidity. Short-term liquidity implies the capacity of the undertaking, to repay the short-term debt, which means the same as the ability of the firm in meeting the currently maturing obligations form out of the current assets. The purpose of the short-term analysis is to derive a picture of the capacity of the firm to meet its short-term obligations out of its short-term resources, that is, to estimate the risk of supplying short-term capital to the firm.

Analysis of the firm's long-term position has for its rationale, the delineation of the ability of a firm to meet its long-term financial obligations such as interest and dividend payment and repayment of principal. Long-term liquidity refers to the ability of the firm to retire long-term debt and interest and other long-run obligations. When relationships are established along these lines, it is assumed that in the long-run assets could be liquidated to meet the financial claims of the firm. Quite often the expression 'liquidity' is used to mean short-term liquidity of the companies. In the present study, liquidity is taken to mean the short-term liquidity which refers to the ability of the undertakings to pay-off current liabilities. This is chosen because the study is related to the management of short-term assets and liabilities. Further, the concept of short-term liquidity is more suited to enterprises that have a remote possibility of becoming insolvent. In other words, the long-run success of an undertaking lies in its ability to survive in the immediate future. Further, a company may have tremendous potential for profitability in the

long-run, but may languish due to inadequate liquidity. It is, therefore, short-term liquidity that has been considered crucial to the very existence of an enterprise.

12.4 MEASUREMENT OF LIQUIDITY

Liquidity refers to the ability of a firm to meet its short-term financial obligations when and as they fall due. The main concern of liquidity ratio is to measure the ability of the firms to meet their short-term maturing obligations. The greater the coverage of liquid assets to short-term liabilities the better as it is a clear signal that a company can pay its debts that are coming due in the near future and still fund its ongoing operations. On the other hand, a company with a low coverage rate should raise a red flag for investors as it may be a sign that the company will have difficulty meeting running its operations, as well as meeting its obligations. The following are liquidity ratios:

- (i) **Current Ratio** : The number of times that the short term assets can cover the short term debts. In other words, it indicates an ability to meet the short term obligations as & when they fall due. It may be defined as the ratio of current assets to current liabilities. It is expressed as:

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

Current assets normally includes cash in hand and at bank, marketable securities, bills receivable, Book debts excluding provision, inventories, prepaid expenses, current liabilities include items such as outstanding expenses, sundry creditors, bills payable, bank overdraft, provision for taxation, proposed dividend, income tax payable, unclaimed dividend etc. A current asset means cash or those assets convertible or expected to be converted into cash within the accounting year and current liabilities are those liabilities to be paid within the same time.

Interpretation : It specifies how much current assets are available to meet current liabilities. Hence these ratios depict the payment capacity of the concern. Thus, it is a measure of margin of safety for creditors. Higher the ratio, the better it is, however but too high ratio reflects an in-efficient use of resources & too low ratio leads to insolvency. The ideal ratio is considered to be 2:1.

- (ii) **Liquidity Ratio, Quick Ratio or Acid-Test Ratio** : It indicates the ability to meet short term payments using the most liquid assets. This ratio is more conservative than the current ratio because it excludes inventory and other current assets, which are more difficult to turn into cash. It is a measure of liquidity of a firm, how speedy it is able to repay its current liabilities.

$$\text{Current Ratio or Liquidity Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Quick assets include all current assets excluding inventories, prepaid expenses, advance tax and advance payments, current liabilities means as it defined in current ratio. It is a more rigorous test of liquidity than the current ratio and, used together with current ratio, it gives a better picture of the short term financial position of the firm.

Interpretation : The ideal ratio is 1:1. Another beneficial use is to compare the quick ratio with the current ratio. If the current ratio is significantly higher, it is a clear indication that the company's current assets are dependent on inventory.

- (ii) **Super Quick Ratio or Absolute Liquidity Ratio:** This ratio is calculated to assess the quick ability to pay liquid liabilities. It is the ratio between absolute liquid assets and liquid liabilities.

$$\text{Super Quick Ratio} = \frac{\text{Cash in hand, Cash at Bank and Marketable Securities}}{\text{Current Liabilities} - \text{Bank Overdraft}}$$

This ratio is the most rigorous and conservative test of a firms liquidity position.

EXAMPLE-1: Calculate liquid ratio, current ratio and super quick ratio from the following data:

Current Assets	Rs. 50000
Stock	Rs. 10000
Prepaid Expenses	Rs. 5000
Working Capital	Rs. 30000
Bank overdraft	Rs. 5000
Cash balance	Rs. 10000
Marketable securities	Rs. 5000

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{50,000}{20,000} = 2.5:1$$

$$\text{Liquidity Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{35,000}{20,000} = 1.75:1$$

$$\text{Super Quick Ratio} = \frac{\text{Cash in hand, Cash at Bank and Marketable Securities}}{\text{Current Liabilities} - \text{Bank Overdraft}} = \frac{15,000}{15,000} = 1:1$$

12.5 FUNDAMENTALS OF LIQUIDITY

The measurement of liquidity was accomplished by comparing current assets with current liabilities. But, focus has not been thrown on the factors that determine liquidity. Several factors influence the liquidity position of an undertaking. Significant among them are:

- (a). the nature and volume of business;
- (b). the size and composition of current assets and current liabilities;
- (c). the method of financing current assets;
- (d). the level of investment in fixed assets in relation to the total long-term funds; and
- (e). the control over current assets and current liabilities.

Firstly, the nature and volume of business influence the liquidity of an enterprise. Depending upon the nature of the units, some firms require more working capital than others. For some of the concerns like public utilities, less proportion of working capital is needed, vis-à-vis, manufacturing organizations. Besides, an increasing volume of business also enhances the funds needed to finance current assets. In these situations, if the firm does not divert some funds from the long-term sources, the liquidity ratios would be adversely affected.

Secondly, the size and the composition of current assets and current liabilities were the basic factors that determine the liquidity of an enterprise. If a higher investment is made in the current assets in relation to current liabilities, there would be a corresponding rise in the current ratio. While quickly and other ratios depend on the composition of current assets. Thirdly, the method of financing current assets causes changes in the liquidity ratios. If greater part of the current assets are financed from long-term sources, greater also would be the current ratio. On the other hand, if the concern depends much on the outside sources for financing current assets, the ratio would fall. Fourthly, the absorption of funds by fixed assets is one of the major causes of low liquidity. As more and more of the firm's total funds are absorbed in this process, there will be little left to finance short-term needs and therefore liquidity ratios fall. Hence, the degree of liquidity is determined by the attitude of the management in the allocation of permanent funds between fixed and current assets.

Finally, stringent control over the current items causes fluctuations in the liquidity ratios. If investment in current assets is not taken care of properly, the firm may accumulate excess liquidity, which may adversely affect the profitability. On the contrary, unduly strict control of the investment in all types of current assets may eventually endanger the existence of the firm; owing to noncompliance of claims because of the shortage of funds. Similarly, control over current liabilities also plays an important role in determining liquidity of an enterprise by requiring the

firm to contribute necessary funds from long-term sources to keep up the liquidity position.

12.6 EFFECTS OF LIQUIDITY

Liquidity of a business is one of the key factors determining its propensity to succeed or fail. Both excess and shortage of liquidity affect the interests of the firm. By excess liquidity in a business enterprise, it is meant that it is carrying higher current assets than are warranted by the requirements of production. Hence, it indicates the blocking up of funds in current assets without any return. Besides, the firm has to incur costs to carry them overtime. Further, the value of such assets would depreciate in times of inflation, if they are left idle. Owing to the cornering of capital, the firm may have to resort to additional borrowing even at a fancy price.

On the other hand, the impact of inadequate liquidity is more severe. The losses due to insufficient liquidity would be many. Production may have to be curtailed or stopped for want of necessary funds. As the firm will not be in a position to pay-off the debts, the credit worthiness of the firm is badly affected. In general, the smaller the amount of default, the higher would be the damage done to the image of the unit. In addition, the firm will not be able to secure funds from outside sources, and the existing creditors may even force the firm into bankruptcy. Further, insufficient funds will not allow the concern to launch any profitable project or earn attractive rates of return on existing investment.

Between the excess and inadequate liquidity, the latter is considered to be more detrimental, since the lack of liquidity may endanger the very existence of the business enterprise. Besides, both the excess and inadequate liquidity adversely affect the profitability. If the firm is earning very low rates of return or incurring losses, there would be no funds generated by the operations of the company, which are essential to retire the debts. In fact, there is a tangle between liquidity and profitability, which eventually determines the optimum level of investment in current assets. Of the liquidity and profitability, the former assumes further importance since profits could be earned with ease in subsequent periods, once the image of the unit is maintained.

12.7 CONCEPT OF PROFIT

Profits are essential for the working of a private free-enterprise economy. Unfortunately, there is no general agreement about the meaning of the term 'corporate profits' and this has led to diversity of opinions on the subject of profits. The controversy seems to be prevailing in respect of what constitutes 'profit'; how profit should be measured and how profit contributes towards a healthy and vigorous economy. As such it is not surprising to find people coming up with different interpretations of profits while analyzing the same set of financial data. These differences may arise simply because people apply different values to the data or bring different

insights into their interpretations. One of the examples of this problem is the difference in the concept of the profits as per economists and accountants.

The differences get manifested in their concern for future and the past while viewing the profits. Likewise, the business manager and the trade union leader quite obviously emphasize interpretations of profits that represent their best interests. Academicians differ among themselves about theoretical concepts of profits and the process of decision-making. The term 'profits' can also be used by any of these people with respect to a single firm and the aggregate of many firms. The meaning attributed to the word 'profit' ranges from the view point that it is the entire return received by the business to the view that 'pure' profit is residual in nature as it is arrived at after deductions are made from total income for wages, interest and rent. Clark argued that profit results exclusively from dynamic change e.g., inventions, which yield temporary profit to entrepreneurs. Hawley holds that risk bearing is the essential function of the entrepreneur and is the basis for profit.

The relationship between business, profit and economic growth is basically very simple. Profit determines investment and investment is essential to growth. Thus, a steep and continuing decline in profit is likely to mean a serious drop in the investment stances; higher profit would mean higher investment and faster growth. Further, it is by no accident that business profits, business investment, and unemployment form three important economic indicators that depict the level of economic activity. More business investment is needed to provide more jobs for the rapidly growing labour force and one of the very dependable ways to get more investment is to plough back adequately from the profits.

The decline in profits during the postwar period has in fact been accompanied by a short decline in business investment in many countries in the world. The idea that profit is good' is unacceptable to many people. The idea that higher profits are even better is still unpalatable. What the critics of profit erroneously perceive is that businessmen aim not at developing economic activities but on profiteering and fleecing the consumers. Probably their intention tells them that one man's profit is another man's loss and, as such, the obvious conclusion is that profit means exploitation. But experience is a better guide than instinct and experience teaches that in a competitive economy business profit must accrue to those ventures that best serve the general economic welfare. The targets of private business are private profits. The great virtue of a free and competitive economy is that it stabilizes organic link between profits and economic welfare and therefore undermining one result in the undermining of both.

Profits may be increased by reducing corporate taxes. But tax cut is not a panacea and does not guarantee that profit will rise or the investment will continue to rise, its benefits could be lost if rising business costs lead either to inflation or to the reduction of profits or both. Conversely, the benefit of tax reduction can be greatly enhanced if business costs can be

reduced. The responsibility for controlling the increase in the business costs rests on various agencies. It rests in part with the business management; in part with government, state and local; in part with employees and their unions and in part with the public. Thus it must certainly be recognized that the profits are one of the principal engines of economic growth, and it must be seen that the prospect for profits is bright enough in this country to assure continued economic expansion.

The profitability of an industry has obviously a direct bearing on its growth. This is principally due to the psychological incentives and the financial resources that the profitability provides. High profitability makes possible to plough back substantial resources, helps to raise equity capital in the investment market; and make it possible to raise loans. Thus, it is business confidence in the level of profitability which is the primary determinant of the decision to invest. Despite the vilification of profit by forces on the extreme left, a mixed economy will not undertake productive investment in plant and machinery unless management is reasonably assured of earning a rate of return at least commensurate with the risks involved.

12.8 MEASUREMENT OF PROFITABILITY

Profitability is the ability of a business to earn profit over a period of time. The profitability ratios show the combined effects of liquidity, asset management (activity) and debt management (gearing) on operating results. The overall measure of success of a business is the profitability which results from the effective use of its resources. Profitability depends on quantum of sales and use of financial resources. Profit is considered an indicator of operational efficiency of the firm. Profitability of a firm is measured on the following two bases:

- (i) Based on Sales
- (ii) Based on Investment

12.8.1 PROFITABILITY RATIOS BASED ON SALES

Basing on sales, the following three ratios can be considered important in judging the profitability of an enterprise.

- i) Gross profit ratio
 - ii) Operating profit ratio
 - iii) Net profit ratio
- (i) **Gross Profit Ratio** : A company's cost of goods sold represents the expense related to labor, raw materials and manufacturing overhead involved in its production process. This expense is deducted from the company's net sales/revenue, which results in a company's gross profit. The gross profit margin is used to analyze

how efficiently a company is using its raw materials, labor and manufacturing-related fixed assets to generate profits.

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

Interpretation : The higher the ratio, the greater will be the margin and lower the ratio the profit is declining in comparison to sales. It means higher the ratio, the higher is the profit earned on sales.

- (ii) **Operating Ratio :** By subtracting selling, general and administrative expenses from a company's gross profit number, we get operating income. Management has much more control over operating expenses than its cost of sales outlays. It Measures the relative impact of operating expenses.

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

Interpretation : Lower the ratio, lower the expense related to the sales.

- (iii) **Operating costs** = Cost of goods sold + operating expenses

It indicates the operational efficiency and profit earning capacity of the firm.

- (iv) **Expenses Ratios :**

(a) $\text{Material consumed Ratio} = \frac{\text{Material consumed}}{\text{Net Sales}} \times 100$

(b) $\text{Finance expenses Ratio} = \frac{\text{Finance expenses}}{\text{Net Sales}} \times 100$

(c) $\text{Manufacturing /Administration /Selling expenses Ratio} = \frac{\text{Manufacturing /Administration /Selling expenses}}{\text{Net Sales}} \times 100$

It reveals the managerial efficiency by comparing these ratios over a period of time.

(v) $\text{Net Profit Ratio} = \frac{\text{Net Profit (After Tax or Before Tax)}}{\text{Net Sales}} \times 100$

It reveals overall profitability and efficiency of the business. A high ratio means adequate return to the owners and firms capacity to stand in a competitive market. If the ratio is calculated on before tax profit it measure the managerial efficiency and if it is calculated by taking after tax then it is used for comparing two firms or for the owner's purpose.

Interpretation : Higher the ratio, the more profitable are the sales.

12.8.2 PROFITABILITY RATIO BASED ON INVESTMENT

Efficiency of enterprises can be judged by capital employed also because sometimes conclusions drawn on the basis of net profit to sales may be misleading. Such important ratios are:

- (a) Return on capital Employed (ROCE) (Return on Investment):
- (b) Return on Net Worth:
- (c) Return on Equity Shareholders Funds:
- (d) Return on Total Assets:
- (a) Return on capital Employed (ROCE) (Return on Investment):**
This ratio complements the return on equity ratio by adding a company's debt liabilities, or funded debt, to equity to reflect a company's total "capital employed". This measure narrows the focus to gain a better understanding of a company's ability to generate returns from its available capital base.

$$\text{ROCE} = \frac{\text{Net Profit Before Tax}}{\text{Capital Employed}} \times 100$$

(or) Assets Turnover x Profit Margin

$$\text{(or)} \frac{\text{Sales}}{\text{Total Assets}} \times \frac{\text{Net Profit}}{\text{Sales}} \times 100$$

Capital Employed means : Gross Capital Employed = Fixed and current Assets (excluding fictitious Assets and intangible assets if it has no realizable value)

Net Capital Employed = Total Assets (excluding fictitious assets and intangible assets which has no value) - current liabilities.

Average Capital Employed = Opening and Closing Capital employed/2

(or) Capital Employed at the end - 1/2 of Current year's profit

It is barometer of the overall performance of the enterprise. It is a measure of the earning power of the net assets of the business. It is beneficial for inter firm and intra-firm comparison.

Interpretation : It is a more comprehensive profitability indicator because it gauges management's ability to generate earnings from a company's total pool of capital.

- (b) Return on Net Worth:**

$$\text{Return on Net Worth} = \frac{\text{Net Profit After Tax \& Interest}}{\text{Net Worth}} \times 100$$

Net worth or shareholders fund or owners' equity or Proprietors funds = E. S Capital + P.S. Capital + Securities Premium + reserves and surplus (after adjusting fictitious assets and losses)

This ratio reveals that amount of earnings for each rupee that the shareholders have invested in the company. It is useful for inter-firm and intra-firm comparison.

(c) Return on Equity Shareholders Funds:

$$\text{Return on Equity Shareholders Funds} = \frac{\text{Net Profit After Tax} - \text{Preference Dividend}}{\text{Equity Shareholders Funds}} \times 100$$

The ratio provides adequate test to evaluate whether a company has earned satisfactory return for its equity holders or not. Investor can compare the normal rate of return in market with this rate to reach on investment decision.

(d) Return on Total Assets:

$$\text{Return on Total Assets} = \frac{\text{Net Profit After Tax}}{\text{Total Assets Excluding Fictitious Assets}} \times 100$$

EXAMPLE-3 : From the following balance sheet calculate N.P. Ratio, ROCE, Return on equity shareholders fund.

Liabilities	Rs.	Assets	Rs.
4000 Equity share Capital of Rs. 100 each	400000	Net Fixed Assets	700000
10% P.S. Capital	100000	Current Assets	230000
Reserves	50000	Preliminary Expenses	20000
Current year's profit (tax rate 50%)	150000		
12% Debentures	100000		
Current Liabilities	150000		
	950000		950000

Sales 15,00,000

Solution :

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

$$= \frac{150000}{1500000} \times 100 = 10\%$$

$$\text{ROCE} = \frac{\text{Net Profit Before Tax}}{\text{Capital Employed}} \times 100$$

$$= \frac{300000}{9300000} \times 100 = 32.26\%$$

Net Profit before Tax = Net Profit after Tax + Tax = 150000 + 150000 = Rs. 300000

Capital Employed (Total) = Fixed Assets + Current Assets = 700000 + 230000 = Rs. 930000

$$\text{Return on Equity Shareholders Funds} = \frac{\text{Net Profit After Tax} - \text{Preference Dividend}}{\text{Equity Shareholders Funds}} \times 100$$

$$= \frac{150000 - 10000}{600000} \times 100 = 23.33\%$$

12.9 TRADE OFF BETWEEN PROFITABILITY AND LIQUIDITY

An important aspect of a working capital policy is to maintain and provide sufficient liquidity to the firm. Like most corporate financing decisions, the decision on how much working capital should be maintained involves a trade-off. Having a large net working capital may reduce the liquidity-risk faced by the firm, but it can have a negative effect on the cash flows. Therefore, the net effect on the value of the firm should be used to determine the optimal amount of working capital. A firm must maintain enough cash balance or other liquid assets so that it never faces problems of payment to liabilities.

- *Does it mean that a firm should maintain unnecessarily large liquidity to pay the creditors?*
- *Can a firm adopt such a policy?*

Certainly not; “there is also another side for a coin”. Greater liquidity makes it easy for a firm to meet its payment commitments, but simultaneously greater liquidity involves cost also.

The risk-return trade-off involved in managing the firm’s working capital is a trade-off between the firm’s liquidity and its profitability. By maintaining a large investment in current assets like cash, inventory etc., and the firm reduces the chance of (1) production stoppages and the loss from sales due to inventory shortage and (2) the inability to pay the

creditors on time. However, as the firm increases its investment in working capital, there is not a corresponding increase in its expected returns. As a result the firm's return on investment drops because the profit is unchanged while the investment in current assets increases.

In addition to the above, the firm's use of current liability versus long-term debt also involves a risk-return trade-off. Other things being equal, the greater the firm's reliance is on the short-term debts or current liability in financing its current investment, the greater the risk of illiquidity. On the other hand, the use of current liability can be advantageous as it is less costly and is a flexible means of financing. A firm can reduce its risk of illiquidity through the use of long-term debts at the cost of reduction in its return on investment. The risk-return trade-off thus involves an increased risk of illiquidity and profitability.

So, there exists a trade-off between profitability and liquidity or a trade-off between risk (liquidity) and return (profitability) with reference to working capital. The risk in this context is measured by the profitability that the firm will become technically insolvent by not paying current liability as they occur; and profitability here means the reduction of cost of maintaining current assets. The greater the amount of liquid assets a firm has, the less risky the firm is. In other words, the more liquid is the firm, the less likely it is to become insolvent. Conversely, lower levels of liquidity are associated with increasing levels of risk. So, the relationship of working capital, liquidity and risk of the firm is that the liquidity and risk move in opposite direction. So, every firm, in order to reduce the risk will tend to increase the liquidity. But, increased liquidity has a cost. If a firm wants to increase profit by reducing the cost of maintaining liquidity, then it must also increase the risk. If it wants to decrease risk, the profitability is also decreased. So, a trade-off between risk and return is required.

From the above discussion, it is clear that, in order to increase the profitability, the firm reduces the current assets (and thereby increases fixed assets). Consequently, the profitability of the firm will increase but the liquidity will be reduced. The firm is now exposed to a greater risk of insolvency. The risk return syndrome can be summed up as follows: when liquidity increases, the risk of insolvency is reduced. However, when the liquidity is reduced, the profitability increases but the risks of insolvency also increase. So, profitability and risk move in the same direction. What is required on the part of the financial manager is to maintain a balance between risk and profitability. Neither too much of risk nor too much of profitability is good.

There has been an attempt made to highlight the nexus between liquidity, profitability and working capital. A further examination can be thought of with the following indicators.

- (i) **Net Working Capital** : As a general rule, current obligations or current liabilities are paid off by reducing current assets, which are assets that can be converted into cash on short notice. The

arithmetic difference between current assets and current liabilities is called net working capital and it represents a cushion for creditors. Although this measure is not a ratio, it is commonly included in the liquidity ratios while analyzing companies. It is widely used by creditors and credit rating agencies as a measure of liquidity. More working capital is preferred to less. In other words, creditors like a 'big' cushion to protect their interest. However, too much working capital can act to the detriment of the company because they may not be utilizing the funds effectively.

- (ii) **Working Capital Turnover** : The turnover of working capital, which indicates the frequency at which they were rotating, is another measure of the efficiency of working capital management. Like any other turnover or activity ratio, a low ratio reflects a slow movement of the current assets, thereby implying a suboptimum utilization of working capital.
- (iii) **Rate of Return on Current Assets** : The return on current assets is yet another useful economic indicator of the profitability of the enterprises and thus indicates the efficiency or otherwise with which the current assets are put to use. The rate of net profit to current assets is calculated to underline the efficiency. In case where current assets form more than half, this ratio becomes significant.
- (iv) **PAT as Percentage of Sales** : One of the important profitability ratios calculated for the purpose of measuring management's efficiency is the profits after tax as percentage of sales. This is the overall measure of firm's ability to turn each rupee of sales into profit. If the net margin is inadequate, the firm will fail to achieve satisfactory return on owners' equity. This ratio also indicates the firm's capacity to withstand adverse economic conditions. A firm with a high net margin ratio would be in an advantageous position to survive in the face of falling sales, prices, rising cost of production, or declining demand for the product. It would really be difficult for a low net margin firm to withstand these adversities.
- (v) **Assets Turnover** : Usually the turnover ratios are employed to determine the efficiency with which a particular asset is managed and also to consider the relationship between sales and various items of assets for this purpose. These ratios which are called activity ratios indicate the speed with which the investment in the assets is getting rotated or converted into sales. A proper balance between sales and assets generally reflects that assets are managed well. Although fixed assets may not maintain close relation with sales, they are taken as important because of their contribution to production. Hence total assets turnover is taken as an indicator to measure the extent of sales generated for one rupee investment in assets.

- (vi) **Collection Period:** Another indicator which is considered to be important in judging the working capital efficiency is the collection period. This ratio indicates the total number of days that was taken by the firms in collecting their debts. A comparison of the norms fixed with the results obtained would show the positive or negative tendencies.
- (vii) **Interest as Percentage of Profits before Interest and Tax:** One of the ratios that are used to determine the debt capacity of a firm is this coverage ratio. This ratio reveals the ability of the company in servicing the debt undertaken. A high ratio speaks about the interest burden of the company and consequently the adverse impact of the same on profitability. In the same way, a high ratio enhances the financial risk of the firm.

12.10 DIFFERENCE BETWEEN PROFITABILITY AND LIQUIDITY

The liquidity is the ability of a firm to pay its short term obligation for the continuous operation. A firm is considered normally financially solid and low risky which has huge cash in its balance sheet. The liquidity is not only measured by the cash balance but also by all kind of assets which can be converted to cash within one year without losing their value. It has primary importance for the survival of a firm both in short term and long term whereas the profitability has secondary important. The profitability measures the economic success of the firm irrespective to cash flow in the firm. It is often observed that a firm is very profitable in its books but it does not have sufficient cash and cash equivalent to pay its daily bills and due obligations. That is an illustration of classical poor liquidity management. The empirical studies have proved it that a large number of the firms are bankrupt not because they are not profitable but they do not have sufficient liquidity.

The liquidity of a firm is measured primarily by current ratio and net working capital whereas the profitability is measured by return on assets and return on equity. The liquidity focuses on short term assets which generate low profit and contain low risk. The current ratio is considered acceptable if current assets to current liabilities are equal to 1. In this case the net working capital is zero which is current assets minus current liability. The acceptable rule of thumb of current ratio equal to 1 is dangerous to some extent. The current assets of a firm should be at least at the level which covers the current liability with some extra margin of safety of current assets. The negative working capital generally is a sign of short term financing requirement which is normally expensive and considered an extra burden to reduce the profit. It is an important determinant for corporate loan business to evaluate the working capital, current assets and current liability of borrower firm before providing any credit facility. The liquidity measures also include the quality of current

assets. The assets which can be converted in cash within a year without losing their value are considered qualitative current assets.

Profitability and liquidity are the two terms which are most widely watched by both the investors and owners in order to gauge whether the business is doing good or not. Given below are the differences between profitability and liquidity –

1. Profitability refers to profits which the company has made during the year which is calculated as difference between revenue and expense done by the company, whereas liquidity refers to availability of cash with the company at any point of time.
2. A profitable company may not have enough liquidity because most of the funds of the company are invested into projects and a company which has lot of cash or liquidity may not be profitable because of lack of opportunities for putting idle cash.
3. Gross profit, net profit, operating profit, return on capital employed are some of the ratios which are used to calculate profitability of the firm while current ratio, liquid ratio and cash debt coverage ratio are some of the ratios which are used to calculate liquidity of the firm.
4. A company which is profitable can go bankrupt in the short term if it does not have liquidity whereas a company which has liquidity but is not profitable cannot go bankrupt in the short term.

Hence as one can see from the above that profitability and liquidity are not same and the company has to maintain a fine balance between the two because if company focuses on too much profitability then it runs the risk of not able to pay its creditors, employees and other parties whereas on the other hand if company focuses on liquidity and then it runs the risk of going into loss.

12.11 SIGNIFICANCE OF LIQUIDITY AND PROFITABILITY IN WORKING CAPITAL DECISIONS

All decisions of the financial manager are assumed to be geared to maximization of shareholders wealth, and working capital decisions are no exception. Accordingly, risk-return trade-off characterizes each of the working capital decision. There are two types of risks inherent in working capital management, namely, liquidity risk and opportunity loss risk. Liquidity risk is the non-availability of cash to pay a liability that falls due. It may happen only on certain days. Even so, it can cause not only a loss of reputation but also make the work condition unfavorable for getting the best terms on transaction with the trade creditors. The other risk involved in working capital management is the risk of opportunity loss i.e. risk of having too little inventory to maintain production and sales, or the risk of

not granting adequate credit for realizing the achievable level of sales. In other words, it is the risk of not being able to produce more or sell more or both, and, therefore, not being able to earn the potential profit, because there were not enough funds to support higher inventory and book debts. Thus, it would not be out of place to mention that it is only theoretical that the current assets could all take zero values. Indeed, it is neither practicable nor advisable. In practice, all current assets take positive values because firms seek to reduce working capital risks. However, if more funds are deployed in current assets, the higher would be the cost of funds employed, and therefore, lesser the profit.

If liquidity goes up, profitability goes down. The risk-return trade-off involved in managing the firm's liquidity via investing in marketable securities is illustrated in the following example. Firms A and B are identical in every respect but one Firm B has invested Rs. 5,000 in marketable securities, which has been financed with equity.

That is, the firm sold equity shares and raised Rs.5,000. Note that Firm A has a current ratio of 2.5 (reflecting net working capital of Rs. 15,000) and earns a 10 per cent return on its total assets. Firm B, with its larger investment in marketable securities has a current ratio of 3 and has net working capital of Rs. 20,000. Since the marketable securities earn a return of only 9 per cent before taxes (4.5 per cent after taxes with a 50 per cent tax rate), Firm B earns only 9.7 per cent on its total investment. Thus, investing in current assets and in particular in marketable securities does have a favorable effect on firms liquidity but it also has an unfavorable effect on the firm's rate of return earned on invested funds. The risk return trade-off involved in holding more cash and marketable securities, therefore, is one of added liquidity versus reduced profitability.

In the use of current versus long-term debt for financing working capital needs also the firm faces a risk-return trade-off. Other things remaining the same, the greater its reliance upon short-term debt or current liabilities in financing its current asset investments, the lower will be its liquidity. On the other hand, the use of current liabilities offers some very real advantages to the user in that they can be less costly than long-term financing as they provide the firm with a flexible means of financing its fluctuating needs for current assets.

If for example, a firm needs funds for a three-month period during each year to finance a seasonal expansion in inventories, then a three-month loan can provide substantial cost saving over a long-term loan (even if the interest rate on short-term financing should be higher). This results from the fact that the use of long term debt in this situation involves borrowing for the entire year rather than for the three month period when the funds are needed; this increases the interest cost for the firm. There exists a possibility for further savings because in general, interest rates on short-term debt are lower than on long-term debt for a given borrower. Thus, a firm can reduce its risk of illiquidity through the use of long-term debt at the expense of a reduction of its return on

invested funds. Once again we see that the risk-return trade-off involves an increased risk of illiquidity versus increased profitability.

12.12 SUMMARY

The debt-repaying capacity of the firm is frequently referred to as the liquidity of that firm. It can be the short-term and the long-term liquidity depending on the use of current assets to pay-off currently impending obligations or the capacity of the firm to retire long-term debt and interest and other long-run obligations. It is easy to appreciate that both excess and shortage of liquidity affect the interests of a firm. The main concern of liquidity ratio is to measure the ability of the firms to meet their short-term maturing obligations. A ratio of current assets to current liabilities is an established indicator of liquidity of a firm. Some degree of variations in this measure is possible when different qualities of current assets are pitched against the current liabilities. The resultant ratios are often called current ratio, quick ratio and super current ratio.

There are several factors that influence the liquidity position of an undertaking. Significant among them are the nature and volume of business, the size and composition of current assets and current liabilities, the method of financing current assets, the level of investment in fixed assets in relation to the total long-term funds and the control over current assets and current liabilities. Effective use of the resources of the firm yields profit. Profitability of a firm is measured on the basis of either Sales or Investment. Gross profit ratio, Operating profit ratio and Net profit ratio are the measures based on the net sales. Return on Capital Employed (ROCE) (Return on Investment), Return on Net Worth, Return on Equity Shareholders Funds, Return on Total Assets are some of the measures that profitability level of a firm based on different aspects of investments. Net Working Capital, Working Capital Turnover, Rate of return on current assets, Profits after Tax as a percentage of sales, Assets Turnover or activity ratios, Collection Period and the Interest as a percentage of profits before Interest and Tax are some of the indicators that indicate the operational health of the firm and helps understand its significance of trade-off decisions between firm's profitability and level of liquidity.

12.13 SELF-ASSESSMENT QUESTIONS

1. What is the role of liquidity in the working capital decision? Clarify the concepts of liquidity.
2. Describe the concepts of profitability in the working capital management.
3. What is the profitability ratios based on sales? Explain it.
4. Elaborate the profitability ratios based on investments. Illustrate it.

5. What are the measures of liquidity in working capital management? Explain it.
6. How can we measure the profitability of working capital management?
7. Illustrate with examples the tradeoff between liquidity and profitability.
8. What are the differences between profitability and liquidity in the working capital decisions?
9. Critically examine the significance of liquidity and profitability in taking working capital decisions.

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UNIT-13 PAYABLES MANAGEMENT

Unit Framework

- 13.1 Objectives
- 13.2 Introduction
- 13.3 Concept of Payable Transactions
- 13.4 Overview of Payables: Their Significance
- 13.5 Benefits and Shortcomings of Payables
- 13.6 Invoice Processing
- 13.7 Types of Payments
- 13.8 Expense Reimbursement
- 13.9 Procurement Cards Use Taxes
- 13.10 Finance Issues
- 13.11 Accounting for Payables
- 13.12 Closing Payables
- 13.13 Effective Management of Payables
- 13.14 Summary
- 13.15 Self-Assessment Questions
- 13.16 Text and References

12.1 OBJECTIVES

After completing this unit, you would be able to understand:

- To clarify concept of payable transactions
- To describe overview of payables: their significance
- To discuss the advantages of payables
- To deliberate the invoice processing and types of payments
- To explain the expense reimbursement
- To highlight the procurement cards use taxes and finance issues
- To scrutinize the accounting for payables, closing payables and effective management of payables.

13.2 INTRODUCTION

Assets can be fundamentally classified into two types. The capital assets are those which are employed to bring the firms to a level where it can run its daily operations whereas the current assets are the investments to keep the business operations running on a day to day basis. Rising of both these asset types leads to corresponding liabilities. Since the investment in the current assets are of short durations and meant to be realised as soon as the business cycle ends, a substantial part of purchases of goods and services in business are on credit terms rather than against cash payment. It's not that the buyer of materials alone perceives purchase on credit as a benefit such credits are equally perceived by the supplier as the instrument of enhancing sales and striking long term business associations with the clients. The supplier's credit is referred to as Accounts Payable, Payables, Trade Bill, Trade Acceptance, Commercial Draft or Bills Payable depending on the nature of credit provided. The extent to which this 'buy-now, pay-later' facility is provided to the buyers will depend upon a bunch of factors such as the nature, quality and volume of items to be purchased, the prevailing practices in the trade, the degree of competition, the financial status and the credibility of the parties involved. Payables constitute a major segment of current liabilities in many business enterprises as they primarily finance inventories which form a major component of current assets in many cases.

13.3 CONCEPT OF PAYABLE TRANSACTIONS

Accounts payable and its management is a critical business process through which an entity manages its payable obligations effectively. Accounts payable is the amount owed by an entity to its vendors/suppliers for the goods and services received. To elaborate, once an entity orders goods and receives before making the payment for it, it should record a liability in its books of accounts based on the invoice amount. This short-term liability due to the suppliers, vendors, and others is called accounts payable. Once the payment is made to the vendor for the unpaid purchases, the corresponding amount is reduced from the accounts payable balance. On the other hand, when a company purchases goods on credit which needs to be paid back in a short period of time, it is known as Accounts Payable. It is treated as a liability and comes under the head 'current liabilities'. Accounts Payable is a short-term debt payment which needs to be paid to avoid default.

- **Description :** Accounts Payable is a liability due to a particular creditor when it order goods or services without paying in cash up front, which means that you bought goods on credit. Accounts Payable as a term is not limited to companies. Even individuals like you and me have Accounts Payable. We consume electricity, telephone, broadband and cable TV network. The bills get generated towards the end of the month or a particular billing

period. It means that the service provider gave you some service and sends the bill which needs to be paid by a certain date or else you will default. This becomes Accounts Payable.

- **Accounts Payable Process :** Every entity will have an accounts payable department and its structure depends upon the size of the business. Accounts payable section is set up based on the probable number of vendors & service providers, the volume of the payments that would be processed for a period of time and the nature of reports that would be required by the management. For example, a small entity with less number of purchase transactions would require a basic accounts payable process.
- Whereas, accounts payable department of a medium/large enterprise will have a set of procedures to be followed before making the vendor payments. Set guidelines here are essential because of the value and volume of transactions during any period of time. The process involves:
 - **Receiving the Bill :** In the case of goods, the bill/invoice helps in tracing the number/quantity of goods received. The time for which the bill is valid can also be known when the bill is received on time.
 - **Scrutinizing the Bill for Details :** The vendor's name, authorizations, date, and requirements raised with the vendor based on the purchase order can be verified too.
 - **Updating the Records for the Bills Received :** Ledger accounts connected to the bills received need to be updated. Here, an expense entry is usually required to be made in the books of accounts. In cases when accounting software is used, recording some expenses may require managerial approval. The approval will be based on the bill value. As a precautionary step, large companies usually follow the 'maker and checker' concept for posting.
 - **Making Timely Payment :** As and when the due dates arrive (based on a mutual understanding with the vendor/supplier/creditor), the payments need to be processed. Here, the required documents need to be prepared and verified. Details entered on the cheques, vendors bank account details, payment vouchers, the original bill, purchase order/agreement, etc., need to be scrutinized. Often the signature of the authorized person may be required.
- Once the payments are made, the vendors/suppliers/creditors ledger account has to be closed in the books of accounts. This will reduce the liability earlier created. In simpler words, the amount showed as payable, will no longer be seen as a liability.

The procedures mentioned above are organization specific. They can be stricter for large companies with more approvals required. However, the basic steps are needed to be considered before payments are made in order to avoid errors and frauds.

13.4 OVERVIEW OF PAYABLES: THEIR SIGNIFICANCE

Payables constitute a current or short term liability representing the buyer's obligation to pay a certain amount on a date in the near future for value of goods or services received. They are short term deferments of cash payments that the buyer of goods and services is allowed by the seller. Payables is extended in connection with goods purchased for resale or for processing and resale, and hence excludes consumer credit provided to individuals for purchasing goods for ultimate use and installment credit provided for purchase of equipment for production purposes. Payables serve as non-interest bearing source of funds in most cases. They provide a spontaneous source of capital that flows in naturally in the course of business in keeping with established commercial practices or formal understandings.

13.5 BENEFITS AND SHORTCOMINGS OF PAYABLES

Every business owner would like to have all sales on a cash basis, but that's not always possible in a competitive marketplace. Sometimes, sellers need to offer sales on credit terms just to get customers to buy their products. Unfortunately, selling on delayed payment terms opens up an entirely new aspect of running a business: managing the extension of trade credit to customers.

13.5.1 BENEFITS OF PAYABLES

There are several advantages of trade payables. Some of them are as follows:

- **Informality** : In payables, there is no rigidity in the matter of repayment on scheduled dates; occasional delays are not frowned upon. It serves as an extendable, convenient source of unsecured credit.
- **Increased Sales** : A customer will buy more of a supplier's products if they don't have to pay cash immediately for their purchases. The most common credit term offered by sellers is payment within 30 days. Rarely do you see credit terms extended beyond this time.

- **Customer Loyalty** : The extension of credit terms tells the buyer that the seller considers them trustworthy and has confidence that they will pay their bills when they're due. The buyer rewards the seller's vote of confidence by continuing to make purchases.
- **Continuous Financing** : Even as the current dues are paid, fresh credit flows in, as further purchases are made. It is a continuous source of finance. With a steady credit term and the expectation of continuous circulation of payables-backing up repeat purchases, payables does in effect, operate as long term source.
- **Easy to obtain** : Payable is readily obtainable, in most cases, without extended procedural formalities. During periods of credit crunch or paucity of working capital, payables from large suppliers can be a boon to small buyers.
- **Suppliers assume the risk** : Where the suppliers have the advantage of high gross margins on their products, they would be able to assume greater risks and extend more liberal credit.
- **Incentives for Customers to Pay** : Even when they offer 30 days credit, sellers often encourage their customers to pay sooner by offering them a 2 percent discount if they pay with 10 days. The existence of this potential discount is a huge incentive for buyers to pay earlier. If a buyer does not take advantage of the 2 percent discount, this means that he's paying a very high interest rate to delay payment for the additional 20 days.
- **Competitive Advantage** : A seller who is able to offer trade credit to buyers has an advantage over his competitors, if they are not able to offer credit terms. This makes sense. Naturally, a buyer would prefer to purchase on credit terms than to pay cash for all of his purchases.

13.5.2 SHORTCOMINGS OF PAYABLES

There are several disadvantages of trade payables. Some of them are as follows:

- **Accounts Receivable Monitoring** : Businesses must offer some level of extended payments to be competitive in their markets. Extending credit terms to buyers is common in most industries. However, offering credit terms requires taking risks and spending additional time monitoring and collecting accounts receivable.
- **Extending credit** : Extending credit is creates more outstanding accounts receivable and someone needs to monitor these customers to make sure that they are paying on time. A company that is making its sales in cash does not have this problem.
- **Accounts Receivable Financing** : The extension of credit terms to buyer's means that the seller has to finance these receivables. A

seller may have to lean on his own suppliers to receive trade credit, borrow on his bank line of credit or use the company's accumulated retained earnings. All of these methods have an inherent cost of capital.

- **Negative Effect on Cash Flow** : The most immediate effect of trade credit is that sellers do not receive cash immediately for sales. Sellers have their own bills to pay and extending credit terms to buyers creates a hole in their companies' cash flow.
- **Must Investigate Creditworthiness of Customers** : Just like a bank, a vendor who extends credit to customers' needs to analyze their credit ratings. This takes money and time. Obtaining business credit reports, such as Dun & Bradstreet, cost money, and making calls to check on references takes time. A vendor may need to hire an additional person who has credit analysis skills to help make the decisions about extending terms of payment.
- **Possibility of Bad Debts** : Inevitably, the extension of trade credit will lead to some buyers not paying their debts. When this happens, an employee needs to spend time making collection calls to the late payers, and, eventually, the seller may need to write off the unpaid receivables and take a loss.

13.6 INVOICE PROCESSING

Invoice processing is the entire process your company's accounts payable uses to handle supplier invoices. It starts when you receive an invoice and finishes when payment has been made and recorded in the general ledger. You can receive paper invoices, PDF, or other electronic means. In other words, it is the accounts payable department's job to make sure all outstanding invoices from their suppliers are approved, processed, and paid. Processing an invoice includes recording important data from the invoice and inputting it into the company's financial, or bookkeeping, system. Business owners often worry about their ability to manage cash flow. If your working capital is low, it doesn't necessarily matter how much money is due to come your way. If you don't have the funds to continue to order supplies from your vendors, then you face the possibility of halting production, which will create a cash flow issue in the future when you don't have invoices to send out to customers. Sure, you can work with vendors to extend payment terms to buy yourself more time, but the only true way to make sure you have a steady cash flow is to make sure vendor invoices are paid strategically, without misplacing any of them or allowing them to go past the due date.

As humans, we're all prone to make mistakes from time to time. Using a manual invoice process to address all of your invoices leads to the potential for issues, even if you have the most responsible and highly detail-oriented finance staff. That's why your invoice processing method can make or break your business. The invoice must either be scanned or

manually entered into your ERP system. From there, the invoice amounts must be coded for the correct accounts, cost centers or projects. Then, the invoice has to be sent to the responsible person or budget owner for review and approval. The multi-step approval workflows take time but can be automated for faster and more efficient processing.

Reasons to Automate Your Invoice Processing Procedure

- **Reduce or Eliminate Human Error :** With today's available technology, there's no reason to be relying on email and spreadsheets to handle you're invoicing needs. This method works, of course, but also relies on manual data entry in the general ledger, which always has the potential for human error regardless of how well your AP department is trained. Purchasing software automates the process so you don't have to spend time manually organizing all the incoming invoices. When an invoice comes in, it can be stored as an attachment or scanned image in the central database. Then, it can be searched and matched with the right purchase order in seconds.
- **Save Money by Avoiding Late Fees :** No matter the size of your business or how long you've been operating, at some point or another invoice will be misplaced or forgotten as a result of human error. Vendors will often charge late fees as a result of the missed payment, which costs you more money in the long run. If the missed invoice is a large sum of money and the late fee is a percentage of the invoice amount rather than a flat fee, that's a potentially damaging hit to your cash flow. Automating your invoice processing procedure eliminates the risk of missing invoices due to human error, enabling you to pay all your invoices by the payment date. Not only do you save money by no longer running into late fees on vendor payments, but you also maintain an excellent standing with all your suppliers. This may improve your credit with them in the form of additional funds or better payment terms.
- **Cut Down on Unnecessary Costs :** Manual invoicing processes means paying man-hours and other resources for each of those invoices. Depending on what you pay employees and how long they spend on the process, you could lose anywhere from \$8 to \$60 on each invoice. These costs come from labor, storage, manually routing the invoices, and misfiling. If your employee cannot locate documents to support a particular invoice, the cost may also increase.
- **Integrate Invoice Processing with Your ERP :** If you're not already using ERP to streamline all your business processes into a single database, you can dramatically improve efficiency and productivity by adding invoice processing to the list of modules your business needs to include in their ERP implementation. If you are already using an ERP system to manage most of your business

operations, the best invoice processing options seamlessly integrate with your accounting system or ERP.

- **Protect Your Business with Better Fraud Prevention :** Invoice fraud is among the most common types of business fraud. It happens so much that even enterprise tech giants like Google and Facebook fall victim to it, too. In their case, they lost more than \$100 million, paying fake invoices over two years. While the companies were strong enough to take those losses and stay afloat at the time, that's not the case for many small and medium-size businesses. Invoice fraud occurs in multiple ways. Sometimes, it's a fake invoice sent with a fake business name and email address. It may be suppliers sending duplicate invoices, so you pay twice what you actually owe. Spotting this manually may not happen for months, or even years, and that's what the fraudsters are counting on. Invoice processing solutions flag suspicious activity like this, so you can catch it before approving and paying the invoice.
- **Reporting Made Easy :** Reporting is a necessary part of business operations, and if you don't have the right systems in place, you spend lots of money in man-hours while your team manually collects all the information they need to produce accurate reports. This means spending hours coming through supplier invoice data, invoice numbers, order receipts to make sure you received the items on the invoice and so on.

With the right invoice processing procedures in place, all the necessary information is stored in a central database and organized in such a way that reports can be automatically generated in a few clicks, in less than a few minutes. The finance department can then rest assured their cash flow is accurate, and any cash flow projections are based on the latest information available. The right invoice processing method has the potential to make a massive difference in your business. Not only should you see enhanced operations because accounting doesn't have to manually chase invoices to approve and pay them, but you'll also see more profit in your pocket since everything is automated and costs go down.

13.7 TYPES OF PAYMENTS

Payables could be of three types: Open Accounts, Promissory Notes and Bills Payable.

1. **Open Account** or open credit operates as an informal arrangement wherein the supplier, after satisfying himself about the credit-worthiness of the buyer, dispatches the goods as required by the buyer and sends the invoice with particulars of quantity dispatched, the rate and total price payable and the payment terms. The buyer records his liability to the supplier in his books of accounts and this is shown as payables on open account. The buyer is then expected to meet his obligation on the due date.

2. **The Promissory note** is a formal document signed by the buyer promising to pay the amount to the seller at a fixed or determinable future time. Where the client fails to meet his obligation as per open credit on the due date, the supplier may require a formal acknowledgement of debt and a commitment of payment by a fixed date. The promissory note is thus an instrument of acknowledgement of debt and a promise to pay. The supplier may even stipulate an interest payment for the delay involved in payment.
3. **Bills Payable** or **Commercial Drafts** are instruments drawn by the seller and accepted by the buyer for payment on the expiry of the specified duration. The bill or draft will indicate the banker to whom the amount is to be paid on the due date, and the goods will be delivered to the buyer against acceptance of the bill. The seller may either retain the bill or present it for payment on the due date or may raise funds immediately thereon by discounting it with the banker. The buyer will then pay the amount of the bill to the banker on the due date.

13.8 EXPENSE REIMBURSEMENT

Billing methods can vary. The payment of invoices may be stipulated as a number of days after the date of the invoice or after the receipt of the goods. In instances of seasonal business, when the supplier wishes to induce customers to acquire and hold inventories in advance of the peak sales period, he may resort to dating. The supplier, under this arrangement, extends longer duration credit to the buyer and allows him to pay for the goods when the peak period sales pick up. In some cases, a series of dispatches affected during a period, say, a month, are bunched together for invoicing and the credit term is reckoned from the invoice date. When the credit does not cover cash discount for early payment, the payables is considered to be a cost free source of financing for the buyer. It is not uncommon for some of the buyers to delay payments beyond the due date, thus extending the period of use of costless payable.

- Payable is a built-in source of financing that is normally linked to the production cycle of the purchasing firm. If payments are made strictly in accordance with credit terms, payable can be regarded as a cost free, non-discretionary source of financing. But where the buyer takes the privilege of delaying payment beyond the due date, it assumes the form of discretionary financing and if this becomes a regular feature resulting in delinquency, payable will cease to be cost free. The supplier may stop credit or may charge a higher price for the product, to cover the risk.
- The supplier may offer cash discount for payment within a specified number of days after the invoice or after the receipt of goods. Generally such concessions for expedited settlement are given to select customers on informal basis. Where the aim is to

induce earlier payment wherever possible, cash discounts are provided for in the credit terms. The quantum of discount offered will vary for different categories of business and clients. Cash discount is to be distinguished from the other categories of discount that may be offered by the seller, namely, the trade discount and the quantity discount. The trade discount is a reduction from the invoice or list price offered to the dealer or trader in the channel of distribution. Quantity discounts are given when purchases are made in sizeable lots.

- When the cash discount is allowed for payment within a specified period, we can compute the cost of credit. For instance, if 30 days' credit is offered with the stipulation of a 2 per cent cash discount for payment within 10 days, it means that the cost of deferring payment by 20 days is 2 per cent. If payment is made 20 days earlier than the due date, 2 per cent of the amount due can be saved, which amounts to an attractive annual saving rate of 36 per cent.
- If cash discount is not availed, the effective rate of interest of the funds held will work out to 36.7 per cent. The interest is Rs. 2 on Rs. 98 for a period of 20 days, and the rate of interest will be: $\frac{2}{98} \times \frac{360}{20} = 36.7$ per cent. If 60 days' credit is extended, with a cash discount of 2 per cent for payment within 10 days, there is a saving of Rs. 2 for paying 50 days ahead. The effective rate of interest is $\frac{2}{98} \times \frac{360}{50} = 14.7$ per cent. For 90 days' credit, with 2 per cent cash discount for payment within 10 days, the effective interest works out to 9.2 per cent.
- Thus the more liberal the credit terms, the saving from cash discount declines and so does the effective rate of interest for using the funds till the due date. If, however, the discounts are not taken and the settlement is made earlier than the due date, the effective rate of interest will vary. For a firm that resists from taking the cash discount, its cost of payable declines the longer it is able to delay payment. The rationale for availing payable should be its savings in cost over the forms of short term financing, its flexibility and convenience. Stretching accounts payable results in two types of costs to the buyer. One is the cost of cash discount foregone and the other is the consequence of a poor credit rating.
- The contention that there is no explicit cost to payable if the payment is made during the discount period or if the payment is made on the due date when no cash discount is offered is not totally tenable. The supplier who is denied the use of funds during the credit period may bear the cost fully or pass on part of it to the buyer through higher prices. This will depend on the nature of demand for the product. If the demand is elastic, the supplier may opt to bear the cost himself and refrain from charging higher prices to recover part of it. The buyer should satisfy himself that the

burden of payable is not unduly loaded on him through disguised price revisions.

- Repeated delinquency and deterioration in credit reputation do involve an opportunity cost though it is difficult to measure. Some suppliers may be more tolerant to delayed payments at some times than on other occasions. A policy of delayed payments is bad business practice and in the long run can prove very expensive or may even lead to freezing of credit source. Credit reputation is a precious asset that needs to be preserved with utmost care. The long run policy should be to avail discounts, if offered, utilize credit periods to the full and discharge obligations on schedule.
- A firm wants to hold additional inventory but does not have the cash to finance it. If the credit term is 2 per cent discount for payment within 10 days with 60 days credit period, and the bank rate is 9 per cent, should the firm take the discount? If the discount is not taken by the 10th day, the effective rate of interest on the funds held and utilized for the remaining 50 days will be: $2/98 \times 360/50 = 14.7$ per cent. The bank rate is 9 per cent only. Therefore it is advisable to take the discount offered, even if it involves utilizing bank borrowing for effecting early payment for availing the cash discount.

Stretching Accounts Payable : It is normally assumed that the payment to the supplier is made at the end of due date. However, a firm may postpone payment beyond this period. This type of postponement is called stretching or Leaning on the trade. The cost of stretching accounts payable is twofold: the cost of cash discount foregone and the possible deterioration in the credit rating. If a firm stretches its payables excessively, so that its payables are significantly delinquent, its credit rating will suffer. Suppliers will view the firm with apprehension and may insist on rather strict terms of sale. Although it is difficult to measure, there is certainly an opportunity cost to deterioration in the firm's quality of payment.

13.9 PROCUREMENT CARDS USE TAXES

Procurement cards, also known as P-Cards or purchase cards, are credit cards issued to non-purchasing staff for purchase of low-dollar items and services; for example, indirect materials, supplies, services and small-value non-capital items. Procurement cards (P-CARDS) decentralize purchasing authority by enabling employees to make purchases without a paper trail and reduce transaction processing costs considerably. However, credit card companies charge fees for issuing cards, and the fee structure varies according to the agreements with the card companies. This cost needs to be factored in a cost-benefit analysis of procurement cards.

1. **Mechanics of the Cards :** At the most basic level, procurement card programs replace the various steps in the traditional

purchasing process (a requisition, followed by a purchase order, followed by an invoice, followed by approval of the invoice, followed by a payment to the vendor) with an authorization to an employee to use a charge card to procure necessary goods and services. Procurement cards are corporate charge cards issued to specific employees of a business after that business enters into a contract with a card issuer involving use of the card, financial responsibility, billing, payment, etc. The user company designates the employees authorized to use the cards for making necessary business expenditures and places any transaction limits or use restrictions on the cards and employees. Limits may be placed on transaction size, types of purchases, vendors which may be used and the like. These limitations will vary from company to company depending on a variety of factors, including the nature of their operations, their business needs, legal requirements, and the extent to which they want to replace traditional purchasing operations with procurement cards.

2. **Procurement Card Benefits** : Procurement card programs can substantially reduce the costs of purchasing operations, particularly for “high volume/low dollar” transactions. One source estimates that 60 percent of all the individual purchases in medium to large company’s average less than \$500 in value and that 30 percent of these purchases are less than \$100 per transaction. Collectively, purchases of less than \$100 may account for less than 5 percent of the total dollar-volume of company purchases, yet the fixed internal processing costs of these transactions can be \$120-150 each, regardless of the value of the item purchased. A procurement card program can save as much as 35-40 percent on overall internal purchasing costs. These dollar savings are achieved in a number of ways. Purchasing lead time is reduced by avoiding involvement of purchasing and accounts payable staff and avoiding the costly and time-consuming paperwork of requisitions and purchase orders. Also eliminated is the need to deal with multiple invoices and multiple vendors in a single-payment cycle. In short, procurement cards can effectively simplify and streamline the procurement process and allow a business to shift resources previously devoted to paper processing and control to other more “value added” tasks. In addition, suppliers or vendors which accept procurement cards also benefit from reduced paperwork and more rapid payment.
3. **Current Card User Practices for Verifying Sales and Use Tax Payment** : Practices for minimizing tax exposure on procurement card purchases vary widely among user companies. In every company, the approach to verification of sales tax charged and accrual of use tax is dependent upon the perceived risk of unpaid taxes by company management. That is, the choice made by the user company will involve a trade-off between the time, expense

and complexity that would be involved verifying that the precise amount of tax is paid on each purchase, on the one hand, and the risk of either overpaying or underpaying tax through less time consuming, less expensive and less cumbersome, but inherently less accurate, estimation methods on the other hand. Companies using procurement cards have implemented a number of approaches to deal with the sales and use tax documentation issues. These are reviewed briefly below.

4. **Manual Review and Verification :** Given that the procurement card statement may provide little besides the vendor name and the total purchase amount, many companies simply retain all individual charge card slips issued at the point of sale for audit purposes.
5. **Estimation Methods :** The estimation methods used also have varying levels of accuracy and varying levels of resource commitments required, thus accenting the tradeoff card users face in determining their preferred approach to use tax accruals. State tax authorities have differing rules regarding the acceptance (or non-acceptance) of estimation approaches that are important considerations as well.
6. **Combination Approaches :** There are also companies which have designed and implemented comprehensive programs which combine elements of individual verification and estimation to arrive at the appropriate accrual of sales and use tax. To be successful, approaches such as these require a commitment on the part of company management to ensure that proper procedures are designed and followed, sufficient detailed information is provided by both vendors and card issuers, and sufficient resources are allocated for monitoring the program and analyzing the information provided.

13.10 FINANCE ISSUES

This guide focuses specifically on payables finance, a buyer-led SCF technique that enables a company to support its suppliers by granting them access to liquidity at favourable rates. Helpfully summarized by the Global Supply Chain Finance Forum (see Section 6: Global Supply Chain Finance Forum) as “a buyer-led programme within which sellers in the buyer’s supply chain are able to access finance by means of receivables purchase”, this technique “provides a seller of goods or services with the option of receiving the discounted value of the receivables (represented by outstanding invoices) prior to their actual due date” and, typically, “at a financing cost aligned with the credit risk of the buyer”. The buyer, meanwhile, is often able to negotiate longer payment terms in return paying the total value of the receivable to the financier on the due date.

Under a payables finance programme, sellers in a buyer's supply chain are entitled to sell their trade receivables held against the buyer to the buyer's bank, receiving the discounted value of its receivables as represented by outstanding invoices. The buyer provides validation that an invoice submitted by the supplier is accurate, effectively confirming their obligation to pay the supplier for the underlying goods or services delivered. With this validation in hand, the financier can then accept the supplier's offer to sell the specific "confirmed" receivable, at a certain rate of discount and without recourse. Fundamental to the buyer-centric approach is that the financier relies on the buyer to validate and recognize the obligation owed to the supplier before the discounting takes place. Within this structure, when the financing bank purchases a receivable from the supplier, they are in effect taking on the credit risk of the buyer. In a climate where credit capacity is scarce, the buyer may wish to ensure that the available capacity is targeted at those suppliers that are most strategic to their enterprise and in the greatest need of some financial support. Service providers should be able to share a best-practice approach with the buyer on supplier targeting and segmentation to help them optimize the allocation of credit capacity. Today, payables finance, which was introduced into mainstream banking channels in the early 2000s, is one of the most commonly used SCF techniques.

- **Accounts Payable Financing** : Trade Credit is for when a business purchases goods (typically for resale) without having to pay their supplier in advance or Cash on Delivery (COD). Trade credit is also known as Accounts Payable Financing.
- **Accounts Payable Financing Mechanism** : When the business receives goods, they typically have 30-90 days to pay the supplier or manufacturer. ARFunding.org will provide credit to the business owner. The business owner can pay the credit back when they sell the inventory, or a fundable receivable is created that can be sold to an invoice factoring company. This type of credit is especially useful when the supplier offers a payment discount based on receiving payment within a specified period (3% cash, 2% 10-days, net 30, etc.) Accounts Payable Financing leaves more profit for the business owner. An extended payment date also increases free cash that the business can use for other reasons, including paying monthly recurring bills.
- **Vendor Financing** : Accounts Payable Financing, also known as Vendor Financing, is a relatively new form of credit. Similar to Invoice Factoring, it is based on the creditworthiness of the large credit-worthy buyer. ARFunding.org will look at the creditworthiness of the ultimate payee. Many times a business doesn't have to put up any collateral.
- **Accounts Payable (AP) Financing is an excellent source of working capital** : AP Financing is an excellent source of working capital. In AP Financing, business owners don't have to use their

cash flow or any of their company resources. This form of financing builds up a significant relationship between the business owner and various vendors. This could lead to special discounts or pricing in the future. For example, if the supplier needs to ration the product, often, they will choose to fill the company's order with better payment history.

- **Accounts Payable Financing a Preferred Option :** Computing the cost of Payable Financing is easy. The business owner will always know the cost of having goods readily available. Also, they won't be hit with fluctuating charges and high fees if there is an unforeseen delay. Businesses can use the additional capital to grow its operations and free the company from limitations to fill-up orders. Payable financing also can improve a company's overall margins. Suppliers often offer a discount or some perk for guaranteed payment. Historically, suppliers also show preference to businesses with this kind of guarantee.
- The goal at payable funding is to get a business with the materials and supplies needed to grow their company. Payable funding doesn't want a business owner to be forced to sell equity in their company whenever they have growth opportunities. A new and growing company can still receive the working capital and expertise offered to larger corporations by utilizing payable funding.

13.11 ACCOUNTING FOR PAYABLES

The journal entry to record the purchase looks like this: The purchases debit will add the TVs to the inventory. The accounts payable credit increases the amount Supersize owes the supplier.

The Accounts Payable Process : Let's take a closer look at a transaction so we can see the accounts payable process. Last month, Pete's purchasing people found a great deal on 80-inch curved screen TVs. Supersize bought 100 of them since there was a big basketball tournament coming up. "The picture is so lifelike I jumped out of my chair to catch a pass," the purchasing guy said. "Our customers will buy these right up." When the purchasing department ordered the sets from the supplier, Pete made sure that the accounts payable department was sent a copy of the purchase order. Julia gets the order and reviews it for errors. Since the purchasing department makes errors sometimes, it's good to put another pair of eyes on things. Two weeks later Supersize receives the shipment of 80-inch TVs. Pete requests that a copy of the receiving report goes to Julia.

Accounts Payable Journal Entries : Once the three documents pass the three way match, the admins will prepare the journal entries. Supersize bought 100 TVs for \$700 each. Credit terms of 2/10 net 30 were agreed to by Pete and the vendor. The journal entry to record the purchase looks like this:

Proper double entry bookkeeping requires that there must always be an offsetting debit and credit for all entries made into the general ledger. To record accounts payable, the accountant credits accounts payable when the bill or invoice is received. The debit offset for this entry is typically to an expense account for the good or service that was purchased on credit. The debit could also be to an asset account if the item purchased was a capitalizable asset. When the bill is paid, the accountant debits accounts payable to decrease the liability balance. The offsetting credit is made to the cash account, which also decreases the cash balance.

For example, imagine a business gets a \$500 invoice for office supplies. When the AP department receives the invoice, it records a \$500 credit in accounts payable and a \$500 debit to office supply expense. The \$500 debit to office supply expense flows through to the income statement at this point, so the company has recorded the purchase transaction even though cash has not been paid out. This is in line with accrual accounting, where expenses are recognized when incurred rather than when cash changes hands. The company then pays the bill, and the accountant enters a \$500 credit to the cash account and a debit for \$500 to accounts payable.

A company may have many open payments due to vendors at any one time. All outstanding payments due to vendors are recorded in accounts payable. As a result, if anyone looks at the balance in accounts payable, they will see the total amount the business owes all of its vendors and short-term lenders. This total amount appears on the balance sheet. For example, if the business above also received an invoice for lawn care services in the amount of \$50, the total of both entries in accounts payable would equal \$550 prior to the company paying off those debts.

Accounts Payable is Possible Only under Accrual Accounting : The Accounts payable concept only applies where firms practice accrual accounting with a double-entry accounting system. Note that in the more straightforward alternative approach, cash basis accounting, there are only two kinds of transactions: cash inflows and cash outflows. Companies using cash-basis accounting can, of course, incur debts and bills they must pay in the short term. And, they may even refer informally to these debts as "Accounts payable." Nevertheless, under cash-basis accounting, such obligations are outside the accounting system until the debtor pays with cash. By contrast, when the buyer's firm uses accrual accounting, the buyer creates an Account payable when purchasing goods or services on credit. From the time when the sale closes, seller and buyer have a creditor-debtor relationship. This relationship lasts until two events occurs, firstly, purchase delivery, and secondly, payment of the bill.

13.12 CLOSING PAYABLES

Closing payables are determined by following factors:

1. **Degree of Risk :** Estimate of credit risk associated with the buyer will indicate what credit policy is to be adopted. The risk may be

with reference to buyer's financial standing or with reference to the nature of the business the buyer is in.

2. **Nature and Extent of Competition :** Monopoly status facilitates imposition of tight credit term whereas intense competition will promote the tendency to liberalise credit. Newly established companies in competitive fields may more readily resort to liberal payable for promoting sales than established firms which are more formal in deciding on credit policies.
3. **Nature of Product :** Products that sell faster or which have higher turnover may need shorter term credit. Products with slower turnover take longer to generate cash flows and will need extended credit terms.
4. **Financial Position of Seller :** The financial position of the seller will influence the quantities and period of credit he wishes to extend. Financially weak suppliers will have to be strict and operate on higher credit terms to buyers. Financially stronger suppliers, on the other hand, can dictate stringent credit terms but may prefer to extend liberal credit so long as the transactions provide benefits in excess of the costs of extending credit. They can afford to extend credits to smaller firms and assume higher risks. Suppliers with working capital crunch will be willing to offer higher cash discounts to encourage early payments.
5. **Financial Position of the Buyer :** Buyer's creditworthiness is an important factor in determining the credit quantum and period. It may be logical to expect large buyers not to insist on extended credit terms from small suppliers with weak bargaining power. Where goods are supplied on a consignment basis, the supplier provides extra finance for the merchandise and pays commission to the consignee for the goods sold. Small retailers are thus enabled to carry much larger levels of stocks than they will be able to finance by themselves. Slow paying or delinquent accounts may be compelled to accept stricter credit terms or higher prices for products, to cover risk.
6. **Terms of Sale :** The magnitude of payable is influenced by the terms of sale. When a product is sold, the seller sends the buyer an invoice that specifies the goods or services, the price, the total amount due and the terms of the sale. These terms fall into several broad categories according to the net period within which payment is expected. When the terms of sale are only on cash basis, there can be two situations, viz., Cash on Delivery (COD) and Cash before Delivery (CBD). Under these two situations, the seller does not extend any credit.
7. **Cash Discount :** Cash discount influences the effective length of credit. Failure to take advantage of the cash discount could result in the buyer using the funds at an effective rate of interest higher than that of alternative sources of finance available. By providing

cash discounts and inducing good credit risks to pay within the discount period, the supplier will also save on the costs of administration connected with keeping records of dues and collecting overdue accounts.

8. **Dating's** : In seasonable industries, sellers frequently use dating's to encourage customers to place their orders before a heavy selling period. For many consumer durables, the demand will be of this type. The need for an air-conditioner is felt in the summer, leading to heavy ordering at a particular point of time. This has double advantages. For manufacturer, he can schedule production more conveniently and reduce the inventory levels. Under this arrangement, credit is extended for a longer period than normal.
9. **Size of the Firm** : Smaller firms have increasing dependence on payable as they find it difficult to obtain alternative sources of finance as easily as medium or large sized firms. At the same time, larger firms that are less vulnerable to adverse turns in business can command prompt credit facility from the supplier, while smaller firms may find it difficult to sustain credit worthiness during periods of financial strain and may have reduced access to credit due to weak financial position.
10. **Industrial Categories** : Different categories of industries or Commercial enterprises show varying degrees of dependence on payable. In certain lines of business the prevailing commercial practices may stipulate purchases against payment in most cases. Monopoly firms may insist upon Cash on delivery. There could be instances where the firm's inventory, turns over every fortnight but the firm enjoys thirty days credit from suppliers, whereby the payable not only finances the firm's inventory but also provides part of the operating funds or additional working capital.

13.13 EFFECTIVE MANAGEMENT OF PAYABLES

The salient points to be noted on effective management of payables are:

- Avoid the tendency to divert payables. Maintain the self-liquidating character of payables and do not use the funds obtained there from for acquiring fixed assets. Payables are meant to flow through current assets and speedily get converted into cash through sales for meeting maturing short term obligations.
- Negotiate and obtain the most favourable credit terms consistent with the prevailing commercial practice pertaining to the concerned product line.

- Sustain healthy financial status and a good track record of past dealings with the supplier so that it would maintain his confidence. The quantum and the terms of credit are mainly influenced by suppliers' assessment of buyer's financial health and ability to meet maturing obligations promptly.
- In highly competitive situations, suppliers may be willing to stretch credit limits and period. Assess your bargaining strength and get the best possible deal.
- Do not stretch payables beyond due date, except in inescapable situations, as such delays in meeting obligations have adverse effects on buyer's credibility and may result in more stringent credit terms, denial of credit or higher prices on goods and services procured.
- Provide full information to suppliers and concerned credit agencies to facilitate a frank and fair assessment of financial status and associated problems. With fuller appreciation of client's initiatives to honor his obligations and the occasional financial strains which he might be subjected to for a variety of reasons, the supplier will be more considerate and flexible in the matter of credit extension.
- Keep a constant check on incidence of delinquency. Delays in settlement of payables with references to due dates can be classified into age groups to identify delays exceeding one month, two months, three months, etc. Once overdue payables are given priority of attention for payment, the delinquency rate can be minimized or eliminated altogether.
- Where cash discount is offered for prompt payment, take advantage of the offer and derive the savings there from.
- Where cash discount is not provided, settle the payable on its date of maturity and not earlier. It pays to avail the full credit term.

13.14 SUMMARY

The company purchases credit goods that must be repaid in a short period of time, known as Payable Accounts. It is treated as a liability and is subject to "current liabilities" heading. Accounts Payable is a short-term debt payment to avoid default.

Buyer's credit reputation, as reflected in his capacity and previous instances of his willingness, readiness and ability to meet maturing obligations will determine the quantum and period of credit that he can command. Factors like competition, nature of the product and size of the supplier's firm also influence terms of credit, besides relevant commercial practices or conventions. Payables could be of three types: Open Accounts, Promissory Notes and Bills Payable. They are short term deferment of cash payments that the buyer of goods and services is allowed by the seller. However, the cost of stretching accounts payable

beyond the date fixed is twofold, the cost of cash discount foregone and the possible deterioration in the credit rating of the buyer. It is therefore prudent to take advantage of cash discount facilities when available and avoid over-stretching payables by unwarranted and uncalled for delays in repayments. If good credit relations are maintained with suppliers, payables can be a readily available source of short term finance that will correspond to the fluctuating needs of a firm. Payables bear opportunity cost, but if properly handled, costs can be substantially lower than the profits it can yield.

13.15 SELF-ASSESSMENT QUESTIONS

1. Why is payable used extensively by firms?
2. What are the different forms of payable? Explain.
3. Payable is regarded as a spontaneous source of short term finance. Comment.
4. Distinguish between trade discount, quantity discount and cash discount.
5. What are the factors that influence the availability of payable?
6. What are the principal advantages of payables?
7. Over extension of payable is a major factor in the financial difficulties of most companies that fail. Explain.
8. What forms of credit is the firm obtaining?
9. Which of these forms is most economical from the purchasing firm's point of view and why?
10. How does the company organize itself to negotiate effectively with the suppliers for obtaining the best possible credit terms?
11. Do the suppliers change their trade credit policy from time to time or are they consistent irrespective of customer's shifting fortunes?
12. How do the two companies that you contacted evaluate the credit terms offered by suppliers?
13. Do they reckon the cost of credit and, if so, what initiatives do they take to keep the cost of credit to the minimum?
14. A company has regularly been obtaining 90 days' credit, with a cash discount of 2.5 per cent for payment within 10 days and has found that it can let the account slide for an extra 30 days without injuring its credit rating or losing its source of supply. Will it pay the firm to borrow from a finance agency at a rate of 10 percent to take advantage of cash discount?

15. Compute the cost of not availing the following discounts on a purchase of Rs. 20 lakhs a year.
- a) 1/10, net 20
 - b) 2/10, net 30
 - c) 3/5, net 20
 - d) 2/10, net 40

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UNIT-14 SHORT-TERM INTERNATIONAL FINANCIAL TRANSACTIONS

Unit Framework

- 14.1 Objectives
- 14.2 Introduction
- 14.3 Short-Term International Financial Transactions
- 14.4 Transaction Exposure
- 14.5 Financial Techniques to Manage Transaction Exposure,
- 14.6 Methods for Hedging Transaction
- 14.7 Transaction Hedging Under Uncertainty
- 14.8 Operational Techniques for Managing Transaction Exposure
- 14.8 Summary
- 14.9 Self-Assessment Questions
- 14.10 Text and References

14.1 OBJECTIVES

After completing this unit you will be able to:

- to discuss factoring of receivables
- to explain the bonds and debentures
- to determined inter-corporate loans
- to know the required public deposits
- to highlight commercial papers

14.2 INTRODUCTION

The International Financial transactions are business transactions that are carried out by parties across different countries. The International Financial transactions are growing in both complexity and volume with the liberalisation and globalisation of international markets across the world.

Financial transaction invariably involves an element of risk of default by either party that is governed by the rules of the law. If the transaction is carried out between the parties that belong to different countries having different set of laws, interpretations and applications then the transaction becomes even more riskier. There are several other risks

associated with the International finance such as exchange rate fluctuations, political, technological and social risks etc. therefore the International financial transactions involve great deal of considerations that comprise a separate area of study. A financial manager dealing with the conduct of international transactions must understand the risks and benefits associated with the different sources of international finance, ways and methods to mitigate risks and how to maintain accounts involving international transactions.

14.3 SHORT-TERM INTERNATIONAL FINANCIAL TRANSACTIONS

A financial transaction is an agreement, or communication, carried out between a buyer and a seller to exchange an asset for payment. It involves a change in the status of the finances of two or more businesses or individuals. It is still a transaction if the goods are exchanged at one time, and the money at another. An international transaction is a money transfer (often as part of a business deal) that crosses national borders, frequently involves two different currencies, and can even involve three currencies if a reserve currency, such as the US dollar is used.

International transactions among nations and multinational corporations are important and growing due to the openness of economies all over the world. International financial transactions help understand the theories associated with the International financial transactions and gives practical solutions for multinational businesses, individuals, and nations. The increasing internationalization of businesses, openness of economies, integration of nations, change in the exchange rate system, and lastly, the deregulation of the financial market and institutions around the world have made the study of international finance necessary for all business students and professionals.

14.3.1 VARIOUS INTERNATIONAL FINANCIAL SOURCES

International finance helps organizations engage in cross-border transactions with foreign business partners, such as customers, investors, suppliers and lenders. Various international sources from where funds may be generated include the following.

- (i) **Commercial Banks** : Global commercial banks all over provide loans in foreign currency to companies. They are crucial in financing non-trade international operations. The different types of loans and services provided by banks vary from country to country. One example of this is Standard Chartered emerged as a major source of foreign currency loans to the Indian industry. It is the most used source of international financing.

- (ii) **International Agencies and Development Banks** : Many development banks and international agencies have come forth over the years for the purpose of international financing. These bodies are set up by the Governments of developed countries of the world at national, regional and international levels for funding various projects. The more industrious among them include International Finance Corporation (IFC), EXIM Bank and Asian Development Bank.
- (iii) **International Capital Markets** : Emerging organizations including multinational companies depend upon fairly large loans in rupees as well as in foreign currency. The financial instruments used for this purpose are:
- (a) **American Depository Receipts (ADR's)** : This a tool often used for international financing. As the name suggests, depository receipts issued by a company in the USA are known as American Depository Receipts. ADRs can be bought and sold in American markets like regular stocks. It is similar to a GDR except that it can be issued only to American citizens and can be listed and traded on the stock exchange of the United States of America.
- (b) **Global Depository Receipts (GDR's)** : In the Indian context, a GDR is an instrument issued abroad by an Indian company to raise funds in some foreign currency and is listed and traded on a foreign stock exchange. A holder of GDR can at any time convert it into the number of shares it represents. The holders of GDRs do not carry any voting rights but only dividends and capital appreciation. Many renowned Indian companies such as Infosys, Reliance, Wipro, and ICICI have raised money through issue of GDRs.
- (c) **Foreign Currency Convertible Bonds (FCCB's)** : Foreign currency convertible bonds are equity-linked debt securities that are to be converted into equity or depository receipts after a specific period. A holder of FCCB has the option of either converting them into equity shares at a predetermined price or exchange rate or retaining the bonds. The FCCB's are issued in a foreign currency and carry a fixed interest rate which is lower than the rate of any other similar nonconvertible debt instrument. FCCB's resemble convertible debentures issued in India. It is true that businesses need funds but the funds required in business are of different type's long term, short term, fixed and fluctuating. That is the reason why business firms resort to different types of sources for raising funds.

14.3.2 CHOICE OF THE SOURCE OF FUNDS

Short-term borrowings offer the benefit of reduced cost due to the reduction of idle capital, but long-term borrowings are considered a necessity on many grounds. Equally, equity capital has a role to play in the scheme for raising funds in the corporate sector. It is recommended to use combinations of sources as no source of funds is devoid of limitations, instead of relying only on a single source. The factors that affect the choice of source of finance are discussed below:

- (i) **Cost :** There are two types of cost, the cost of obtaining funds and cost of utilizing the funds. Both these costs should be considered while deciding about the source of funds that will be used by an organization.
- (ii) **Financial Strength :** In the choice of source of funds, business should be in a good financial position to be able to repay the amount and interest on the borrowed amount. When the earnings of the organization are not stable, fixed charged funds like preference shares and debentures should be carefully selected as these add to the financial strain on the organization.
- (iii) **A form of Organization and Reputation :** Type of business organization and reputation in the market influences the choice of a source for raising money. A partnership firm, for example, cannot raise money by issue of equity shares as these can be issued only by a joint stock company.
- (iv) **Purpose and Duration :** Business needs to plan according to the time period for which the funds are required. A short-term need can be met through borrowing funds at a low rate of interest through trade credit, commercial paper, etc. For long-term finance, sources such as the issue of shares and debentures required. Also the purpose for which funds have required the need to be considered so that the source is matched with the user.
- (v) **Risk Involved :** Business evaluates each of the sources of finance in terms of the risk involved while issuing them. For example, there is the least risk in equity as the share capital has to be repaid only at the time of winding up and dividends need not be paid if no profits are available. Whereas a loan has a repayment schedule for both the principal and the interest. The interest is required to be paid irrespective of the firm earning a profit or going through loss.
- (vi) **Control over Management :** A particular source of the fund may affect the control and power of the owners on the management of a firm. The issue of equity shares may mean a dilution of the control. For example, as equity shareholders enjoy voting rights, financial institutions may take control of the assets or impose conditions as part of the loan agreement.

- (vii) **Creditworthiness** : The reliability of business on particular sources may affect its creditworthiness in the market. For example, issue of secured debentures may affect the interest of unsecured creditors of the company and may adversely affect their willingness to extend further loans to the company.
- (viii) **Flexibility** : Another important aspect affecting the choice of finance is the flexibility and ease of obtaining funds. Restrictive provisions, detailed investigation, and documentation in case of borrowings from banks and financial institutions, for example, may be the reason that business organizations may not prefer it if other options are readily available.
- (ix) **Tax benefits** : Various sources may also be weighed in terms of their tax benefits. For example, while the dividend on preference shares is not tax-deductible, interest paid on debentures and loan is tax deductible and may, therefore, be preferred by organizations seeking tax advantage.

14.4 TRANSACTION EXPOSURE

Transaction exposure, also known as accounting exposure, refers to a kind of effect occurring for an unanticipated change in exchange rates. It can affect the consolidated financial reports of an MNC. From a firm's point of view, when exchange rates change, the probable value of a foreign subsidiary's assets and liabilities expressed in a foreign currency will also change.

Transaction exposure exists when short-term future cash transactions of a firm are affected by exchange rate fluctuation. When transaction exposure exists, the firm faces three major tasks:

1. Identify its degree of transaction exposure.
2. Decide whether to hedge this exposure.
3. Choose a hedging technique if it decides to hedge part or all of the exposure.

There are mechanical means for managing the consolidation process for firms that have to deal with exchange rate changes. These are the management techniques for translation exposure. We have discussed transaction exposure and the ways to manage it. It is interesting to note that some items that create transaction exposure are also responsible for creating translation exposure.

Transaction exposure is the risk incurred due to the fluctuations in exchange rates before the contract is settled. The foreign exchange rate that changes in cross-currency transactions can adversely affect the involved parties. Once a cross-currency contract has been framed, and a specific amount of money and quantity of goods is fixed, exchange rate fluctuations can change the value of the contract. However, a company

that has agreed to a contract but not yet settled it, faces the transaction exposure risk. The greater the time between agreement and settlement of contracts, the higher is the risk involved with exchange rate fluctuations.

Once the degree of transactions exposure has been determined (by currency) with relative certainty, the next step is to figure out:

- Whether all transactions exposure should be hedged, or
- Whether transactions exposure should be hedged selectively, or
- None of the transactions exposure should be hedged at all.

Translation Exposure – An Exhibit

The following exhibit shows the transaction exposure report for Cornelia Corporation and its two affiliates. Items that produce transaction exposure are the **receivables** or **payables**. These items are expressed in a foreign currency.

Affiliate	Amount	Account	Translation Exposure
Parent	CD 200,000	Cash	Yes
Parent	Ps 3,000,000	Accounts receivable	No
Spanish	SF 375,000	Notes payable	Yes

From the exhibit, it can be easily understood that the parent firm has mainly two sources of a probable transaction exposure. One is the Canadian Dollar (CD) 200,000 deposit that the firm has in a Canadian bank. Obviously, when the Canadian dollar depreciates, the deposit's value will go down for Cornelia Corporation when changed to US dollars. It can be noted that this deposit is also a translation exposure. It is a translation exposure for the same reason for which it is a transaction exposure. The given (Peso) Ps 3,000,000 accounts receivable is not a translation exposure due to the netting of intra-company payables and receivables. The (Swiss Franc) SF 375,000 notes for the Spanish affiliate are both a transaction and a translation exposure. Cornelia Corporation and its affiliates can follow the steps given below to reduce its transaction exposure and translation exposure.

- Firstly, the parent company can convert its Canadian dollars into U.S. dollar deposits.
- Secondly, the parent organization can also request for payment of the Ps 3,000,000 the Mexican affiliate owes to it.
- Thirdly, the Spanish affiliate can pay off, with cash, the SF 375,000 loan to the Swiss bank.

These three steps can eliminate all transaction exposure. Moreover, translation exposure will be diminished as well. The report shows that no translation exposure is associated with the Canadian dollar or the Swiss franc.

14.5 FINANCIAL TECHNIQUES TO MANAGE TRANSACTION EXPOSURE

The main feature of a transaction exposure is the ease of identifying its size. Additionally, it has a well-defined time interval associated with it that makes it extremely suitable for hedging with financial instruments. The most common methods for hedging transaction exposures are:

- **Forward Hedge :** A forward hedge uses forward contracts, to lock in the future exchange rate and recall that forward contracts are commonly negotiated for large transactions. The negotiated hedge is a forward contract to purchase (sell) the currency forward. The hedge-versus-no-hedge decision can be made by comparing the known result of hedging to the possible results of remaining unhedged and taking into consideration the firm's degree of risk aversion. If the forward rate is an accurate predictor of the future spot rate, the real cost of hedging will be zero. If the forward rate is an unbiased predictor of the future spot rate, the real cost of hedging will be zero on average. If a firm has to pay (receive) some fixed amount of foreign currency in the future (a date), it can obtain a contract now that denotes a price by which it can buy (sell) the foreign currency in the future (the date). This removes the uncertainty of future home currency value of the liability (asset) into a certain value. If a firm is required to pay a specific amount of foreign currency in the future, it can enter into a contract that fixes the price for the foreign currency for a future date. This eliminates the chances of suffering due to currency fluctuations.
- **Futures Hedge :** A futures hedge uses currency futures and the standardized futures contracts tend to be used for smaller amounts. To hedge future payables (receivables), a firm may purchase (sell) currency futures. These are similar to forward contracts in function. Futures contracts are usually exchange traded and they have standardized and limited contract sizes, maturity dates, initial collateral, and several other features. In general, it is not possible to exactly offset the position to fully eliminate the exposure.

Futures contracts are similar to 'forward contracts'. However, futures contracts have standardized and limited maturity dates, initial collateral and contract sizes.

- **Money Market Hedge** : Also called as synthetic forward contract, this method uses the fact that the forward price must be equal to the current spot exchange rate multiplied by the ratio of the given currencies' riskless returns. It is also a form of financing the foreign currency transaction. It converts the obligation to a domestic-currency payable and removes all exchange risks. In a money market hedge, the forward price is equal to current spot price multiplied by the ratio of the currency's riskless returns. This also creates the finance for the foreign currency transaction.
- **Currency Option Hedge** : A currency option hedge uses currency call or put options to hedge transaction exposure. Since options need not be exercised, they can insulate a firm from adverse exchange rate movements, and yet allow the firm to benefit from favorable movements. Currency options are also useful for hedging contingent exposure. A foreign currency option is a contract that has an upfront fee, and offers the owner the right, but not the obligation, to trade currencies in a specified quantity, price, and time period. The options contracts involve an upfront fee and do not oblige the owner to trade currencies at a specified price, time period and quantity. After gaining an insight into the financial techniques, we will have a look at the operation techniques for managing transaction exposure.

Alternative Hedging Techniques

Sometimes, a perfect hedge is not available (or is too expensive) to eliminate transaction exposure. To reduce exposure under such conditions, the firm can consider:

- **Leading and Lagging** : Leading and lagging strategies involve adjusting the timing of a payment request or disbursement to reflect expectations about future currency movements. Expediting a payment is referred to as leading, while deferring a payment is termed lagging.
- **Cross-Hedging** : When a currency cannot be hedged, another currency that can be hedged and is highly correlated may be hedged instead. The stronger the positive correlation between the two currencies, the more effective the cross hedging strategy will be.
- **Currency Diversification** : An MNC may reduce its exposure to exchange rate movements when it diversifies its business among numerous countries. Currency diversification is more effective when the currencies are not highly positively correlated.

The major difference between an option and the hedging techniques mentioned above is that an option usually has a nonlinear payoff profile. They permit the removal of downside risk without having to cut off the profit from upside risk. The decision of choosing one among these different financial techniques should be based on the costs and the penultimate domestic currency cash flows (which are appropriately adjusted for the time value) based upon the prices available to the firm.

14.6 METHODS FOR HEDGING TRANSACTION

Methods of managing hedging transaction exposure are:

1. **Balance Sheet Hedge** : Translation exposure is not purely entity specific; rather, it is only currency specific. A mismatch of net assets and net liabilities creates it. A balance sheet hedge will eliminate this mismatch. A perfect balance sheet hedge will occur in such a case. After this, a change in the Euro / Dollar (€/\$) exchange rate would not have any effect on the consolidated balance sheet, as the change in value of the assets would completely offset the change in value of the liabilities.
2. **Derivatives Hedge** : A derivative product, such as a forward contract, can now be used to attempt to hedge this loss. The word “attempt” is used because using a derivatives hedge, in fact, involves speculation about the forex rate changes.
3. **Forward Market Hedge** : The use of forward contracts is to fix the home currency value of future foreign currency cash flows. Specifically, a company that is long (has more assets than liabilities in a particular currency) a foreign currency will sell the foreign currency forward, whereas a company that is short (has more liabilities than assets in a particular currency) a foreign currency will buy the currency forward.
4. **Money-Market Hedge** : The use of simultaneous borrowing and lending transactions in two different currencies to lock in the home currency value of a foreign currency transactions.
5. **Risk Shifting** : Invoicing all transactions in dollars to avoid transaction exposure (still leaving the company open to operating exposure)
6. **Exposure Netting** : This technique involves offsetting exposures in one currency with exposures in the same or another currency such that gains and losses on the two currency positions will offset each other.

7. **Price Adjustment Clauses (Currency Risk Sharing)** : Currency risk sharing can be implemented by developing a customized hedge contract embedded in the underlying trade transactions. This hedge contract takes the form of a price adjustment clause, whereby a base price is adjusted to reflect certain exchange rate changes.
8. **Currency Collars** : A contract that provides protection against currency move outside an agreed on range.
9. **Cross-Hedging** : Hedging exposure in one currency by the use of futures or other contracts on a second currency that is correlated with the first currency.
10. **Currency Options** : A financial contract that gives the buyer the right, but not the obligation, to buy (call) or sell (put) a specified number of foreign currency units to the option seller at a fixed dollar price, up to the option's expiration date.

14.7 TRANSACTION HEDGING UNDER UNCERTAINTY

Transaction Hedging Under Uncertainty

Uncertainty about either the timing or the existence of an exposure does not provide a valid argument against hedging.

Uncertainty about transaction date

Lots of corporate treasurers promise to engage themselves to an early protection of the foreign-currency cash flow. The key reason is that, even if they are sure that a foreign currency transaction will occur, they are not quite sure what the exact date of the transaction will be. There may be a possible mismatch of maturities of transaction and hedge. Using the mechanism of rolling or early unwinding, financial contracts create the probability of adjusting the maturity on a future date, when appropriate information becomes available.

Uncertainty about existence of exposure

Uncertainty about existence of exposure arises when there is an uncertainty in submitting bids with prices fixed in foreign currency for future contracts. The firm will pay or receive foreign currency when a bid is accepted, which will have denominated cash flows. It is a kind of contingent transaction exposure. In these cases, an option is ideally suited.

Under this kind of uncertainty, there are four possible outcomes. The above details provide a summary of the effective proceeds to the firm per unit of option contract which is equal to the net cash flows of the assignment.

14.8 OPERATIONAL TECHNIQUES FOR MANAGING TRANSACTION EXPOSURE

Operational techniques having the virtue of offsetting existing foreign currency exposure can also mitigate transaction exposure. These techniques include:

- **Risk Shifting** : The most obvious way is to not have any exposure. By invoicing all parts of the transactions in the home currency, the firm can avoid transaction exposure completely. However, it is not possible in all cases.
- **Currency Risk Sharing** : The two parties can share the transaction risk. As the short-term transaction exposure is nearly a zero sum game, one party loses and the other party gains.
- **Leading and Lagging** : It involves playing with the time of the foreign currency cash flows. When the foreign currency (in which the nominal contract is denominated) is appreciating, pay off the liabilities early and collect the receivables later. The first is known as **leading** and the latter is called lagging.
- **Reinvoicing Centers** : A reinvoicing center is a third-party corporate subsidiary that uses to manage one location for all transaction exposure from intra-company trade. In a reinvoicing center, the transactions are carried out in the domestic currency, and hence, the reinvoicing center suffers from all the transaction exposure.

Reinvoicing centers have three main advantages:

- The centralized management gains of transaction exposures remain within company sales.
- Foreign currency prices can be adjusted in advance to assist foreign affiliates budgeting processes and improve intra affiliate cash flows, as intra-company accounts use domestic currency.
- Reinvoicing centers (offshore, third country) qualify for local non-resident status and gain from the offered tax and currency market benefits.

14.8 SUMMARY

International business transactions are growing due to the opening of economies all over the world, so do the risk, opportunities as well as accounting complexities associated with such transactions. The different sources of international finance include Global commercial banks such as standard chartered bank, International Agencies and Development Banks such as the International Finance Corporation (IFC), EXIM Bank and Asian Development Bank and International Capital Markets dealing in

financial instruments such as American Depository Receipts (ADR's), Global Depository Receipts (GDR's) and Foreign Currency Convertible Bonds (FCCB's). These sources have different advantages and costs for the businesses. There are several factors that affect the choice of source of finance. It is therefore recommended to use combinations of sources of finance for better leverage.

Transaction exposure risks are suffered due to foreign exchange rate fluctuations. It can affect the consolidated financial reports of a firm. However, these risks can be minimized or completely eliminated by numerous financial and operational techniques. The most common methods for hedging transaction exposures are Forward Hedge, Futures Hedge, Money Market Hedge and Currency Option Hedge. Balance Sheet Hedge, Derivatives Hedge, Risk Shifting, Exposure Netting and Price Adjustment Clauses (Currency Risk Sharing) are also some other methods employed for managing hedging transaction exposure. Apart from this when perfect hedging is not desirable some alternate hedging methods are also used these are Leading and Lagging, Cross-Hedging and Currency Diversification.

Reinvoicing centers are subsidiaries of a multinational corporation entrusted to protect the larger corporation from risks of foreign currency fluctuation. They deal with intra-firm transactions in the currency of their country of operations. Such divisions are the centers of invoice processing and billing for other divisions located around the world. In a reinvoicing center, the inhouse transactions are carried out in the domestic currency, and hence, the reinvoicing center alone suffers from all the transaction exposure.

14.9 SELF-ASSESSMENT QUESTIONS

1. What is hedging in finance? Explain its types?
2. What do you understand by short-term international financial transactions? Explain it.
3. Define transaction exposure. Discuss it with suitable examples.
4. What are the various hedging techniques of transaction exposure?
5. What are risk exposures? What do you see as the primary difference between operating exposure and translation exposure?
6. What are the financial techniques to manage transaction exposure? Elaborate each with examples.
7. How is transaction exposure different from economic exposure?
8. What is the difference between hedging and forward contract?

9. What is the transaction hedging under uncertainty? Evaluate it. Elucidate operational techniques for managing transaction exposure.
10. What are the four main types of transactions from which transaction exposure arises?

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UNIT-15 CASH MANAGEMENT AND CASH BUDGET

Unit Framework

- 15.1 Objectives
- 15.2 Introduction
- 15.3 Meaning of Cash Management
- 15.4 Motives for Holding Cash
- 15.5 Need of Cash Management
- 15.6 Importance of Liquidity
- 15.7 Factors Determining Cash Balances
- 15.8 Managing Cash Flows
- 15.9 Models of Cash Management
- 15.10 Cash Budget
- 15.11 Advantages or importance of cash budget
- 15.12 System or Process of preparing the cash budget
- 15.13 Summary
- 15.14 Self-Assessment Questions
- 15.15 Text and References

15.1 OBJECTIVES

After studying this unit, you should be able to describe:

- Meaning of cash management
- Motives for Holding Cash; Need of Cash Management
- Importance of Liquidity; Factors Determining Cash Balances
- Managing Cash Flows and Models of Cash Management
- Cash Budget; Advantages or importance of cash budget
- System of preparing the cash budget

15.2 INTRODUCTION

Since cash is the medium of exchange, it is the most important component of working capital. Cash is the basic input required to keep the organisation running on a continuous basis and the ultimate output

expected to be realised by selling goods and services. It can be compared to the blood in the human body which gives life and strength to the body. Similarly, Cash keeps the organisation as a vital entity. The firm should keep sufficient cash, neither more nor less. Cash shortage will disrupt the firm's manufacturing operations while excessive cash remaining idle will increase the cost without contributing anything towards the profitability of the organisation and since cash is the most sensitive and fraud prone asset; there will be high chances of embezzlement. Therefore, for smooth functioning and for higher profitability effective cash management is of paramount importance. Apart from the fact that it is the most liquid current asset, it is the common denominator to which all current assets get converted eventually. This underlines the significance of cash management.

15.3 MEANING OF CASH MANAGEMENT

Cash management is one of the key areas of working capital management. Cash is the most liquid current assets. Cash is the common denominator to which all current assets can be reduced because the other major liquid assets, i.e. receivable and inventory get eventually converted into cash. This underlines the importance of cash management.

Cash management refers to management of cash balance and the bank balance including the short terms deposits. For cash management purposes, the term cash is used in this broader sense, i.e., it covers cash, cash equivalents and those assets which are immediately convertible into cash.

A financial manager is required to manage the cash flows (both inflows and outflows) arising out of the operations of the firm. Cash Management, deals with optimization of cash as an asset and for this purpose the financial manager has to take various decisions from time to time. He has to deal as the cash flows director of the firm even if a firm is highly profitable. Its cash inflows may not exactly match the cash outflows. He has to manipulate and synchronize the two for the advantage of the firm by investing excess cash, if any, as well as arranging funds to cover the deficiency.

15.4 MOTIVES FOR HOLDING CASH

Motives or desires for holding cash refer to various purposes. The purpose may be different from person to person and situation to situation. There are four important motives to hold cash. The firm's for cash may be attributed to the following motives:

- 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. But the cash inflows and cash outflows do not perfectly synchronise. Sometimes, cash receipts are more than payments while at other times payments exceed receipts. The firm must have to maintain sufficient (funds) cash balance if the payments are more than receipts. Thus, the transactions motive refers to the holding of cash to meet expected obligations whose timing is not perfectly matched with cash receipts. Though, a large portion of cash held for transactions motive is in the form of cash, a part of it may be invested in marketable securities whose maturity conform to the timing of expected payments such as dividends, taxes etc.

- 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 receipt 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 position to raise finances at a short period. The cash maintained for contingency needs is not productive or it remains idle. However, such cash may be invested in short period or low-marketable securities which may provide cash as and when necessary.
- 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 speculation can be made about their occurrence. **For Example**, the prices of shares and securities may be low at a time with an expectation that these will go up shortly. The prices of raw materials may fall temporarily and a firm may like to make purchases at these prices. Such opportunities can be availed of if a firm has cash balance with it. These transactions are speculative because prices may not move in a direction in which we suppose them to move. The primary motive of a firm is not to indulge in speculative transactions but such investment may be made at times.
- 4) **Compensation Motive/Compensating Balances:** This motive to hold cash balances is to compensate banks and other financial institutes for providing certain services and loans. Banks provide a variety of services to business firms like clearance of cheques, drafts, transfer of funds etc. Banks charge a commission or fee for their services to the customers as indirect compensation. Customers are required to maintain a minimum cash balance at the

bank. This balance cannot be used for transaction purposes. Banks can utilize the balances to earn a return to compensate their cost of services to the customers. Such balances are compensating balances. These balances are also required by some loan agreements between a bank and its customers. Banks require a chest to maintain a minimum cash balance to compensate when the supply of credit is restricted and interest rates are rising.

Thus cash is required to fulfill the above motives. Out of the four motives of holding cash balances, transaction motive and compensation motives are very important. Business firms usually do not speculate and need not have speculative balances. The requirement of precautionary balances can be met out of short-term borrowings.

15.5 NEED OF CASH MANAGEMENT

The basic needs or objectives of cash management are

- (A). To make the payments when they become due and
- (B). To minimize the cash balances. The task before the cash management is to reconcile the two conflicting nature of objectives.

(A). **MEETING THE PAYMENTS SCHEDULE:** The basic objective of cash management is to meet the payment schedule. In the normal course of business, firms have to make payments of cash to suppliers of raw materials, employees and so on regularly. At the same time firm will be receiving cash on a regular basis from cash sales and debtors. Thus, every firm should have adequate cash to meet the payments schedule. In other words, the firm should be able to meet the obligations when they become due. The firm can enjoy certain advantages associated with maintaining adequate cash. They are:

- i. **Insolvency** - The question of insolvency does not arise as the firm will be able to meet its obligations.
- ii. **Good relations** - Adequate cash balance in the business firm helps in developing good relations with creditors and suppliers of raw materials.
- iii. **Credit worthiness** - The maintenance of adequate cash balances increase the credit worthiness of the firm. Consequently it will be able to purchase raw materials and procure credit with favorable terms and conditions.
- iv. **Availing discount facilities** - The firm can avail the discounts offered by the creditors for payments before the due date.

- v. **To meet unexpected facilities** - The firm can easily meet the unexpected cash expenditure in situations like strikes, competition from customers etc. with little strain.

So, every firm should have adequate cash balances for effective cash management.

(B). MINIMIZING FUNDS COMMITTED TO CASH BALANCES : The second important objective of cash management is to minimize cash balance. In minimizing the cash balances two conflicting aspects have to be reconciled. A high level of cash balances will ensure prompt payment together with all advantages, but at the same time, cash is a non-earning asset and the larger balances of cash impair profitability. On the other hand, a low level of cash balance may lead to the inability of the firm to meet the payment schedule. Thus the objective of cash management would be to have an optimum cash balance. The factors determining the cash needs of the industry is explained as follows:

- i. **Matching of cash flows** - The first and very important factor determining the level of cash requirement is matching cash inflows with cash outflows. If the receipts and payments are perfectly coinciding or balance each other, there would be no need for cash balances. The need for cash management therefore, due to the non-synchronization of cash receipts and disbursements. For this purpose, the cash inflows and outflows have to be forecast over a period of time say 12 months with the help of cash budget. The cash budget will pin point the months when the firm will have an excess or shortage of cash.
- ii. **Short costs** - Short costs are defined as the expenses incurred as a result of shortfall of cash such as unexpected or expected shortage of cash balances to meet the requirements. The short costs includes, transaction costs associated with raising cash to overcome the shortage, borrowing costs associated with borrowing to cover the shortage i.e. interest on loan, loss of trade-discount, penalty rates by banks to meet a shortfall in compensating, cash balances and costs associated with deterioration of the firm's credit rating etc. which is reflected in higher bank charges on loans, decline in sales and profits.
- iii. **Cost of cash on excess balances** - One of the important factors determining the cash needs is the cost of maintaining cash balances i.e. excess or idle cash balances. The cost of maintaining excess cash balance is called excess cash balance cost. If large funds are idle, the implication is that the firm has missed opportunities to invest and thereby lost interest. This is known as excess cost. Hence the cash management is necessary to maintain an optimum balance of cash.

- iv. **Uncertainty in business** - Uncertainty plays a key role in cash management, because cash flows cannot be predicted with complete accuracy. The first requirement of cash management is a precautionary cushion to cope with irregularities in cash flows, unexpected delays in collections and disbursements, defaults and expected cash needs the uncertainty can be overcome through accurate forecasting of tax payments, dividends, capital expenditure etc. and ability of the firm to borrow funds through overdraft facility.
- v. **Cost of procurement and management of cash** - The costs associated with establishing and operating cash management staff and activities determining the cash needs of a business firm. These costs are generally fixed and are accounted for by salary, storage and handling of securities etc.

The above factors are considered to determine the cash needs of a business firm.

15.6 IMPORTANCE OF LIQUIDITY

Cash Management consists of taking the necessary actions to maintain adequate levels of cash to meet operational and capital requirements and to obtain the maximum yield on short-term investments of pooled, idle cash. A good cash management program is a very significant component of the overall financial management of a municipality. Such a program benefits the city or town by increasing non-tax revenues, improving the control and superintendence of cash, increasing contacts with members of the financial community and lowering borrowing costs, while at the same time maintaining the safety of the municipality's funds.

The following are the reasons due to which cash management is important for a company:

- 1) Cash Management is particularly important for those companies who make sales as well as purchase on credit, since creditor can demand money anytime and therefore it is important for a company to manage cash.
- 2) Cash management is also necessary to deal with contingencies such as fire, breakdown of machinery, payment of compensation in case of any lawsuit going against the company etc.
- 3) In this dynamic business world there is always a scope of takeover that is company can buy other company if it thinks that it is undervalued, cash will play a key role for successful takeover.
- 4) Since global commodity prices are fluctuating companies need cash in order to take advantage of decline in the raw material prices of the company's product.

- 5) Cash management assumes greater importance when company has taken debt, because interest payments are fixed and company has to pay it,, any delay in interest payment or principal repayment of debt can even result in company becoming bankrupt, therefore cash should be there for payment of such expense.

15.7 FACTORS DETERMINING CASH BALANCES

The amount of cash for transaction requirements is predictable and depends upon a variety of factors which are as follows:

1. **Credit Position of the Firm :** The credit position influences the amount of cash required in two distinct ways:
 - a. If a firm's credit position is sound, it is not necessary to carry a large cash reserve for emergencies.
 - b. If a firm finances its inventory requirements with trade credit, its cash requirements are considerably smaller, since the firm can synchronize the credit terms it gives to its customers with the terms it receives.
2. **Status of Firm's Receivable :** The amount of time required for a firm to convert its receivable into cash also affects the amount of cash needed and of course, reduces total working capital employed. In other words, the longer the credit terms, the slower the turn over. When flow out is not synchronized with turnover, firm must carry amounts of cash relatively larger than would otherwise be required.
3. **Status of Firm's Inventory Account :** The status of a firm's inventory account also affects the amount of cash tied up at any one time. For example, if one business firm carries two months inventory on hand and other firm carries only one month's supply, the former has twice as much investment in inventory and will normally be called upon to maintain a larger investment in cash in order to finance its acquisition.
4. **Nature of Business Enterprise :** The nature of a firm's demand definitely affects the volume of cash required. For example, a firm whose demand is volatile needs a relatively larger cash reserve than one whose demand is stable. Public utility firms exhibit stable demand whereas firms that deal with high fashion merchandize or goods that tend to be "faddish" are subject to high degrees of volatility.
5. **Management's Attitude towards Risk :** A more conservative management will hold a larger cash reserve than one that is less conservative. The former usually demands more liquidity than the latter and consequently does not experience the same degree of

efficiency. A generalization is made that the firm that effectively plans policies is less conservative than one that does little or no planning. The obvious conclusion is that planning allows the firm to predict its requirements more accurately, thereby eliminating uncertainty, which is the basis for large cash reserves.

6. **Amount of Sales in Relation to Assets :** Another characteristic affecting the level of cash is the amount of sales in relation to assets. Firms with large sales relative to fixed assets are required to carry larger cash reserves. This is the result of having larger sums invested in inventories (particularly finished goods) and receivables. It should be remembered, however, that cash requirements do not increase in the same proportion as sales. The rule is that as sales increase, cash also increases but at a decreasing rate, it is impossible to determine to what extent each characteristic affects the total volume of cash, but these examples indicate that differences types of businesses have different cash requirements.
7. **Cash Inflows and Cash Outflows :** Every firm has to maintain cash balance because it's expected and outflows are not always synchronized. The timings of the cash inflows may not always match with the timing of the outflows. Therefore, a cash balance is required to fill up the gap arising out of difference in timings and quantum of inflows and outflows.
8. **Cost of Cash Balance :** Another factor to be considered while determining the minimum cash balance is the cost of maintaining excess cash or of meeting shortages of cash. There is always an opportunity cost of maintaining excessive cash balance. If a firm is maintaining excess cash then it is missing the opportunities of investing these funds in a profitable way.

15.8 MANAGING CASH FLOWS

1. **Cash Planning :** Cash is the most important as well as the least unproductive of all current assets. Though, it is necessary to meet the firm's obligations, yet idle cash earns nothing. Therefore, it is essential to have sound cash planning neither excess nor inadequate.
2. **Management of Cash Flows :** This is another important aspect of cash management. Synchronization between cash inflows and cash outflows rarely happens. Sometimes, the cash inflows will be more than outflows because of receipts from debtors, and cash sales in huge amounts. At other times, cash outflows exceed inflows due to payment of taxes, interest and dividends etc. Hence, the cash flows should be managed for better cash management.
3. **Maintaining optimum Cash Balance :** Every firm should maintain optimum cash balance. The management should also

consider the factors determining and influencing the cash balances at various point of time. The cost of excess cash and danger of inadequate cash should be matched to determine the optimum level of cash balances.

4. **Investment of Excess Cash :** The firm has to invest the excess or idle funds in short term securities or investments to earn profits as idle funds earn nothing. This is one of the important aspects of management of cash.

Thus, the aim of cash management is to maintain adequate cash balances at one hand and to use excess cash in some profitable way on the other hand.

15.9 MODELS OF CASH MANAGEMENT

15.9.1 PROJECTION OF CASH FLOWS AND PLANNING

The cash planning and the projection of cash flows is determined with the help of cash budget. The cash budget is the most important tool in cash management. It is a device to help a firm to plan and control the use of cash. It is a statement showing the estimated cash inflows and cash outflows over the firm's planning horizon. In other words the net cash position i.e., surplus or deficiency of a firm is highlighted by the cash budget from one budgeting period to another period.

15.9.2 DETERMINING OPTIMAL LEVEL OF CASH HOLDING IN THE COMPANY

One of the important responsibilities of a finance manager is to maintain sufficient cash balances to meet the current obligations of a company. Determining to optimum level of cash balance influenced by a tradeoff between risk and profitability. Every business enterprise holding cash balances for transaction purposes and to meet precautionary, speculative and compensative motives. With the help of cash budget the finance manager predicts the inflows and outflows of cash during a particular period of time and there by determines the cash requirements of the company. While determining the optimum level of cash balance (neither excess nor inadequate cash balances) the finance manager has to bring a tradeoff between the liquidity and profitability of the firm. The optimum level of cash balances of a company can be determined in various ways. They are:

- a) Inventory model (Economic Order Quantity) to cash management
- b) Stochastic model
- c) Probability model
- d) The BAT Model

- A) INVENTORY MODEL (EOQ) OF CASH MANAGEMENT -**
Economic Order Quantity (EOQ) model is used in determination of optimal level of cash of a company. According to this model optimal level of cash balance is one at which cost of carrying the inventory of cash and cost of going to the market for satisfying cash requirements is minimum. The carrying cost of holding cash refers to the interest foregone on marketable securities whereas cost of going to the market means cost of liquidating marketable securities in cash.

Optimum level of cash balance can be determined as follows:

$$Q = \sqrt{\frac{2AO}{C}}$$

Where

Q = Optimum level of cash inventory

A = Total amount of transaction demand

O = Average fixed cost of securing cash from the market
(Ordering cost of cash / securities)

C = Cost of carrying cash inventory,

i.e., interest rate on marketable securities for the period involved.

ASSUMPTIONS : The model is based on the following assumptions:

- 1) The demand for cash, transactions costs of obtaining cash and the holding costs for a particular period are given and do not change during that period.
- 2) There is a constant demand for cash during the period under consideration.
- 3) Cash payments are predictable
- 4) Banks do not impose any restrictions on firms with respect of maintenance of minimum cash balances in the bank accounts.

For example : Teja & Company estimated cash payments of Rs. 36,000 for a period of 30 days. The average fixed cost for securing capital from the market (ordering cost) is Rs. 100 and the carrying cost or interest rate on marketable securities is 12% per annum. Determine the optimum quantity of cash balance?

A = Monthly requirement = Rs. 36,000

O = Fixed Cost for securing capital = Rs. 100

C = Cost of interest on marketable securities = 12% per year

Per month: 1% or (0.1)

Therefore:

$$Q = \sqrt{\frac{2AO}{C}} = \sqrt{\frac{2(3600 \times 100)}{0.1}}$$

Optimum transaction of cash: Rs. 8,485.28

LIMITATIONS : The EOQ model to determine the optimum size of cash balances is suffered with several practical problems. The first and important problem (limitation) is related with determination of fixed cost associated with replenishing cash. The fixed cost includes both explicit cost (interest rate at which required capital can be secured from the market and implicit cost (time spent in placing an order for getting financial assistance etc.) The computation of implicit cost is very difficult. The model is not useful and applicable where the cash flows are irregular in nature.

B) STOCHASTIC (IRREGULAR) MODEL - This model is developed to avoid the problems associated with the EOQ model. This model was developed by Miller and Orr. The basic assumption of this model is that cash balances are irregular, i.e., changes randomly over a period of time both in size and direction and form a normal distribution as the number of periods observed increases. The model prescribes two control limits Upper control Limit (UCL) and Lower Control Limit (LCL). When the cash balances reaches the upper limit a transfer of cash to investment account should be made and when cash balances reach the lower point a portion of securities constituting investment account of the company should be liquidated to return the cash balances to its return point. The control limits are converting securities into cash and the vice – versa, and the cost carrying stock of cash.

THE MILLER AND ORR MODEL is the simplest model to determine the optimal behavior in irregular cash flows situation. The model is a control limit model designed to determine the time and size of transfers between an investment account and cash account. There are two control limits. Upper Limit (U) and lower limit (L).According to this model when cash balance of the company reach the upper limit, cash equal to “U – O” should be invested in marketable securities so that new cash balance touches “O” point. If the cash balance touch the “L’ point, finance manager should immediately liquidate that much portion of the investment portfolio which could return the cash balance to ‘O’ point. (O is optimal point of cash balance or target cash balance)

The “O” optimal point of cash balance is determined by using the formula

$$O = \sqrt[3]{\frac{3TV}{4I}}$$

Where,

O = Target cash balance (Optimal cash balance)

T= Fixed cost associated with security transactions

I = Interest per day on marketable securities

V = Variance of daily net cash flows.

LIMITATIONS : This model is subjected to some practical problems

- 1) The first and important problem is in respect of collection of accurate data about transfer costs, holding costs, number of transfers and expected average cash balance.
- 2) The cost of time devoted by financial managers in dealing with the transfers of cash to securities and vice versa.
- 3) The model does not take in account the short term borrowings as an alternative to selling of marketable securities when cash balance reaches lower limit.

Besides the practical difficulties in the application of the model, the model helps in providing more, better and quicker information for management of cash. It was observed that the model produced considerable cost savings in the real life situations.

C) PROBABILITY MODEL - This model was developed by William Beranek. Beranek observed that cash flows of a firm are neither completely predictable nor irregular (stochastic). The cash flows are predictable within a range. This occurrence calls for formulating the demand for cash as a probability distribution of possible outcomes.

According to this model, a finance manager has to estimate probabilistic out comes for net cash flows on the basis of his prior knowledge and experience. He has to determine what is the operating cash balance for a given period, what is the expected net cash flow at the end of the period and what is the probability of occurrence of this expected closing net cash flows. The optimum cash balance at the beginning of the planning period is determined with the help of the probability distribution of net cash flows, cost of cash shortages, opportunity cost of holding cash balances and the transaction cost.

Assumptions :

- 1) Cash is invested in marketable securities at the end of the planning period say a week or a month.
- 2) Cash inflows take place continuously throughout the planning period.
- 3) Cash inflows are of different sizes.
- 4) Cash inflows are not fully controllable by the management of firm.
- 5) Sale of marketable securities and other short term investments will be affected at the end of the planning period.

The probability model prescribed the decision rule for the finance manager that the finance manager should go on investing in marketable securities from the opening cash balance until the expectation, that the ending cash balance will be below the optimum cash balance, where the ratio of the incremental net return per rupee of investment is equal to the incremental shortage cost per rupee.

D) THE BAT MODEL : The Baumol-Allais-Tobin (BAT) model is a classic means of analyzing the cash management problem. It is a straightforward model and very useful for illustrating the factors in cash management and, more generally, current asset management.

To develop the BAT model, suppose the Golden Socks Corporation starts at Time 0 with a cash balance of C 5 \$1.2 million. Each week, outflows exceed inflows by \$600,000. As a result, the cash balance drops to zero at the end of Week 2. The average cash balance is the beginning balance (\$1.2 million) plus the ending balance (\$0) divided by 2, or $(\$1.2 \text{ million} + \$0) / 2 = \$600,000$ over the two-week period. At the end of Week 2, Golden Socks replaces its cash by depositing another \$1.2 million. As we have described, the cash management strategy for Golden Socks is very simple and boils down to depositing \$1.2 million every two weeks. Implicitly, we assume the net cash outflow is the same every day and it is known with certainty. These two assumptions make the model easy to handle. We indicate what happens when they do not hold in the next section. If C were set higher, say, at \$2.4 million, cash would last four weeks before the firm would have to sell marketable securities, but the firm's average cash balance would increase to \$1.2 million (from \$600,000). If C were set at \$600,000, cash would run out in one week and the firm would have to replenish cash more frequently, but its average cash balance would fall from \$600,000 to \$300,000.

Because transaction costs must be incurred whenever cash is replenished (for example, the brokerage costs of selling marketable securities), establishing large initial balances lowers the trading costs connected with cash management. However, the larger the average cash balance, the greater is the opportunity cost (the return that could have been earned on marketable securities).

15.10 CASH BUDGET

A cash budget is a budget or plan of expected cash receipts and disbursements during the period. These cash inflows and outflows include revenues collected, expenses paid, and loans receipts and payments. In other words, a cash budget is an estimated projection of the company's cash position in the future.

Management usually develops the cash budget after the sales, purchases, and capital expenditures budgets are already made. These budgets need to be made before the cash budget in order to accurately estimate how cash will be affected during the period. For example, management needs to know a sales estimate before it can predict how much cash will be collected during the period. Management uses the cash budget to manage the cash flows of a company. In other words, management must make sure the company has enough cash to pay its bills when they come due.

Chartered Institute of Management Accountant (CIMA) defines cash budgets as a short-term fiscal plan expressed in money which is prepared in advance. It helps to determine the cash-inflow and cash-outflow of the business.

Thus Cash Budget is a planning tool in the hands of management of a business organization. As we have discussed earlier, the objective of cash management is to ensure that the firm has optimum balance of cash only i.e. neither the firm has excess cash balance nor shortage of cash at any stage. Cash budget is a statement of estimated cash inflows and cash expenditure over the firm's planning horizon and it helps the business organization in identification of periods when there will be excess cash and also those periods when there will be shortage of cash. After identification of cash surplus and cash shortage periods firm will be in a better position to do the appropriate planning for cash.

The objectives of preparing the cash budget are:

- a) To identify the period when there is likely to be shortage of cash.
- b) To identify the period when there is likely to be excess cash.
- c) To enable the firm to do proper planning for the procurement of cash at the least possible cost during the periods when there is shortage of cash.
- d) To enable the firm to do proper planning for the investment of cash at the highest possible rate of return when there is surplus of cash.
- e) To help in selection of proper source of financing cash requirements of the firm.
- f) To permit planning for financing in advance of need. By indicating when cash will be required, the budget helps the management to

arrange in advance bank loans or other short-term credits, to prepare for a sale of securities or to make other preparations for new financing.

With advance planning through cash budget, firms get adequate time to take the necessary action for borrowing and lending of cash on the terms most advantageous to it.

FEATURES OF CASH BUDGET

1. The cash-budget period is broken down into periods, mainly in months.
2. The cash-budget is always in columnar form i.e. column showing each month.
3. Payments and receipts of cash are identified in different heading and showing total for each month.
4. The surplus of total cash payment over receipts or of receipts over payment for each month is shown.
5. The running balances of cash, which would be determined by taken the balance at the end of the previous month and adjusting it for either deficit or surplus of receipts over payments for current month, is identified.

15.11 ADVANTAGES OR IMPORTANCE OF CASH BUDGET

Cash budget is an important tool in the hands of financial management for the planning and control of the working capital to ensure the solvency of the firm. The importance of cash budget may be summarized as follow:

1. **Helpful in Planning** : Cash budget helps planning for the most efficient use of cash. It points out cash surplus or deficiency at selected point of time and enables the management to arrange for the deficiency before time or to plan for investing the surplus money as profitable as possible without any threat to the liquidity.
2. **Practical Benefits** : The most immediate practical benefit of a cash budget is restricting your spending so you do not incur debt. A cash budget involves a realistic assessment of how much money you will have coming in during an upcoming period. Your determinations of how much money your business has available to spend are based on these forecasts, forcing you to spend within your means. It forces you to restrict discretionary purchases to items that you can pay for out of the cash you have on hand.

3. **Forecasting the Future needs :** Cash budget forecasts the future needs of funds, its time and the amount well in advance. It, thus, helps planning for raising the funds through the most profitable sources at reasonable terms and costs.
4. **Maintenance of Ample cash Balance :** Cash is the basis of liquidity of the enterprise. Cash budget helps in maintaining the liquidity. It suggests adequate cash balance for expected requirements and a fair margin for the contingencies.
5. **Strategic Implications:** A cash budget also provides the benefit of forcing you to think critically about your company's financial situation and make realistic predictions. This process is useful to you as a business owner working to maintain an accurate sense of your company's operations. When you prepare a cash budget, look closely at past patterns and use them to forecast future business activity. This exercise familiarizes you with the rhythms of your company's sales and expenditures, as well as variables that can affect changes.
6. **Controlling Cash Expenditure :** Cash budget acts as a controlling device. The expenses of various departments in the firm can best be controlled so as not to exceed the budgeted limit.
7. **Seasonal Planning :** A cash budget can help to prepare you financially for seasonal fluctuations in sales and expenditures. If you are required to renew expensive licenses at a particular time of year, for example, a cash budget can help you to set aside money over time for these outlays. Preparing a cash budget can help you to identify times of year when you may have a surplus to put aside to prepare yourself for leaner periods.
8. **Evaluation of Performance :** Cash budget acts as a standard for evaluating the financial performance.
9. **Testing the Influence of proposed Expansion Programme :** Cash budget forecasts the inflows from a proposed expansion or investment programme and testify its impact on cash position.
10. **Self-Evaluation :** A cash budget provides you with a basis for comparing your predictions and assumptions with actual events as they unfold. Your cash budget is not a plan set in stone, but rather a flexible road map meant to keep your spending on track if everything goes as planned. As the period covered in your cash budget elapses, you will find that some of your income and spending predictions were off base. These discrepancies provide you with valuable feedback. Sometimes they occur because of

circumstances that you could not have foreseen, but just as often they are the result of faulty reasoning that you can correct in the future.

11. **Sound Dividend Policy** : Cash budget plans for cash dividend to shareholders, consistent with the liquid position of the firm. It helps in following a sound consistent dividend policy.
12. **Basis of Long-term Planning and Co-ordination** : Cash budget helps in co-coordinating the various finance functions, such as sales, credit, investment, working capital etc. it is an important basis of long term financial planning and helpful in the study of long term financing with respect to probable amount, timing, forms of security and methods of repayment.

15.12 PROCESS OF PREPARING THE CASH BUDGET

1. **Planning Period** : The first step in the process of preparation of cash budget is the selection of period to be covered by the cash budget and also the sub periods within that time span over which the cash flows are to be projected. There is no fixed rule for this legally or even otherwise. Planning period to be covered varies from firm to firm depending upon the business scale, nature of the business, credit policy and degree of uncertainty involved in the business. Higher the degree of certainty in a business, longer can be the horizon of cash budget and vice-versa. In case of organizations facing extreme degree of fluctuations, cash budget can be prepared even on daily basis.
2. **Consideration of Factors having a bearing on Cash Budget** : The second step in the process of preparation of cash budget is the identification of the factors effecting cash estimation and the magnitude of their effect on the cash positions. For the purpose of preparation of cash budget, cash receipts and cash payments can be classified into two categories i.e. Operating and Financial. Operating cash flows are the cash flows associated with the operations of the firm while financial cash flows include cash flows which have resulted from sources other than the operations of the business. The examples of operating cash flows include: receipts from sales, collections from debtors, Payments to suppliers, administrative and selling expenses etc. Examples of financial cash flows include Loan and Borrowings, interest received, Dividend received, interest paid, dividend paid etc.

After the decision is taken about the span of cash budget and also the factors to be considered in preparing the cash budget, one can move ahead and start preparing the cash budget.

Example : Cash Budget

The following is the detailed information of ABC Ltd. You are required to prepare the Cash Budgets for the month of May and June:

	April	May	Jun
	(Actual)	(Estimated)	(Estimated)
	Rs.	Rs.	Rs.
Wages and Salaries	390000	410000	520000
Sales	1200000	1400000	1600000
Purchases	500000	600000	800000
Excise Duty	50000	60000	70000
Income Tax	Nil	Nil	30000
Closing Balance of Cash	450000	-	-

Additional Information

1. 50% of the wages and salaries are payable in next month.
2. 50% of the sales are on credit basis. Out of credit sales, 60% are received in the same month at a cash discount of 2%. 20% of the credit sales are received in the next month at a cash discount of 1% and the balance after two months.
3. 50% of the purchases are on credit basis. Out of credit purchases, 50% is payable in the month in which purchase is made, 25% one month after next month and the balance after two months.
4. Excise is payable in the next month.
5. Besides above information, firm is planning to buy a machine in the month of May for which payment will be made in the month of June. The price of the machine is Rs. 200000.

SOLUTION: Cash Budget for May/June

Particulars	May	June
	Rs.	Rs.
a) Opening Balance	450000	692900
b) Receipts		
i. Cash Sales(50% of Sales)	700000	800000
ii. Cash From Debtors	530400	729000
Total Cash	1680400	2221900

c) Payments		
i. Cash Purchases	325000	450000
ii. Payment to Creditors	212500	337500
iii. Wages and Salaries	400000	465000
iv. Excise Duty	50000	60000
v. Purchase of New Machine		200000
	Total	692900
		709400

15.13 SUMMARY

Management of cash is one of the key areas of working capital management. Cash is required to meet a firm's transactions and precautionary needs. A firm needs cash to make payments for acquisition of resources and services for the normal conduct of business. It keeps additional funds to meet any emergency situation. Some firms may also maintain cash for taking advantages of speculative changes in prices of input and output.

The aim of finance manager in cash management is to minimize the investments in cash and at the same time ensure that the firm has sufficient liquidity. The main objective of cash management is to trade-off liquidity and profitability in order to maximize the firm's value. Credit standing of the firm, relations with bank, management policies regarding holding inventory, liquidity preference etc. effects cash requirement of a firm. The finance manager can formulate strategies of cash management by (i) determining optimum level of cash (ii) cash planning and control (iii) managing the cash flows (iv) investing surplus cash. Cash budget is probably the most important tool of cash management.

The basic strategies that can be employed to minimize the operating cash balance are (a) Accelerating cash collection - Concentration banking, Lock box system deserve specific mention as principal methods of establishing a decentralized collection network. (b) Slowing disbursements - Centralized disbursement centre, Avoidance of early payments and Playing the float are the important techniques for slowing disbursement, but this slow down should not impair the credit rating or reputation of the firm.

Cash budget is an important tool in the hands of financial management for the planning and control of the working capital to ensure the solvency of the firm. Cash budget helps planning for the most efficient use of cash. It points out cash surplus or deficiency at selected point of time and enables the management to arrange for the deficiency before time or to plan for investing the surplus money as profitable as possible without any threat to the liquidity.

The most immediate practical benefit of a cash budget is restricting your spending so you do not incur debt. A cash budget involves a realistic assessment of how much money you will have coming in during an upcoming period. Your determinations of how much money your business has available to spend are based on these forecasts, forcing you to spend within your means. It forces you to restrict discretionary purchases to items that you can pay for out of the cash you have on hand. A cash budget also provides the benefit of forcing you to think critically about your company's financial situation and make realistic predictions. This process is useful to you as a business owner working to maintain an accurate sense of your company's operations.

15.14 SELF-ASSESSMENT QUESTIONS

1. What is Cash? Explain the motives for holding cash.
2. What is 'cash' in cash management? What are the motives of holding cash?
3. "A number of methods are being employed to speed up the collection process and maximize available cash". Explain these methods.
4. What are the objectives of cash management? Discuss the functions of cash management?
5. What is Baumol Model of cash management?
6. What is Miller-Orr Model of cash management?
7. Write a short note on the investment of idle cash in readily marketable securities.
8. Write short notes on : -
 - a) Concentration Banking
 - b) Lock Box System
 - c) Optimum Cash Balance
 - d) Playing the Float
9. Explain the techniques that can be used to accelerate the firm's collection.
10. How can the optimum level of operating cash balance be determined?
11. Explain the criteria that a firm should use in choosing the short term investment alternative in order to invest surplus cash.

12. From the following information compute optimum cash balance of a firm by using Baumol's Model.

Monthly cash requirement	Rs. 6,000
Fixed cost per transaction	Rs. 10
Interest rate on marketable securities	6%

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Uttar Pradesh Rajarshi Tandon
Open University

Master of Business Administration

M.B.A.-3.23

Working Capital Management

BLOCK

5

INTEGRATING WORKING CAPITAL MANAGEMENT

UNIT-16	299-314
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Integrating Working Capital and Capital Investment Process

UNIT-17	315-334
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Sources of Working Capital Finance

UNIT-18	335-358
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Dividend Policy and Decisions

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COURSE INTRODUCTION

Block-5 you have learnt about the integrating working capital management; integrating working capital and capital investment process, sources of working capital finance, and dividend policy and decisions.

Unit-16 discusses about working capital as an investment, models for integration, capital invest module, working capital module, present value module and cost of capital module.

Unit-17 explains approaches to optimum mix of funds, trade credit and accrual accounts, money market instruments, commercial paper, certificate of deposits, bill discounting and factoring, inter corporate loans and short term bank loans.

Unit-18 deals with concept and meaning of dividend policy, kinds of dividend, factors affecting dividend policy, characteristics of stable dividend policy, various dangers of stable dividend policy, types of dividend policy, models of dividend policy, walters dividend model, gordon's model, modigliani and miller model, criticisms of modigliani and miller model.

UNIT-16 INTEGRATING WORKING CAPITAL AND CAPITAL INVESTMENT PROCESS

Unit Framework

- 16.1 Objectives
- 16.2 Introduction
- 16.3 Working Capital as an Investment
- 16.4 Models for Integration
- 16.5 Capital Invest Module
- 16.6 Working Capital Module
- 16.7 Present Value Module
- 16.8 Cost of Capital Module
- 16.9 Summary
- 16.10 Self-Assessment Questions
- 16.11 Text and References

16.1 OBJECTIVES

After completing this unit you will be able to:

- to explain the working capital as an investment
- to elaborate models for integration of working capital management
- to know the capital invest module of working capital investment
- to examine the working capital module of capital investment
- to discuss the present value module and cost of capital modules.

16.2 INTRODUCTION

Besides capital investment, the firm needs funds for investment in its daily operations like investment in inventory, accounts receivable and cash which continues throughout the life of the plant. This investment is essentially a short term investment and its sources have different bearings on the overall cost of working capital. The theoretical models for evaluating capital investment alternatives implicitly assumes the costs resulting from changes in the working capital components or the cash benefits resulting from these components are embedded in the cash inflow from the investment. Though the implicit inclusion of working capital

components in the capital investment model may be correct theoretically, but the capability to measure the explicit contribution of working capital components against the corresponding cash inflows provides a powerful tool to the finance manager for rational management of quantity and sources of funds.

The reasons for identifying and measuring the costs and benefits created, by the working capital components and linking them explicitly into the total investment planning process is obvious. The working capital requirement for a firm varies in short as well as long run it is highly likely that a newly commissioned firm might start operating in low capacity and in later years switch to full throttle. Thus, throughout the life of an investment there is often a continuing growth of investment in working capital. The need for additional investment in working capital is dependent on the type and size of investment, the size and growth of the market, the growth of the relative market share and the length of the planning horizon. Also the source of financing these current assets, either long or short-term, can affect the cash flow patterns of an investment. A finance manager must be vigilant to the forecast the fluctuations in demand of working capital with precision. Forecasting errors can result in an erratic cash flow e.g., leading to financing decisions that impact significantly on the cash flows and profitability of an investment. The overall idea is that the cost quantity and timeliness of financing of working capital, a current liability should match the variations in the pace of operations and timeliness in realisation of current assets so created.

Finally, the capital investment decisions and long term financial planning systems should have competed harmony with the decisions around the working capital financing. Simultaneous Continuous communications between components of operating and strategic management are vital to the long-run success of a firm. Unfortunately, this is not the case with many corporations where such communications are often infrequent or nonexistent. There is an inherent need for a planning model that explicitly integrates the working capital components with the capital investment decision-making process.

16.3 WORKING CAPITAL AS AN INVESTMENT

Working capital is well recognized as an important decision area within the firm. Yet working capital does not seem to occupy a very prominent place within the academic field of finance. While a gap between theory and practice persists in many areas of management decision-making, it would seem, especially so, for working capital management. The gap between theory and practice may not be so serious, if working capital is given appropriate decision-making context. Specifically, if the working capital is viewed as an investment and those changes in working capital policies are included in the capital budgeting process of the firm.

In view of the relative size of working capital changes, and also the finding that many firms do indeed view such changes as investment projects, it is well to consider more closely the relationship of working capital decisions to other financial decisions made by the firm. This relationship is found in financial control. While control is well known to be one of the key functions of management, it would appear to have received considerably less treatment than planning, at least in the financial literature. But just as control without adequate planning will likely be futile, planning without adequate control will prove frustrating.

A first dimension of financial control that has been well documented is to monitor the financial progress of the firm over time. This usually takes the form of tracking selected financial ratios, and thereby assessing both the current status and likely future prospects of the organisation. If attention is limited to single ratios for just profitability and liquidity, then financial control is relatively straight forward. If, instead, management tracks a larger number of financial ratios, then financial control is more complex as trade-offs must be made. In general, if there are N measures being tracked any investment project or change in policy will result in $2N$ possible changes in the status of the firm, Obviously, the number $2N - 2$ quickly gets large as N is increased. One way to handle the complexity of multiple ratios is with composite measures such as the DuPont System or the Altman Bankruptcy model.

A second dimension of financial control is to consider corrective actions that can be taken when firm's progress departs from firm's plans. For example, if the liquidity position of the organisation appears to be worsening, management may decide to issue either bonds or equity in order to reduce short-term financial obligations. Alternatively, management may decide to reduce inventory levels and/or expand credit if the probability goal of the firm is not being achieved. Many possible corrective actions pertain to the current assets and current liabilities of the firm, and thus working capital adjustments can be an important part of overall financial control within the organisation.

A logical extension of this idea is to view corrective actions as investments made by the firm. Just as investments are routinely made by the firm in capital projects, so too should the firm routinely consider changes in working capital as investment projects. Viewed in this way, each investment in working capital is an attempt to move the firm closer to its expressed goals. This view, it should be noted, is different than just including working capital implications with each capital project being considered. It is also a view that is consistent, with the theory of the firm, the theory of finance, and apparently the current practices of many large industrial firms. The list, which is representative rather than exhaustive, is organised into six groups that correspond to certain current assets and current liabilities normally found on the balance sheet.

Possible Corrective Actions

Cash

1. Change collection network
2. Change disbursement network
3. Change size of operating cash balance

Marketable Securities

4. Change method of investing surplus cash
5. Change method of transferring funds between cash account and marketable securities portfolio.

Accounts Receivable

6. Change cutoff score for credit applications
7. Change discounts offered to customers
8. Change frequency of follow-up payment notice

Inventory

9. Change inventory valuation methods
10. Change inventory order quantities
11. Change inventory safety stocks
12. Change distribution network

Payables and Accruals

13. Change suppliers used
14. Change response to suppliers discounts
15. Change payroll procedures

Short-term Borrowing

16. Change lenders used
17. Change payment methods
18. Change collateral arrangements

Not all of the corrective actions in above would be feasible, let alone desirable, for a given firm at a particular point in time. For each corrective action that is feasible, financial managers should identify the expected benefits and costs towards evaluating whether it would help the firm move towards its expressed goals.

Corrective action 7, for example, is a change in the cash discounts which the firm offers to its customers. A cash discount tent amounts to a reduction in price. Suppose the discount is increased, to the extent that customers take advantage of the larger discount by paying their bills sooner, the firm's investment in accounts receivable is reduced. The expected benefit of corrective action 7, therefore, should reflect the extent of the discount that is offered to the proportion of credit customers that are expected to take the discount and the resulting decrease in the receivables investment. The expected cost of corrective action 7 is the reduced profit to the firm as a result of credit customers that avail themselves of the larger discount.

Based on past experiences with customer response to changing credit terms, the credit manager ought to be able to make reasonable estimates of the expected benefits and cost to the firm of offering customers a larger cash discount. Expected benefit and cost can then be combined in order to calculate a "return-on-investment" for the corrective action. If a similar procedure is also followed for each corrective action being considered, then each corrective action can be viewed as a proposed investment project by the firm-and evaluated within the context of the capital budgeting process. Again, this would seem to be consistent with both the theory and current management practice.

16.4 MODELS FOR INTEGRATION

There have been many valuable theoretical and operational contributions in managing each component of working capital linking them with one another. Linear programming (LP) models have been used to introduce the dynamic features of the working capital process. Two large scale LP models were designed to link the sources of short term credit to short term uses and to integrate the variables involved in managing short-term cash flow in this chapter. The Goal programming as a tool for the management of working capital has been applied.

Though the need for integrating the working capital processes into the long run financial planning processes has been recognized and a variety of theoretical linkages have been suggested, many of the models have not incorporated the dynamics of uncertainty involved in the short-run investment. None of these models are really integrated into the capital investment and long-run financing processes of the firm. The primary objective of this chapter is to offer an integrated model designed for management decision making and to provide a model for testing "What if" policy questions concerning the impact of working capital variables on the total profitability of capital investment alternative.

16.5 CAPITAL INVEST MODULE

The financial planning process is composed of many variables and occurs in an uncertain and dynamic environment; therefore, this model

will use simulation techniques to represent the interactions among the capital investment and working capital variables. The Hertz model is revised to simulate the capital investment process. The variables are divided into three major categories viz, market, investment and cost. The market analysis variables are market size, growth rate of market size related to the life cycle of the product and market share related to the price of the product. The investment analysis variables are life of the investment, on line time, initial and future investment costs excluding working capital costs. The cost analysis variables are the variable and fixed costs.

Each variable is assumed to be stochastic and independent. However, it is assumed that the parameters are specified for each variable by the decision makers, reflecting their perception of the interrelationships among the variables. If there are well established relationships among variables, these functional relationships can be easily inserted into the model. The programme randomly selects in a sequential order a value from the specified distribution for each variable. The uncertain and dynamic characteristics of the CI process are reflected in this random interaction of the variables. The selected values are used in the calculation of a net present value (NPV), internal rate of return (IRR), and a benefit/cost ratio (B/C) for each simulation. This process including the working capital module is repeated 100 times and the final outcomes are profitability profiles or cumulative frequency distributions of NPV, IRR, and B/C.

16.6 WORKING CAPITAL MODULE

The module simulates the integration of working capital components into the capital investment (CI) process. Forecasting errors and inflation are introduced into the total investment planning process because they are the primary causes of working capital management problems. The objectives of the module are: (1) to identify and measure the benefits and costs of investments in working capital components; (2) to identify the impact of forecasting errors and inflation on cash, inventory receivables, payables and short-term borrowing; and (3) to measure the sensitivity of net present value (NPV) and internal rate of return (IRR) profiles to changes in WC strategies designed to offset forecasting errors and inflationary conditions.

Historically, working capital (WC) activities are frequently revised, relatively routine and occur in a relatively short time period. Also the WC process is usually considered to be independent of the CI planning process. The management of short run cash flows is a continuous and dynamic process occurring in an uncertain environment. However, because the CI model operates on an annual basis it is assumed, for convenience, which the strategic planning of the WC cycle also operates on a one year horizon. A shorter time period could be programmed to accommodate the needs of decision makers.

Cash Flow Crises

A cash flow crisis often occurs when unexpected events arise, e.g., actual short-run expenditures being greater than forecasted and /or actual short-run cash inflows being less than forecasted. Surprise outflows can be related to a large price increase for raw materials. An unexpected decline in inflows arises when actual sales are less than forecasted or if there is an extension of the normal trade credit payment pattern. In both cases total cash outflows are frequently greater than total cash inflows plus existing cash items.

The standard approach to investment planning is to assume that the forecasted cash flows actually occur. For example, in solving for the net present value (NPV) or internal rate of return (IRR) of an investment it is assumed the forecasted distributions of revenues and costs actually occurred. By assuming the profitability profiles generated from the forecasted inputs actually happen, the analysis misses the effect a short-run financial crisis has on cash flows. Because cash flow crises often arise when forecasting errors occur, the analysis of investment opportunities requires an additional step. A dual simulation process is introduced with one assumed to represent the forecasted results and the other the actual outcomes. In simulating these two sets of conditions, the model assumes sales are the key mechanism. It is assumed that actual sales (s) are generated by the CI programme and a supportive forecast of sales (SF) is produced by the WC module. Simulating sales conditions where the actual sales are randomly different from forecasted sales, captures the essences of forecasting errors, which incorporates the major cause of WC problems.

If the forecasted sales exceed actual sales there will be a cash flow shortfall. To offset the short-fall current asset and current liability components are adjusted by management. The cash flow shortfall is the heart of the problem related to WC crises. The model provides management a variety of short-run policy alternatives to offset the cash flow shortfall.

New Variables

In the WC module two new sets of probabilistic variables are introduced and combined with the variables in the CI module. One set represents three WC variables. These variables inject the uncertainty existing in the WC system into the total financial planning process. Additionally, management determines a single value for each of the following variables.

Cash

Beginning cash

Minimum cash

Maximum cash (minimum cash plus marketable securities)

Receivables

Beginning receivables

Bad debt allowance

Inventory

Beginning inventory

Required ending inventory

Maximum inventory cushion

Cost of excess inventory

Operating

Gross margin for purchases

Percent of marginal sales achieved

Marginal labour cost on marginal sales

Interest

Short term borrowing rate

Short term lending rate

The working capital module is divided into three additional parts beyond the investment information presented in the CI module. The first module comprises the cost and income components. Also, inflation adjustments occur in this module. The second module involves the processes related to production and inventory. Finally, the module that links the total process together is the cash and trade credit system.

16.7 PRESENT VALUE MODULE

The concept of the present value is the exact opposite of that of compound value. While in the latter approach money invested now appreciates in value because compound interest is added, in the former approach (present value approach) money is received at some future date and will be worth less because the corresponding interest is lost during the period. In other words, the present value of a rupee that will be received in the future will be less than the value of a rupee in hand today. Thus, in contrast to the compounding approach where we convert present sums into future sums, in present value approach future sums are converted into present sums. Given a positive rate of interest, the present value of future rupees will always be lower. It is for this reason, therefore, that the

procedure of finding present values is commonly called discounting. It is concerned with determining the present value of a future amount, assuming that the decision maker has an opportunity to earn a certain return on his money.

In traditional analysis cash receipts were equal to the inflow of funds from actual sales, and cash payments included initial and future investment costs, price adjusted labour cost, total purchases and fixed costs, plus taxes. Net present value method is one of the modern methods for evaluating the project proposals. In this method cash inflows are considered with the time value of the money. Net present value describes as the summation of the present value of cash inflow and present value of cash outflow. Net present value is the difference between the total present value of future cash inflows and the total present value of future cash outflows.

Merits

1. It recognizes the time value of money.
2. It considers the total benefits arising out of the proposal.
3. It is the best method for the selection of mutually exclusive projects.
4. It helps to achieve the maximization of shareholders' wealth.

Demerits

1. It is difficult to understand and calculate.
2. It needs the discount factors for calculation of present values.
3. It is not suitable for the projects having different effective lives.

Accept/Reject criteria

If the present value of cash inflows is more than the present value of cash outflows, it would be accepted. If not, it would be rejected.

Example 6 : From the following information, calculate the net present value of the two project and suggest which of the two projects should be accepted a discount rate of the two.

	Project X	Project Y
Initial Investment	Rs. 20,000	Rs. 30,000
Estimated Life	5 years	5 years
Scrap Value	Rs. 1,000	Rs. 2,000

The profits before depreciation and after taxation (cash flows) are as follows:

	Year 1	Year 2	Year 3	Year 4	Year 5
	Rs.	Rs.	Rs.	Rs.	Rs.
Project x	5,000	10,000	10,000	3,000	2,000
Project y	20,000	10,000	5,000	3,000	2,000

Note : The following are the present value factors @ 10% p.a.

Year	1	2	3	4	5	6
Factor	0.909	0.826	0.751	0.683	0.621	0.564

Solution

Year	Cash Inflows		Present Value of Rs. 1 @ 10%	Present Value of Net Cash Inflow	
	Project X Rs.	Project Y Rs.		Project X Rs.	Project Y Rs.
1	5,000	20,000	0.909	4,545	18,180
2	10,000	10,000	0.826	8,260	8,260
3	10,000	5,000	0.751	7,510	3,755
4	3,000	3,000	0.683	2,049	2,049
5	2,000	2,000	0.621	1,242	1,242
Scrap Value	1,000	2,000	0.621	621	1,245
Total present value Initial investments				24,227	34,728
Net present value				4,227	4,728

Project Y should be selected as net present value of project Y is higher.

Revised Analysis : An objective of this model is to provide a more comprehensive investment analysis framework by explicitly integrating the working capital operations into the capital investment process. Forecasting errors and inflation may cause cash flows from the revised model to vary markedly from flows generated by the traditional model. Short-term borrowing and /or the sale of marketable securities are used to offset a cash flow shortfall or the retirement of debt. Marketable securities absorb an overflow of cash above the minimum level but below the maximum level. Also changing inventory levels, minimum cash levels or payment patterns of receivables and payables can alter shortfalls or overflows. Thus an objective of the revised model is to measure the size and sign of the cash flows and thereby make it possible to highlight the cost and benefits related to the working capital strategies. The significance of these working capital strategies on the net present value of an investment are explained in the following paragraphs.

First, declining business conditions or a prolonged inflationary environment can change payment behaviour and dramatically alter the inflow of funds from receivables. Thus a lengthening of payments on receivables that was not forecast can result in a significant cumulative shortfall in the actual cash inflows from an investment. During this period if the delays in receivables payments are not offset by a stretching of payable, the net cash flows will be further reduced. If cash flows are negative short-term borrowing will occur after cash and marketable securities are reduced to their minimums. The borrowing costs are determined in the revised model and are reflected as a cash outflow. Alternatively an acceleration of receivable inflows without a change in the payment of payables can expand the net cash flow during that period. Excess idle cash balances are invested and generate cash benefits for the investment.

Second, an adjustment in taxes is required because in the traditional models, short-term interests cost or benefits were not permitted. Thus, EBIT is increased when interest income is received, which makes EBT higher than in the traditional case. Also, in the revised model, interest costs cause EBT to be lower than in the traditional model. Thus, tax outflows in the revised model differ from taxes in the traditional model. Third, carrying excess inventory produces a holding cost. This cost enters the revised NPV equation as a cash outflow. This cost only occurs when inventory exceeds the upper control limit. Fourth, another big factor in the revised model relates to cash management policies and operations.

Finally, positive cash flows are used to retire accumulated short-term borrowing thereby reducing cash flows available for reinvestment. When negative cash flows happen, short-term borrowing will occur after liquid assets are reduced to a minimum. The result is that accumulated short term borrowing.

If the sum of the costs is greater than the receipts, and liquid assets are at a minimum, short term borrowing is employed to offset the amount of the negative cash flow. The rationale for this modeling assumption is that after

the initial investment costs (IC) are incurred, any additional costs are related to an investment in working capital components or delayed capital expenditures increases in the level of short term borrowing to offset a shortfall.

16.8 COST OF CAPITAL MODULE

The firm must earn a minimum of rate of return to cover the cost of generating funds to finance investments; otherwise, the objective of the firm i.e. maximization of wealth cannot be achieved. The capital may be in the form of debt, retained earnings, preference shares and equity shares. Every firm, for its survival and growth, has to earn a sufficient return to cover its costs of capital and also to have surplus for its growth. If a firm's rate of return on its investment exceeds its cost of capital, the wealth of equity stockholders is enhanced.

The **cost of capital** is the required rate of return that a firm must achieve in order to cover the cost of generating funds in the marketplace. Based on their evaluations of the riskiness of each firm, investors will supply new funds to a firm only if it pays them the required rate of return to compensate them for taking the risk of investing in the firm's bonds and stocks. If, indeed, the cost of capital is the required rate of return that the firm must pay to generate funds, it becomes a guideline for measuring the profitability of different investments. When there are differences in the degree of risk between the firm and its divisions, a risk-adjusted discount-rate approach should be used to determine their profitability.

Thus, it is clear from the above that the cost of capital is the minimum rate of return which a company is expected to earn from a proposed project so as to make no reduction in the earning per share to equity shareholders and its market price. It is the combined cost of each type of source by which a firm raises the funds.

ASSUMPTIONS COST OF CAPITAL : While computing the cost of capital, the following assumptions are made

- The cost can be either explicit or implicit.
- The financial and business risks are not affected by investing in new investment proposals.
- The firm's capital structure remains unchanged.
- Cost of each source of capital is determined on an after tax basis.
- Costs of previously obtained capital are not relevant for computing the cost of capital to be raised from a specific source.
- It consists of three important risks such as zero risk level, business risk and financial risk. Cost of capital can be measured with the help of the following equation.

Formula of Cost of Capital

$$K = r_j + b + f.$$

Where,

K = Cost of capital.

r_j = The riskless cost of the particular type of finance.

B = The business risk premium.

f = The financial risk premium.

However, the impact of inflation must be included in the cost of capital, K. The cash inflows and outflows in the numerator of the NPV equation are adjusted for inflation. Using the change in the perceived rate of inflation between periods, more closely approximates the behaviour of financial markets, than an expected rate of inflation for a long time horizon. The essence of the adjustment assumes a positive change in the rate of inflation will increase the cost of capital from the preceding period; however, if the rate of inflation decreases, the cost of capital will subsequently decrease. This would not occur if the adjustment process assumed a constant rising mean perceived rate of inflation.

By allowing the cost of capital to change each year, the inflation adjusted net cash flows in the numerator are discounted with a different k in each period. In this simulation model, the cost of capital is a probability distribution, and a cost of capital profile is created. The task of evaluating the profile of NPVs of an investment is complicated by not having a common cost of capital. Management must interpret the statistical properties of the NPVs, especially the mean, standard deviation, skewness and kurtosis when comparing separate simulation of the same alternatives or different alternatives. Furthermore, there is no longer a single cost of capital to serve as a benchmark for which the internal rates of return (IRR) can be compared.

Previously if $IRR > k$ the investment was acceptable or rejected if $IRR < k$. In this simulation model, the profile of 100 IRR's are compared to the profile of the 100 k's and the judgment of the user is needed to determine if the investment is acceptable.

The WC-CI model extends the traditional capital investment model and provides management a tool to test the sensitivity of an investment's profitability to changes in working capital strategies. Forecasting errors and inflationary conditions are shown to be the primary causes of working capital problems. These Working Capital Strategies are designed to offset forecasting errors and inflation. The model aids management in finding the best possible mix of strategies to generate the highest possible values of an investment.

16.9 SUMMARY

A firm is run with both fixed capital and working capital. The fixed capital is meant to be realised over a longer period but the working capital investment has to be recovered soon enough to continuously support the day to day cyclic nature of operations of a firm. These operations of the firm consume funds in the form of investment on factors of production and then yields returns on sales realisation. These capitals often change hands as working capital gets converted into fixed capital and via-versa. Thus, there is a need to integrate working capital and capital investment processes. This is based on the experiences that changes around the working capital policies bring about changes on the capital budgeting process of the firm. An attempt is made in this unit to highlight the significance of this integration process and the models to do it. Discussion in this unit is confined mainly to what if, techniques. The chapter focuses on both the capital investment module and working capital module. The capital investment module takes into consideration the variables such as market, investment and cost where each variable is assumed to be independent. The uncertain and dynamic characteristics of the capital investment module are reflected in the random interaction of the variables.

Whereas the working capital module is built to simulate the integration of working capital components into the capital investment process. More specifically, it attempts to measure the sensitivity of the NPV and IRR to corresponding changes in working capital strategies that are designed to offset the forecasting error and inflationary conditions. The models have highlighted the fact that forecasting errors and inflationary conditions are shown to be the primary causes of working capital problems.

16.10 SELF-ASSESSMENT QUESTIONS

1. What is working capital as an investment? Explain it with suitable examples.
2. How can computer simulation be used as a tool for improving business decisions? In view of the many techniques now available to the financial theorists, what judicial advantages are to be derived from simulation? Illustrate your decisions with specific examples.
3. Discuss the different models for integration. Give suitable examples to support your answer.
4. “In simulating financial decision, the strategy that produces the best simulated result is not necessarily the optimal financing strategy”. Do you agree with this statement? Why or Why not?
5. What do you understand by capital invest module of working capital? Explain it.

6. Elucidate working capital module of working capital investment process.
7. Describe present value module and cost of capital module of working capital investment.

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UNIT-17 SOURCES OF WORKING CAPITAL FINANCE

Unit Framework

- 17.1 Objectives
- 17.2 Introduction
- 17.3 Approaches to Optimum Mix of Funds
- 17.4 Trade Credit and Accrual Accounts
- 17.5 Money Market Instruments
- 17.6 Commercial Paper,
- 17.8 Certificate of Deposits
- 17.9 Bill Discounting and Factoring
- 17.10 Inter Corporate Loans
- 17.11 Short Term Bank Loans
- 17.12 Summary
- 17.13 Self-Assessment Questions
- 17.14 Text and References

17.1 OBJECTIVES

After completing this unit you will be able to:

- to explain approaches to optimum mix of funds
- to learn about the trade credit and accrual accounts
- to know the money market instruments
- to elaborate commercial paper, certificate of deposits
- to debate bill discounting and factoring
- to discuss the inter corporate loans and short term bank loans.

17.2 INTRODUCTION

A source of Working Capital Finance means availability of funds for a period of one year or less than that period. Usually the sources for such short term finances Generally the short term sources are trade credit, bank credit, indigenous bankers, public deposits, advances from customers, personal loans, retained earnings, accrued expenses, and provision for taxation and depreciation fund. These are short term finances

used to cover the financial needs up to one year employed in the purchase of raw materials, paying salaries, taxes, rent etc.

Broadly speaking, the short-term finance may be classified between two categories i.e. spontaneous sources and negotiated sources. Spontaneous sources of finance are those which naturally arise in the course of business operations. Trade credit, credit from employees, credit from suppliers of services etc. are some of the examples which may be quoted in this respect. Negotiated sources, as it is clear from the name itself, are those which have to be specifically negotiated with lenders say commercial banks, financial institutions, general public etc. The finance manager has to be very careful while selecting a particular source, or a combination thereof for financing of working capital. Generally the following parameters are suggestive to consider before arriving on any decisions. These are cost, impact of credit rating, feasibility, reliability, restrictions and hedging or matching approach i.e. raising the same maturity short-term fund as needed in the business.

17.3 APPROACHES TO OPTIMUM MIX OF FUNDS

Approaches to optimum mix of funds are dealt with the size of investment in current assets, the methods of financing of working capital needs our attention. Working capital is financed both internally and externally through long-term and short-term funds, through debt and ownership funds. In financing working capital, the maturity pattern of sources of finance depended much coincide with credit period of sales for better liquidity. Generally, it is believed that funds for acquiring the fixed assets should be raised from long term sources and short-term sources should be utilized for raising working capital. But in the recent modern enterprises, both the types of sources are utilized for financing both fixed and current assets. There are basically three approaches to financing working capital. These are: the Hedging approach, the Conservative approach and the Aggressive approach.

- ***Hedging Approach*** : The hedging approach is also known as the matching approach. Under this approach, the funds for acquiring fixed assets and permanent current should be acquired with long term funds and for temporary working capital short term funds should be used.
- ***Conservative Approach*** : This approach suggests that in addition to fixed assets and permanent current assets, even a part of variable current assets should be financed from long-term sources. The short-term sources are used only to meet the peak seasonal requirements. During the off season, the surplus fund is kept invested in marketable securities. Surplus current asset enable the firm to absorb sudden variation in sales, production plans, and procurement time without destructing production plans.

Additionally the higher liquidity level reduces the risk of insolvency. But lower risk translates into lower returns. It assures continuous flow of operation and illuminates worry about recurring obligation. Under this strategy, long term financing covers more than the total requirement of capital. The excess cash is invested in short-term marketable securities and in need these securities are sold off in the market to meet the urgent requirement of working capital.

- **Aggressive Approach** : This approach depends more on short-term funds. More short-term funds are used particularly for variable current assets and a part of even permanent current assets; the funds are raised from short term sources. Under this approach current assets are maintained just to meet the current liabilities without keeping cushions for the variation in working capital needs. The companies working capital is financed by long-term source of capital and seasonal variation are met through short-term borrowing. Adoption of this strategy will minimize the investment in net working capital and ultimately it lowers the cost financing working capital needs. The main drawback of this strategy is that it necessitates frequent financing and also increase, as the firm is variable to sudden shocks.

Risk preferences of management shall decide the approach to be adopted. The risk neutral will adopt the hedging approach, the risk averse will adopt the conservative approach and risk seekers will adopt the aggressive approach.

On the other hand short-term finance tends to be less expensive than long term finance. The principal supplier of the short-term finance is the banking system and its overdrafts and loans have the additional advantages of being available quickly and inexpensively. On the contrary, in long term finance, the public issue of shares tends to be expensive because of the services of issuing houses, merchant banks, lawyers, accountants, and possibly other experts whose services are almost essential. Bank overdraft negotiations do not require these experts, although the bank may charge a commission for the overdraft facility offered in addition to the interests on the overdraft when used.

Optimum mix of short term funds deals with the commercial bank, trade credit and other sources of funds that have to be repaid within a year or less. Trade credit is the privilege extended by suppliers to their customers for delaying the payment of goods purchased, sometimes for a month or more. Short-term financing is associated largely with paying for those business assets that change constantly in form and that are used up or consumed in the course of operations. Such assets are also called 'current assets' or 'working assets'. Customers may sometimes provide short-term funds by making advances on contracts. They in essence, make a prepayment on goods before receiving delivery. Customers might advance funds, if the order is big enough to require the manufacturer to tie

up in raw materials or goods to process more funds than what the latter can afford.

17.4 TRADE CREDIT AND ACCRUAL ACCOUNTS

17.4.1 TRADE CREDIT

Trade credit as source of working capital refers to credit facility given by suppliers of goods during the normal course of trade. In other word, the credit extended in connection with the goods purchased for resale by a retailer, or for raw materials used by manufacturer in producing its products is called the trade credit. Thus, trade credit may be defined as the credit available in connection with goods and services purchased for resale. It is the 'resale' which distinguishes trade credit from other sources. It can be clarified with an example that the fixed assets may be purchased on credit, but since these are to be used in the production process rather than for resale, such credit purchase of fixed assets is not called trade credit.

When a firm buys goods from another, it may not be required to pay for these goods immediately. During this period, before the payment becomes due, the purchaser has a debt outstanding to the supplier. This debt is recorded in the buyer's balance sheet as creditors; and the corresponding account for the supplier is that of debtors. Normal business transaction, therefore, provide the firm with a source of short term financing (trade credit) because of the time gap between the receipts of goods and services and payment thereof. The amount of such financing depends on the volume of purchases and the payment timing. Small and new firms are usually more dependent on the trade credit, as they find it difficult to obtain funds from other sources.

There can be an argument that trade credit is a cost free source of finance but it is not, it involves implicit cost. The supplier extending trade credit incurs cost in the form of opportunity cost of funds invested in trade receivables. Generally, the supplier passes on these costs to the buyer by increasing the price of the goods or alternatively by not extending cash discount facility. Trade credit is mostly an informal arrangement and granted on open account basis, In USA trade creditors are called account payables.

Advantages of Trade Credit :

Trade credit is a spontaneous source of financing. When volume of business grows, amount of credit also automatically increases. Suppose buyer is in habit of receiving credit for 20 days and his daily purchases are Rs. 20,000 per day. If his business increases and makes purchases for Rs. 4,00,000 (20 x 20,000) to Rs. 5,00,000 (20 x 25,000). In an informal way,

buyer receives extra credit as he has making prompt payment at the end of 20 days. The major advantages of trade credit are as under:

1. **Stress-free Availability** : Unlike other sources of finance, trade credit is easier to obtain. Market practice in a particular trade normally determines credit period. On this trade credit, many small firms survive. In many trades, it is an accepted way of conducting business. Even a new shop gets trade credit after a couple of transactions. It is not possible to secure borrowing from banks in initial periods. Even for a new company, trade credit is easier to secure and highly difficult to raise finance in capital market.
2. **Tractability** : Tractability is a unique feature of trade credit, if business expands, more purchases are made and with higher purchases, more trade credit is received. In contrast, when business declines automatically firm makes lower purchases with it, lesser trade credit is received.
3. **Casualness** : Trade credit is casual. No legal documents are involved. Generally no formal agreement is entered into while extending trade credit.

Decision Analysis of Trade Credit :

If the cost of trade credit compared to the opportunity cost of capital is very high then it is advisable to avail cash discount offered by the supplier. If the cost of trade credit is low compared to the opportunity cost of capital and it is less, then one should forego cash discount and utilize the cash during the credit period extended by the supplier. However, in some cases the payment can be delayed beyond the last day of available credit period. This depends on the buyer supplier relationship. However, the buyer should always keep in mind the fact that payments can be slowed down only till a point where the credibility and goodwill of the buyer is not hampered.

17.4.2 ACCRUAL ACCOUNTS

Accrual accounts means accounting method that records revenues and expenses when they are incurred, regardless of when cash is exchanged. The term "accrual" refers to any individual entry recording revenue or expense in the absence of a cash transaction. Accrual concept is the most fundamental principle of accounting which requires recording revenues when they are earned and not when they are received in cash, and recording expenses when they are incurred and not when they are paid.

Examples of expenses that are commonly accrued include: Interest on loans, for which no lender invoice has yet been received. Taxes incurred, for which no invoice from a government entity has yet been received. Wages incurred, for which payment to employees has not yet been made. Some of the accrual accounts are as follows:

- Accrued Expenses,
- Provisions &
- Deferred Income

1. **Accrued Expenses** : Another source of short-term financing is the accrued expenses or the outstanding expenses liabilities. The accrued expenses refer to the services availed by the firm, but the payment for which has not yet been made. The classical example is salaries payable to staff. In case of salaries and wages, employees render their services and so benefit of services is received by the firm immediately while payments are made at the end of month. So even employees to provide a source of spontaneous short-term finance to the organization they work. Electricity and telephone are other examples where services are received first and payments are made at the end of specified duration normally end of month. In case of corporate taxes, they are paid quarterly while profits are made as and when sales are made. In this way, even government has provided credit to business firms in respect of their cash sales. When bill for payment is not received and accounts are to be finalized, provision for accrued expenses is made in accounts to reflect true and fair profit and financial position in financial statements. It is built-in and an automatic source of finance as most of the services, are paid only at the end of a period. Accrued expenses represents spontaneous and interest free source of financing. There is no explicit or implicit cost associated with the accrued expenses and the firm can save liquidity by accruing these expenses. The longer the period of payment, higher the benefit firm derives. However, due to legal constraints and practical difficulties, firm cannot postpone their payment indefinitely. Till their payment, firm enjoys benefit as short term financing.
2. **Provisions** : From Profit after Tax, the various expenses to be made in future are deducted as estimated expenses of the future like provision for dividends, provision for bonus etc. As these provisions are not immediate cash outflow, they provide funds for the firm for its current use. However, the firm has to make these payments in future from its future earning profits. Funds generated from operations, during an accounting period, increase working capital by an equivalent amount. The two main components of funds generated from operations are profit and depreciation. Working capital will increase by the extent of funds generated from operations.
3. **Deferred Income** : Deferred Income represents funds received in advance for services to be rendered in future. The

receipts improve liquidity of firm. However firms that have great demand for their products and services, enjoying good reputation in market, can only get the benefit of deferred income. Manufacturers and contractors engaged in producing or constructing costly goods, involving considerable length of time for manufacture or construction, demand advance money before accepting orders. In turn key projects or where goods are to be made for a specific requirement, advance payments are insisted. This avoids possibility for cancellation of sale after commencement of execution of order. Normally, clause remains in those contracts that advance payment made would be forfeited on cancellation of the contract. These advances are adjusted when goods and services are supplied. Till supply of services, amount stands as a liability in the books of recipient. This is a cost free source of finance and really useful in business.

17.5 MONEY MARKET INSTRUMENTS

Money market instruments are securities that provide businesses, banks, and the government with large amounts of low-cost capital for a short time. The period is overnight, a few days, weeks, or even months, but always less than a year. Money market instruments allow managers to get cash quickly when they need it. There are several money market instruments in most Western countries, including treasury bills, commercial paper, bankers' acceptances, deposits, certificates of deposit, bills of exchange, repurchase agreements, federal funds, and short-lived mortgage- and asset-backed securities.

Functions of the Money Market : The money market contributes to the economic stability and development of a country by providing short-term liquidity to governments, commercial banks, and other large organizations. Investors with excess money that they do not need can invest it in the money market and earn interest.

The Money Market Instruments help to provide short-term funds to the private and public institutions that need finance for their working capital requirements. These funds are provided by discounting the trade bills through commercial banks, brokers, discount houses, and acceptance houses.

Characteristics of the Money Market : Three important characteristics are:

- (i) **Liquidity :** Since they are fixed-income securities with short-term maturities of a year or less, money market instruments are extremely liquid.
- (ii) **Safety :** They also provide a relatively high degree of safety because their issuers have the highest credit ratings.

- (iii) **Discount Pricing** : A third characteristic they have in common is that they are issued at a discount to their face value.

Types of money market instruments : There are several types of money market instruments. Few of them are as follows:

- Treasury bills.
- Commercial paper.
- Short-term CDs.
- Bankers acceptances.
- Municipal notes.
- Federal funds.
- Repurchase agreements (repos)

17.6 COMMERCIAL PAPER

Commercial Paper (CP) is an unsecured promissory note issued by a firm to raise funds for a short period, generally, varying from a few days to a few months. In India, the maturity period of Commercial Paper varies between 15 days to 1 year while in some other countries; the maturity period may go up to 270 days. It is a money market instrument and generally purchased by commercial banks, money market mutual funds and other financial institutions desirous to invest their funds for a short period. As the Commercial Paper is unsecured, the firms having good credit rating can only issue the commercial paper.

The firm or the dealers in Commercial Paper sell these to the short-term lenders who use it as interest earning investment of temporary surplus of operating funds. The nature of these surpluses and motives for buying the CP suggest that all the holders of the commercial paper expect to be paid in full at maturity. The maturity term of commercial paper is not extended. This expectation on the part of short term tenders requires that the borrowing firm must be (i) an established and profitable firm and (ii) consistently maintaining credit goodwill in the market and having good credit rating. The interest cost of the commercial paper depends upon the amount involved, maturity period and the prime lending rates of commercial banks. The main advantage of commercial paper is that cost involved is lower than the prime lending rates. In addition to this cost, the borrowing firm has to bear another cost in the form of placement fees payable to the dealer of Commercial Paper who arranges the sale.

17.6.1 ISSUE OF COMMERCIAL PAPERS IN INDIA

Commercial Paper was introduced as a money market instruments in India in January, 1990 with a view to enable the companies to borrow for short term. Since the commercial paper represents an unsecured borrowing in the money market, the regulation of CP comes under the purview of the Reserve Bank of India which has issued Guidelines in 2000 superseding all earlier Guidelines. These Guidelines are aimed at:

- (i) Enabling the highly rated corporate borrowers to diversify their sources of short term borrowings, and
- (ii) To provide an additional instrument to the short term investors.

These Guidelines have stipulated certain conditions meant primarily to ensure that only financially strong companies come forward to issue the CP. Commercial Paper should be in the form of usance promissory note negotiable by endorsement and delivery. It can be issued at such discount to the face value as may be decided by the issuing company. Commercial Paper is subject to payment of stamp duty. In terms of the guidelines, the issuer company is not permitted to take recourse to the underwriters for underwriting the issue of Commercial Paper.

17.6.2 BENEFITS OF COMMERCIAL PAPER

From the point of the issuing company, Commercial Paper provides the following benefits:

- (a). Maturing commercial paper can be repaid by selling new commercial paper and thus can provide a continuous source of funds.
- (b). Commercial Paper can be issued as a source of fund even when money market is tight.
- (c). Maturity of Commercial Paper can be tailored to suit the requirement of the issuing firm.
- (d). Commercial Paper is sold on an unsecured basis and does not contain any restrictive conditions.
- (e). Generally, the cost of Commercial Paper to the issuing firm is lower than the cost of commercial bank loans.

17.6.3 LIMITATIONS OF COMMERCIAL PAPER

However, Commercial Paper as a source of financing has its own limitations.

- (a). Commercial Paper can neither be redeemed before maturity nor can be extended beyond maturity.

- (b). Only highly credit rated firms can use it. New and moderately rated firms generally are not in a position to issue Commercial Paper.

So, Commercial Paper is advantageous both to the issuer as well as to the investor. The issuer can raise short-term funds at lower costs and the investor as a short term outlet of funds. Commercial Paper provides liquidity as they can be transferred. However, the issuer must adhere to the RBI guidelines.

17.8 CERTIFICATE OF DEPOSITS

Certificates of deposit are a secure form of time deposit, where money must stay in the bank for a certain length of time to earn a promised return. A CD, also called a “share certificate” at credit unions, almost always earns more interest than a regular savings account.

It is a short term borrowing more like a bank term deposit account. It is a promissory note issued by a bank in form of a certificate entitling the bearer to receive interest. The certificate bears the maturity date, the fixed rate of interest and the value. It can be issued in any denomination. They are stamped and transferred by endorsement. Its term generally ranges from three months to five years and restricts the holders to withdraw funds on demand. However, on payment of certain penalty the money can be withdrawn on demand also. The returns on certificate of deposits are higher than T-Bills because it assumes higher level of risk. While buying Certificate of Deposit, return method should be seen. Returns can be based on Annual Percentage Yield (APY) or Annual Percentage Rate (APR). In APY, interest earned is based on compounded interest calculation. However, in APR method, simple interest calculation is done to generate the return. Accordingly, if the interest is paid annually, equal return is generated by both APY and APR methods. However, if interest is paid more than once in a year, it is beneficial to opt APY over APR.

17.8.1 ADVANTAGES OF CERTIFICATES OF DEPOSIT

There are numerous advantages to investing in a CD, many of which make them an attractive option for consumers looking for a low-risk investment that doesn't require a significant amount of money up front.

- (a). **Term of Investment** : The major advantage of using a CD is that you can chose the tenure for investment in CD from 3 months to five years. The longer the term of CD, the greater is the amount of interest that you receive for your investment.

- (b). **Grace Period** : The advantage of investment in a CD is the grace period that is granted by the Bank. Grace period is the period granted by the bank to decide your plans of further investment of the matured amount. The grace period is generally of seven days.
- (c). **Fixed Rate of Interest** : The CDs are the safest investments as the rate of interest is almost fixed and does not change for the entire tenure of the CD. So you need not worry about the floating rate of interest. CDs are also beneficial as they pay a higher rate of interest than the savings account
- (d). **Lower Risk** : While investing money, investors look out for option that offers lower risk. CDs offer investors the option of investing at lower risks. If you have some money and you are planning not to use that money for some time, you are advised to invest that money in certificate of deposit.
- (e). **More Rate of Interest than Savings Account** : The rate of interest offered by CDs is more than the traditional savings account. During tough economic times, it is easier to invest in certificate of deposits as the interest on CDs is earned at fixed rate.
- (f). **Promotes Safe Investment by Banks** : CDs are less risky as compared to traditional investments like mutual funds and annuities. They are linked to stock market and hence do not guarantee any fixed returns. When you invest in CDs, the banks issuing the CDs will further invest this amount into safe investments that will promote and generate growth. Thus the money is used wisely for investments.
- (g). **One Size Fits All** : CDs are used by individuals from low income group as well as individuals from high income group. This helps the banks to get them a steady business by offering CDs and is a win-win situation for both the banks and the investors. Also no middle agent is required for purchasing a CD. The investors can directly contact the bank for their investment in CD.

17.8.1 DISADVANTAGES OF CERTIFICATES OF DEPOSIT

Though CDs often represent a safe and predictable way to invest money, they may not be right for everyone, particularly investors who may need to access the cash before the term expires or who are seeking a higher return on investment.

- (a). **Penalty** : The major disadvantage of investing in CD is that once you invest in a CD, you cannot withdraw your money before your term matures. In case you do so, the bank charges a penalty for the same.
- (b). **Automatic Rollover** : The other biggest disadvantage is that in case you do not decide about what you have to do with your

matured funds, the bank will automatically renew the same at prevailing interest rate which may sometime be much lesser as compared to other investment options.

- (c). **Limited Liquidity** : The other disadvantage is that the owner cannot easily liquidate the CD in case of emergency. They are usually charged a penalty for premature withdrawal which may result in loss of interest.
- (d). **Inflation Risk** : The interest rate on CDs does not increase with inflation and thus your time value of money will decrease with increasing inflation.

17.9 BILL DISCOUNTING AND FACTORING

17.9.1 BILL DISCOUNTING

Bill discounting is a method of trading or selling the bill of exchange to any financial institution like banks before it becomes matured with a less price than its par value. Discount on a bill of exchange is based on the remaining time for a maturity of it. A bill of discounting involves trade debts which are backed by account receivables. In simple language, Bill of discounting is an advance against the bill. The discount on the bill of exchange will be based on the remaining time for its maturity and the risk involved in it.

First of all the bank satisfies himself regarding the credibility of the drawer, before advancing money. Having satisfied with the creditworthiness of the drawer, the bank will grant money after deducting the discounting charges or interest. When the bank purchases the bill for the customer, it becomes the owner of the respective bills. If the customer delays the payment, then he has to pay interest as per prescribed rates. Further, if the customer defaults payment of the bills, then the borrower shall be liable for the same as well as the bank can exercise Pawnee's rights over the goods supplied to the customer by the borrower.

Types of Bill Discounting

Bill discounting is classified into four categories as

1. **LCBD (Bill Discounting backed with LC)** : Discounting of Letter of Credit is a short-term credit facility provided by the bank to the beneficiary. Bank purchases the documents or bills of the exporter (beneficiary) after he fulfills certain compliances. On meeting these compliances, the bank makes him the payment. LCBD is the product of Working Capital Finance.
2. **CBD (Clean Bill Discounting)** : Clean Bill Discount is a lending service that enhances your company's short-term liquidity using a bill, bill of exchange, promissory note or post-dated cheques,

which you sell to the Bank to get cash quickly and conveniently. Exchange bills for cash immediately after export.

3. **DBD (Drawee bill discounting)** : Under this type of lending, Bank takes the bill drawn by borrower on his (borrower's) customer and pays him immediately deducting some amount as discount/commission. The Bank then presents the Bill to the borrower's customer on the due date of the Bill and collects the total amount.
4. **IBD (Invoice bills discounting)** : Invoice discounting is a source of working capital finance for the seller of goods on credit. Bill discounting is an arrangement whereby the seller recovers an amount of sales bill from the financial intermediaries before it is due. Such intermediaries charge a fee for the service. Invoice discounting is the practice of using a company's unpaid accounts receivable as collateral for a loan, which is issued by a finance company. The amount of debt issued by the finance company is less than the total amount of outstanding receivables (typically 80% of all invoices less than 90 days old).

17.9.2 FACTORING

Factoring is a process in which the customer or borrower sells its debts to the financial institution or a factoring company at a discount. Factoring finance deals in account receivables it means invoices. A factoring company deducts the interest charges on financial services and commission charges for additional services from the factoring charges. A customer gives the instruction to transmit payment directly to the factoring company and settles the due balance. Having purchased the receivables the factor finances, money to them after deducting the following:

- An appropriate margin (reserve)
- Interest charges for the financial services
- Commission charges for the supplementary services.

Now, the client forwards the collection from the customer to the financial institution or he gives the instruction to forward the payment directly to the factor and settles the balance dues. The bank provides the following services to the client: Credit Investigation, Debtors Ledger Maintenance, Collection of Debts, Credit Reports on Debtors and so on.

The Types of Factoring

The types of factoring are as under:

1. **Disclosed Factoring** : All the parties know about the factoring arrangement.
2. **Undisclosed Factoring** : The parties do not know about the factoring arrangement.

3. **Recourse Factoring** : In the case of default in payment by the customer the borrower pays the amount of bad debts.
4. **Non-recourse Factoring** : The factors himself bears the amount of bad debt, and that is why the commission rate is higher.

Advantages of Factoring

- (a). It enhances the liquidity position of the company.
- (b). The hazardous job of collection from Debtors gets eliminated.
- (c). The loss of interest because of late collection of Debtor can be arrested. Obviously, the return of investment improves.
- (d). The whole attention and energy of the concerned company can be diverted only on the sales/ marketing aspects.

Disadvantages of Factoring

In spite of many services offered by factoring, following are disadvantages of factoring.

- (a). High cost of factoring compared to other short-term finance.
- (b). Firms availing factoring services are viewed as weak.
- (c). Once a buyer defaults in payment, factor takes a tough stance and may not agree to provide credit against sales made to the same buyer. This action may force the firm to discontinue sales, resulting in reduced sales.

17.9.3 IMPORTANT POINTS OF DISTINCTION BETWEEN BILL DISCOUNTING AND FACTORING

Bill Discounting and Factoring are two types of short-term finance through which the financial requirements of a company can be fulfilled quickly. The former is related to the borrowing from the commercial bank while the latter is associated with the management of book debts.

The term factoring includes entire trade debts of a client. On the other hand, bill discounting includes only those trade debts which are supported by account receivables. In short, bill discounting, implies the advance against the bill, whereas factoring can be understood as the outright purchase of trade debt.

The following are the major differences between bill discounting and factoring:

- Selling of bills at a discount to the bank, before its maturity is known as Bill Discounting. Selling of the debtors to a financial institution at a discount is Factoring.

- The bill is discounted, and the whole amount is paid to the borrower at the time of the transaction. Conversely, the maximum part of the amount is provided as an advance, and the rest of the amount is given as balance when the dues are realized.
- The parties to bill discounting are a drawer, drawee, and payee whereas the parties to factoring are the factor, debtor, and borrower.
- The bill discounting is always recourse, i.e. if the customer defaults in payment of debt, then the payment is made by the borrower. On the other hand, the factoring can be recourse and nonrecourse.
- The Negotiable Instrument Act, 1881 contains the rules relating to bills discounting. In contrast to factoring this is not covered under any act.
- In bill discounting the financier gets the discounting charges for financial services, but in the case of factoring the factor gets interest and commission.
- In factoring, the debts are assigned which is not done in bill discounting.

17.10 INTER CORPORATE LOANS

A company is entitled to provide another company or body corporate with loans, investment, guarantee and securities, either with the consent of the board or that of the shareholders. This article covers the various provisions of Section 186 of Companies Act, 2013 which deals with inter-corporate loan and investment. The companies act provisions had been superseded by Section 45 of RBI Act and SEBI Rules .The acceptance of deposits and loans by manufacturing companies are governed by SEBI Rules .The Company can give interest free and unsecured loans subject to scheme being approved by SEBI and Registrar of Companies.

An Inter-Corporate Deposit (ICD) is an unsecured borrowing by corporates and FIs from other corporate entities registered under the Companies Act 1956. The corporate having surplus funds would lend to another corporate in need of funds.

Ceiling on Inter-Corporate Loan and Investment : All companies have a restriction and ceiling on the maximum amount of inter-corporate loan and investment. A company should not provide loans or guarantee or purchase securities of any other body corporate exceeding 60% of its paid-up share capital, free reserves and security premium account or 100% of its free reserves and security premium account, whichever is more.

If the aggregate of inter-corporate loan, investment, guarantee and securities in connection with loan already made and proposed to be made

together is not above the specified limit, inter-corporate loan and investment can be processed by passing board resolution with consent of all directors present at the board meeting. If the same is beyond the specified limit, prior special resolution must be passed and prior approval of the financial institution should be obtained, the latter if term loan is subsisting.

Restriction on Loan & Guarantee : A company is prohibited from making any inter-corporate loan, guarantee and security if it has defaulted in payment of interest. Such prohibition will be effective until the default is completely addressed by the company. Also, a company is not permitted to make any investment through two layers of investment companies, barring a few exceptions.

Rate of Interest : Loans should not be provided at a rate of interest lower than the prevailing yield of one year, three year, five year or ten year Government Security closest to the tenor of loan. This isn't applicable in circumstances where the loan is provided for industrial research and development projects, in which 26% or more of the paid-up capital is held by Government.

Disclosure : The Company must disclose the following particulars to its shareholders in the financial statements if any inter-corporate loan or investment is made:

- Amount of loans provided, investment made/guarantee given/security provided.
- Purpose of providing the same.
- The proposed usage of the same by the recipient.

Non-applicability of Section 186 : Some type of companies is in the business of providing loans and making investment. Hence, Section 186 will not be applicable on any loans or guarantee given by:

- A banking company, insurance company or a housing finance company in its normal business operations.
- A company framed with the purpose of financing industrial enterprises or providing infrastructure facilities.
- A registered non-banking finance company which concentrates primarily on acquisition of securities.
- An organization that purchases rights of shares.
- A company whose primary business involves the acquisition of shares.
- A government company that operates defense production.
- Unlisted companies which are legally authorized by the Ministry or Department of the State or Central Government.

17.11 SHORT TERM BANK LOANS

A loan scheduled to be repaid in less than a year. When your business doesn't qualify for a line of credit from a bank, you might still have success in obtaining money from them in the form of a one-time, short-term loan (less than a year) to finance your temporary working capital needs. Bank offers short term funds for business enterprise in different forms. It may provide funds either directly or indirectly. In case of indirect finance, the bank covers only the risk and does not provide finance i.e. letter of credit and in case of direct finance, the bank provide finance plus it covers the risk i.e. cash credit, overdraft, note lending and discounting of bills.

The firm gives an assessment of its working capital requirement to the bank. On this request the bank provides a credit limit to the firm which the firm can operate accordingly. The interest is charged on the amount actually utilized by the firm. However, the bank requires the borrowing firm to maintain a minimum balance in its operating accounts at all times which is known as compensatory balance. Some of the short term bank loans are as follows:

- (a). **Cash Credit** : Cash credit is the most popular form of credit with borrowers for meeting working capital requirements. Bank considers firm's sales and production plans to sanction a particular working capital limit, which is called sanctioned limit in a cash credit account. In case of seasonal industries, bank sanctions peak credit limit to meet working capital requirements during season which is always higher in comparison to the limit sanctioned for non-peak period. So, bank sanctions separate limits for peak and non-peak periods as working capital requirement is maximum during peak season. These cash credit limits are against security of current assets such as stocks and book debts.
- (b). **Bank Overdraft** : It is short-term borrowing facility made available to the companies in case of urgent need of funds. The bank will impose limits on the amount they can lend. When the borrowed funds are no longer required they can quickly and easily be repaid. The bank issues overdrafts with a right to call them in at short notice. Banks sanction regular overdraft limits normally against security of fixed deposit receipts, shares, life insurance policy, postal certificates etc. Interest is charged on amount utilized. Cheques facility is made available in overdraft account. In addition to permanent overdraft limit, bank sanctions temporary overdraft in current account of customers as and when cheques received are in excess of balance in current account. This is a

temporary arrangement and normally availed by professional for their working capital requirements.

- (c). **Note Lending** : Note lending is very different from Cash Credit and Bank Overdraft account. It is not a running account. It is sanctioned for a period of about 2-3 months. It is a form of loan given to the borrower against promissory notes/debt instrument. Interest is charged on the complete loan amount sanctioned unlike cash credit/bank overdraft account where interest is charged only on the utilised (withdrawn) account. However note lending is not as popular as cash credit/bank overdraft arrangement.
- (d). **Line of Credit** : A line of credit is an agreement between a bank and a firm that permits the firm to borrow up to a specified limit during a particular time period. Once the line of credit is approved at the start of the period, loans taken out against the line are usually approved by the loan officer with a minimum of delay or additional investigation. The agreement specifies the terms and conditions of the loans to be made under the line of credit. Although technically in force for a set time period, usually a year, most credit lines represent an ongoing relationship with the bank and may be renewed. At renewal the rate, credit limit, or other conditions of the line of credit may be altered, depending upon the financial performance, condition and needs of the borrower. The line of credit provides a very flexible source of short-term financing. The borrower has access to a specified amount of credit, but pays interest only on the actual borrowing. Line of Credit is a commitment by a bank to lend a certain amount of funds on demand specifying the maximum amount.
- (e). **Bank Guarantees** : Bank guarantee is one of the facilities that the commercial banks extend on behalf of their clients in favour of third parties who will be the beneficiaries of the guarantees. In case of guarantee, it may be categorized as Performance Bank Guarantee, Bank guarantee against advances received by a supplier and bank guarantee in lieu of security deposit or earnest money as per requirement of tenders of different Governmental or Corporate bodies be it in private sectors or in public sectors.

17.12 SUMMARY

Short-term funds can be collected through many sources such as accrued expenses, provisions, trade credit, bank finance, public deposits, commercial papers, treasury bills and via factoring etc. One of the important sources of short term fund is trade credit. It is raised when firm purchases raw materials on credit. However, the firm should also evaluate the potential loss, it may incur in foregoing any cash discount that could have been offered by the supplier, had the firm chose to buy without trade

credit. Another source of short term fund could be accrued expenses or deferred payments that arise due to delayed payments.

Banks are principal sources of short term finance. The different forms of bank borrowings are cash credit, bank overdraft, discounting of bills, short term loans, letter of credit. However, bank finance is given on the basis of working capital requirement assessed for a particular firm. There are various regulations of RBI under which bank finance is offered. Commercial paper is an important instrument of money market. The highly rated, blue chip company issue commercial paper for short-term finance. In India common commercial papers are of 91 & 180 days maturity.

Factoring is another source of short term finance in which the company sells its receivables to factoring providing firms called factors which in turn monitor and collect receivables on behalf of the firm. They offer around 70-90% of the receivable amount to the firm even before the money is recovered. There are various types of factoring. In India factoring is still in its nascent stage.

17.13 SELF-ASSESSMENT QUESTIONS

1. Explain the importance of trade credit as a source of short-term finance. Whether the provision of this source involves any cost to the provider and who bears it, finally?
2. What are accrued Expenses? What are the limitations of using accrued expenses?
3. Describe the different types of short-term finance provided by Commercial banks for meeting short-term needs of the business. Is there a way to utilize non-fund based limit for short-term purposes?
4. What are Commercial Papers? What are the preconditions required to be fulfilled before floating commercial papers?
5. What is factoring? How it is beneficial to a firm? Differentiate between bill discounting and factoring.
6. What do you understand by approaches to optimum mix of funds?
7. Differentiate trade credit and accrual accounts with suitable examples.
8. What are the money market instruments? Explain it.
9. Discuss certificate of deposits. What are the advantages and disadvantages?
10. What is bill discounting? Explain their advantages and disadvantages.

11. What are the differences between bill discounting and factoring? Explain it.
12. Describe inter corporate loans. What are ceiling on inter-corporate loans?
13. What are short term bank loans? Explain the terms of short term loans such as cash credit, bank overdraft, note lending, line of credit, and bank guarantees.

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UNIT-18 DIVIDEND POLICY AND DECISIONS

Unit Framework

- 18.1 Objectives
- 18.2 Introduction
- 18.3 Concept and Meaning of Dividend Policy
- 18.4 Kinds of Dividend
- 18.5 Factors affecting Dividend Policy
- 18.6 Characteristics of Stable Dividend Policy
- 18.7 Various Dangers of Stable Dividend Policy
- 18.8 Types of Dividend Policy
- 18.9 Models of Dividend Policy
- 18.10 Walters Dividend Model
- 18.11 Gordon's Model
- 18.12 Modigliani and Miller Model
- 18.13 Criticisms of Modigliani and Miller Model
- 18.14 Summary
- 18.15 Self-Assessment Questions
- 18.16 Text and References

18.1 OBJECTIVES

After completing this unit, you would be able to understand:

- Meaning of Dividend and Dividend Policy
- Different types of dividends
- Determinants of dividend policy
- Different dividend models
- The value of firm and Computation of value of firm
- Characteristics and utility of leverages

18.2 INTRODUCTION

When a company makes a profit at the end of the year from its operating activities, the management of the company must decide what to

do with those profits. They can decide to retain the profits within the company or may decide to partly remain in company while remaining to be distributed to the shareholders of the company. If they decide to pay profits to the shareholders, then they have to determine an appropriate ratio of amount to be distributed and amount to be retained with the business. The part of profits which have to be distributed among the owners of the company i.e. shareholders, is called as dividend. For distribution of dividend, company frame a dividend policy according to which company takes decision in respect of payment of dividend in the present and in the future. On the basis of dividend policy a company determines that in what proportion profit should be distributed to the shareholders and to be retained in the business.

The dividend is declared by the board of directors as divisible profits to be distributed amongst the members of the company in proportion of their shareholdings in the company. Quantum of the dividend depends on the company's financial requirements and also depends on the availability of the divisible profits. The retained profit is also a most favoured source of working capital because of its low cost. However, the dividend payout ratio, value of firm, corporate image and the retained earnings versus other sources of investments have some complex relationships which are of concern to the finance managers. Therefore every company strives to strike a balance between the above competing objectives and attempts to make a definite policy around the payment of dividends.

18.3 CONCEPT AND MEANING OF DIVIDEND POLICY

For the financial manager of a company, it is crucial to take decision regarding dividend because s/he has to determine the amount of profit to be distributed among the shareholders and the amount of retained earnings. Amount of dividend and retained earnings have a reciprocal relationship. Market value of shares depends on the payout ratio. While taking the dividend decision the management takes into account the effect of the decision on the shareholders' wealth.

A dividend policy is a company's approach to distributing profits back to its owners or stockholders. If a company is in a growth mode, it may decide that it will not pay dividends, but rather re-invest its profits (retained earnings) in the business. If a company does decide to pay dividends, it must then decide how often to do so, and at what rate. Large, well-established companies often pay dividends on a fixed schedule, but sometimes they also declare "special dividends." The payment of dividends impacts the perception of a company in financial markets, and it may also have a direct impact on its stock price. A company takes three major decisions i.e. Investments, financing and dividend. Dividend decision is the most significant decision in all of these.

18.4 KINDS OF DIVIDEND

I. Dividend on the Basis of Security : There are two types of securities on which company pays dividend i.e. 1) Preference shares 2) Equity shares. Company pays following two types of dividends on these securities:

- 1. Preference Dividend-** On preference Share Company pays dividend at fix rate. At the time of issue of preference shares, company declares the rate of dividend on these shares. Since dividend on these shares is fixed, so, mostly discussion on dividend policy is relates to the equity dividend.
- 2. Equity Dividend-** In case of equity shares the rate of dividend cannot be pre-determined. Dividend on equity shares is paid at the rate recommended by the board of directors and approved by the shareholders in Annual General Meeting (AGM). The board of directors has the right in respect of payment of dividend, the rate of dividend and the medium of dividend.

II. Dividend on the Basis of Time : On the basis of time, there are two types of dividend:

- 1. Interim Dividend-** When a company earns huge profits or we can say that abnormal profits during any particular year and directors wish to distribute these profits among the shareholders, then company declares dividend at any time between two AGM. It is called interim dividend. In other words, we can say that interim dividend is the dividend which can be declare and distribute at any time within the financial year. Interim dividend may be declare if, Article of association permits for it. Interim dividend is an extra dividend paid in cash within the year without requirement of approval in AGM.
- 2. Regular Dividend-** It is annual dividend declares after approval in AGM. This dividend pays by the company after completion of financial year. The rate of dividend depends on the financial performance of the company in particular year.

III. Dividend on the Basis of Mode of Payment : On the basis of mode of payment, dividend may be classified in following three categories.

- 1. Cash Dividend-** Mostly, shareholders are interested in cash dividend. When company pays dividend in cash, it indicates outflows of cash from company to its shareholders. Company pays cash dividend out of current sources available in the company or by taking short term loans from banks and other financial institutions. A company may take decision of cash payment of dividend, when sufficient funds are available and

liquidity position of company is sound. Cash dividend is most desirable mode of payment of dividend. It built confidence and faith in investor's mind about company.

2. **Stock Dividend-** If any company has a huge amount of reserves & surplus but suffering from problem of shortage of liquidity of funds. In such case, if company wants to distribute reserves & surplus among the shareholders, then the company issue new shares to existing shareholders at free of cost. Shareholders receive shares in place of cash dividend. Such shares are known as "Bonus shares" or "Stock dividend". In this process whole or a part of profits converts into share capital, so, it also called as "Capitalization of profits".
3. **Scrip or Bond Dividend :** If any company is facing a financial crisis, in such circumstances company pays a dividend in the form of shares and debentures of other companies. This form of dividend is called as scrip or bond dividend. The main difference of scrip dividend and bond dividend is of time period. In case of scrip dividend, securities belong to short term securities and in case of bond dividend it is long term security.

18.5 FACTORS AFFECTING DIVIDEND POLICY

The main determinants of dividend policy of a firm can be classified into:

1. **Capital Market Considerations :** Capital market consideration is also a determinant of dividend policy. If the company has easy access to the capital market in such case company should follow a liberal dividend policy and if company has limited access to capital market, it can opt a low dividend payout ratio. Such companies rely on retained earnings as a major source of financing for future growth.
2. **Magnitude and Trend of Earnings :** The amount and trend of earnings is an important aspect of dividend policy. It is rather the starting point of the dividend policy.
3. **Desire and Type of Shareholders :** The directors should give the importance to the desires of shareholders in the declaration of dividends as they are the representatives of shareholders. Desires of shareholders for dividends depend upon their economic status.
4. **Nature of Industry :** Nature of industry to which the company is engaged also considerably affects the dividend policy. Certain industries have a comparatively steady and stable demand irrespective of the prevailing economic conditions.

5. **Control Objectives :** When a company pays high dividends out of its earnings, it may result in the dilution of both control and earnings for the existing shareholders.
6. **Requirements of Institutional Investors :** Dividend policy of a company can be affected by the requirements of institutional investors such as financial institutions, banks insurance corporations, etc.
7. **Dividend Payout Ratio :** Dividend payout ratio refers to the percentage of the net earnings distributed to the shareholders as dividends. On the basis of dividend policy owners of the company takes the decision to pay out earnings or to retain them for reinvestment in the firm. A sufficient amount of dividend creates satisfaction among the shareholders and the retained earnings constitute a source of finance. So, it is necessary that a) dividend policy should maintain a balance between current dividends and future growth which maximizes the price of the firm's shares and b) The dividend payout ratio of a firm should be optimum so that firm can able to maximize the wealth of the firm's owners and providing sufficient funds to finance growth.
8. **Legal, Contractual and Internal Constraints and Restrictions:** A company is not legally bounded for declaration of dividend but, they have to specify the conditions under which dividends must be paid. Such conditions pertain to capital impairment, net profits and insolvency. It may be that a company accepts important contractual restrictions (when the company obtains external funds) in respect of payment of dividends. These restrictions may cause the firm to restrict the payment of cash dividends until a certain level of earnings has been achieved or limit the amount of dividends paid to a certain amount or percentage of earnings. Internal constraints are unique to a firm and include liquid assets, growth prospects, and financial requirements, availability of funds, earnings stability and control.
9. **Inflation :** In case of situation of inflation, the funds generated from depreciation may not be sufficient to replace obsolete equipment's and machinery. In such situation, a company should rely upon retained earnings as a source of fund to replace those assets. Thus, dividend payout ratio negatively affected due to inflation.
10. **Age of the Company :** A newly establishes company will invest their earning for expansion and plant improvement and may adopt a rigid dividend policy. But if company is well established, it can frame a more consistent policy in respect of dividend. So, we can

say that dividend policy is also affected by the age of the corporation.

11. **Stability of Earnings :** If a company having stability of earnings, such company can maintain consistency in its dividend policy. Stability of earnings depends on nature of business e.g. firms dealing in luxurious or fancy goods can earn more profits. So, we can say that the nature of business has an important bearing on the dividend policy.
12. **Requirement of Additional Capital :** In case of small companies, they face the difficulties of additional finance for expansion programs. Every company retains a part of their profits for strengthening their financial position. Thus, such Companies distribute dividend at low rates and retain a big part of profits
13. **Liquidity of Funds :** If a company decides to pay dividend in cash then it may be only if company has sufficient funds. So, availability of cash and sound financial position is equally affected to dividend policy. Payment of dividend represents a cash outflow. More availability of funds and good liquidity position of company show the better ability to pay dividend. If cash position is weak, stock dividend will be distributed and if cash position is good, company can distribute the cash dividend.
14. **Trade Cycles :** Business cycles also exercise influence upon dividend Policy. Dividend policy is adjusted according to the business oscillations. During the boom, prudent management creates food reserves for contingencies which follow the inflationary period. Higher rates of dividend can be used as a tool for marketing the securities in an otherwise depressed market. The financial solvency can be proved and maintained by the companies in dull years if the adequate reserves have been built up.
15. **Government's Economic Policy :** The dividend policy of a firm has also to be adjusted to the economic policy of the Government as was the case when the Temporary Restriction of Payment of Dividend Ordinance was in force. In 1974 and 1975, companies were allowed to pay dividends not more than 33 % of their profits or 12 % on the paid-up value of the shares, whichever was lower.
16. **Taxation Policy :** Taxation policy of government also affects the decision of distribution of dividend. In case of high taxation rate a major part of earnings will be paid to government by way of tax, hence rate of dividend will be lowered down. In case of low taxation, the company will be able to pay dividend at higher rate.
17. **Policy of Control :** Policy of control is another determining factor is so far as dividends are concerned. If the directors want to have control on company, they would not like to add new shareholders and therefore, declare a dividend at low rate. Because by adding

new shareholders they fear dilution of control and diversion of policies and programs of the existing management. So they prefer to meet the needs through retained earnings. If the directors do not bother about the control of affairs they will follow a liberal dividend policy. Thus control is an influencing factor in framing the dividend policy.

- 18. Legal Requirements :** The companies' act 1956 prescribes guidelines in respect of declaration and payment of dividend. These guidelines issued in order to protect the interest of creditors e.g. a company is required to provide for depreciation on its fixed and tangible assets before declaring dividend on shares. It proposes that Dividend should not be distributed out of capita, in any case.

Legal provisions relating to dividends as laid down in sections 93, 205, 205A, 206 and 207 of the Companies Act, 1956 are significant because they lay down a framework within which dividend policy is formulated.

18.6 CHARACTERISTICS OF STABLE DIVIDEND POLICY

Dividend policy of a company sets the guidelines to be followed while deciding the amount of dividend to be paid out to the shareholders. The company needs to adhere to the dividend policy while deciding the proportion of earnings to be distributed and the frequency of the distribution. The following are the various features of stable dividend policy of a company:

- 1. Type of Industry :** The nature of the industry to which the company belongs has an important effect on the dividend policy. Industries, where earnings are stable, may adopt a consistent dividend policy as opposed to the industries where earnings are uncertain and uneven. They are better off in having a conservative approach to dividend payout.
- 2. Ownership Structure :** The ownership structure of a company also impacts the policy. A company with a higher promoter' holdings will prefer a low dividend payout as paying out dividends may cause a decline in the value of the stock. Whereas, a high institutional ownership will favor a high dividend payout as it helps them to increase the control over the management.
- 3. Age of Corporation :** Newly formed companies will have to retain major part of their earnings for further growth and expansion. Thus, they have to follow a conservative policy unlike established companies, which can pay higher dividends from their reserves.
- 4. The Extent of Share Distribution :** A company with a large number of shareholders will have a difficult time in getting them to

agree to a conservative policy. On the other hand, a closely held company has more chances of succeeding to finalize conservative dividend payouts.

5. **Different Shareholders' Expectations** : Another factor that impacts the policy is the diversity in the type of shareholders a company has. A different group of shareholders will have different expectations. A retired shareholder will have a different requirement vis-a-vis a wealthy investor. The company needs to clearly understand the different expectations and formulate a successful dividend policy.
6. **Leverage** : A company having more leverage in their financial structure and consequently, frequent interest payments will have to decide for a low dividend payout. Whereas a company utilizing their retained earnings will prefer high dividends.
7. **Future Financial Requirements** : Dividend payout will also depend on the future requirements for the additional capital. A company having profitable investment opportunities is justified in retaining the earnings. However, a company with no internal or external capital requirements should opt for a higher dividend.
8. **Business Cycles** : When the company experiences a boom, it is prudent to save up and make reserves for dips. Such reserves will help a company declare high dividends even in depressing markets to retain and attract more shareholders.
9. **Growth** : Companies with a higher rate of growths, as reflected in their annual sales growth, a ratio of retained earnings to equity and return on net worth, prefer high dividend payouts to keep their investors happy.
10. **Changes in Government Policies** : There could be the change in the dividend policy of a company due to the imposed changes by the government. The Indian government had put temporary restrictions on companies to pay dividends during 1974-75.
11. **Profitability** : The profitability of a firm is reflected in net profit ratio, current ratio, and ratio of profit to total assets. A highly profitable company generally pays higher dividends and a company with less or no profits will adopt a conservative dividend policy.
12. **Taxation Policy** : The corporate taxes will affect dividend policy, either directly or indirectly. The taxes directly reduce the residual earnings after tax available for the shareholders. Indirectly, the dividend distribution is taxable after a certain limit.

13. **Trends of Profits :** Even if the company has been profitable over the years, the trend should be properly analyzed to find the average earnings of the company. This average number should be then studied in relation to the general economic conditions. This will help in opting for a conservative policy if a depression is approaching.
14. **Legal Rules :** There are certain legal restrictions on the companies for dividend payments. It is legal to pay a dividend only if the capital is not reduced post payment. These rules are in place to protect creditors' interest.
15. **Control Objectives :** The firms aiming for more control in the hands of current shareholders prefer a conservative dividend payout policy. It is imperative to pay fewer dividends to retain more control and the earnings in the company.

18.7 VARIOUS DANGERS OF STABLE DIVIDEND POLICY

In spite of many advantages, the stable dividend policy has suffered following certain dangers.

- Once the stable dividend policy is adopted, it cannot be changed without seriously affecting investors' attitude and the financial standing of the company. A cut in dividend is considered as a cut in 'Salary'. Because of the serious depressing effect on investors due to a dividend cut, the directors have to maintain stability of dividends during lean years even though financial prudence would indicate elimination of dividends or a cut in it.
- Consequently, to be on the safe side, the dividend rate should be fixed at a conservative figure so that it may be possible to maintain it even in a lean period of several years. To give the benefit of the company's prosperity, extra dividend can be declared, when a company fails to pay extra dividend, it does not have a depressing effect on investors as the failure to pay a regular dividend.
- If the stable dividends are not paid to the shareholders on any account including insufficient profits, the financial standing of the company in the minds of the investors is damaged and they may like to dispose-off their holdings. It adversely affects the market price of shares of the company. And if the company pays stable dividends in spite of its incapacity, it will be suicidal in the long-run.

18.8 TYPES OF DIVIDEND POLICY

The various types of dividend policies are discussed as follows :

1. Regular Dividend Policy

Payment of dividend at the usual rate is termed as regular dividend. The investors such as retired persons, widows and other economically weaker persons prefer to get regular dividends. A regular dividend policy offers the following advantages:

- (a) It establishes a profitable record of the company.
- (b) It creates confidence amongst the shareholders.
- (c) It aids in long-term financing and renders financing easier.
- (d) It stabilizes the market value of shares.
- (e) The ordinary shareholders view dividends as a source of funds to meet their day-to-day living expenses.
- (f) If profits are not distributed regularly and are retained, the shareholders may have to pay a higher rate of tax in the year when accumulated profits are distributed.

2. Stable Dividend Policy

The term 'Stability of dividends' means consistency or lack of variability in the stream of dividend payments. In more precise terms, it means payment of certain minimum amount of dividend regularly. A stable dividend policy may be established in any of the following three forms:

- (a) **Constant dividend per share.** Some companies follow a policy of paying fixed dividend per share irrespective of the level of earnings year after year.
- (b) **Constant payout ratio.** Constant pay-out ratio means payment of a fixed percentage of net earnings as dividends every year.
- (c) **Stable rupee dividend plus extra dividend.** Some companies follow a policy of paying constant low dividend per share plus an extra dividend in the years of high profits. Such a policy is most suitable to the firm having fluctuating earnings from year to year.

3. Irregular Dividend Policy

Some companies follow irregular dividend payments on account of the following:

- (a) Uncertainty of earnings

- (b) Unsuccessful business operations
 - (c) Lack of liquid resources
 - (d) Fear of adverse effects of regular dividends on the financial standing of the company.
4. **No Dividend Policy** : A company may follow a policy of paying no dividends presently because of its unfavourable working capital position or on account of requirements of funds for future expansion and growth.

18.9 MODELS OF DIVIDEND POLICY

A firm must decide whether to distribute all profits, retain them, or distribute a portion and retain the balance. Dividend decision is essentially a trade-off between retained earnings and issue of new shares. Dividend decision model helps a firm to make a profitable choice between the two. Dividend decision consists of two important theories which are based on the relationship between dividend decision and value of the firm.

- Relevance Theory of Dividend – Walter`s model, Gordon`s Model
- Irrelevance Theory of Dividend – Modigliani and Miller`s Approach

Relevance Theory : According to this theory, the dividend decision of a firm affects the market value of the firm. It suggests that shareholders prefer current dividend and there is a direct relationship between dividend decision and value of the firm. This theory was supported by two professors James E. Walter and Myron Gordon.

Irrelevance Theory of Dividend : According to Modigliani and Miller dividend decision model, under a perfect market condition, dividend decision has no effect on the share price of the company and that there is no relation between the dividend rate and market value of the shares. Therefore dividend decision is irrelevant factor does not affect the value of the firm.

18.10 WALTERS DIVIDEND MODEL

Walter`s model supports the principle that dividends are relevant. The investment policy of a firm cannot be separated from its dividend policy and both are inter-related. The choice of an appropriate dividend policy affects the value of an enterprise. Assumptions of This Model: The Company does not rely upon external funds. It means that retained earnings are the only source of finance.

1. Internal rate of return (r) and cost of capital (k) are constant.
2. There is no change in the key variables, namely, beginning earnings per share (E), and dividends per share (D). The values of

D and E may be changed in the model to determine results, but any given value of E and D are assumed to remain constant in determining a given value.

3. The firm has an infinite life.

Formula: Walter's model $P = \frac{D}{K_e - g}$

Where: P = Price of Equity share

D = Dividend Per share

K_e = Cost of equity shares

g = Growth rate in dividend

After accounting for retained earnings, the model would be:

$$P = \frac{D}{K_e - rb}$$

Where:

r = Expected rate of return on firm's investments

b = Retention rate (E - D)/E

Equation showing the value of a share (as present value of all dividends plus the present value of all capital gains) – Walter's model:

$$P = \frac{D}{K_e} + \frac{r(E-D)K_e}{K_e}$$

Where:

D = Dividend per share and

E = Earnings per share

EXAMPLE-1: Dev Ltd. has the following facts:

Cost of capital (k_e) = 0.10

Earnings per share (E) = Rs. 10

Rate of return on investments (r) = 8%

Dividend payout ratio: Case A: 50% Case B: 25%

Show the effect of the dividend policy on the market price of the shares.

SOLUTION:

Case A:

D/P ratio = 50%

When EPS = Rs. 10 and D/P ratio is 50%, $D = 10 \times 50\% = \text{Rs. } 5$

$$P = \frac{5}{0.10} + \frac{0.08(10-5)/0.10}{0.10} \geq \text{Rs. } 90$$

Case B:

D/P ratio = 25%

When EPS = Rs. 10 and D/P ratio is 25%, $D = 10 \times 25\% = \text{Rs. } 2.5$

$$P = \frac{2.5}{0.10} + \frac{0.08(10-2.5)/0.10}{0.10} \geq \text{Rs. } 85$$

EXAMPLE-2: The details regarding to three companies are below:

A Ltd.	B Ltd.	C Ltd.
$r = 15\%$	$r = 10\%$	$r = 12\%$
$K_e = 10\%$	$K_e = 10\%$	$K_e = 10\%$
$E = \text{Rs. } 50$	$E = \text{Rs. } 50$	$E = \text{Rs. } 50$

Compute the value of an equity share of each company applying Walter's formula when dividend payout ratio is (a) 0% (b) 10% (c) 20% (d) 40%.

A Ltd.	B Ltd.	C Ltd.
(a) When dividend payout ratio is 0% $P = \frac{0}{0.10} + \frac{0.15(50-0)/0.10}{0.10}$ $= \text{Rs. } 750$	$P = \frac{0}{0.10} + \frac{0.10(50-0)/0.10}{0.10}$ $= \text{Rs. } 500$	$P = \frac{0}{0.10} + \frac{0.12(50-0)/0.10}{0.10}$ $= \text{Rs. } 600$
(b) When dividend payout ratio is 10% $P = \frac{10}{0.10} + \frac{0.15(50-10)/0.10}{0.10}$ $= \text{Rs. } 700$	$P = \frac{10}{0.10} + \frac{0.10(50-10)/0.10}{0.10}$ $= \text{Rs. } 500$	$P = \frac{10}{0.10} + \frac{0.12(50-10)/0.10}{0.10}$ $= \text{Rs. } 580$
(c) When dividend payout ratio is 20% $P = \frac{20}{0.10} + \frac{0.15(50-20)/0.10}{0.10}$ $= \text{Rs. } 650$	$P = \frac{20}{0.10} + \frac{0.10(50-20)/0.10}{0.10}$ $= \text{Rs. } 500$	$P = \frac{20}{0.10} + \frac{0.12(50-20)/0.10}{0.10}$ $= \text{Rs. } 560$
(d) When dividend payout ratio is 40% $P = \frac{40}{0.10} + \frac{0.15(50-40)/0.10}{0.10}$ $= \text{Rs. } 550$	$P = \frac{40}{0.10} + \frac{0.10(50-40)/0.10}{0.10}$ $= \text{Rs. } 500$	$P = \frac{40}{0.10} + \frac{0.12(50-40)/0.10}{0.10}$ $= \text{Rs. } 520$

Conclusions of Walter's Model : Prof. Walter's concept may be summarized as under:

1. **Growth Firms (When $r > k_e$) :** The value of shares is inversely related to the Dividend Payout ratio. As the Dividend Payout ratio increases, the market value of shares decline. Its value is the highest when Dividend Payout ratio is 0 and should re-invest their entire earnings. So, if the firm retains its earnings entirely, it will maximize the market value of the shares. The optimum payout ratio is zero.
2. **Declining Firms (When $r < k_e$) :** The Dividend Payout ratio and the value of shares are positively correlated. In such case the firms are called declining firms. As the Dividend Payout ratio increases, the market price of the shares also increases. The optimum payout ratio is 100%. Such firms should distribute their entire earnings.
3. **Normal Firms (When $r = k_e$) :** The market value of shares is constant irrespective of the Dividend Payout ratio. In this case, there is no optimum D/P ratio.

Limitations of this model :

1. This model can be applicable only to all equity owned firms because Walter's model assumes that the firm's investments are purely financed by retained earnings.
2. The assumption of r as constant is not realistic because the risk factor of a firm is not always uniform.
3. The assumption of a constant K_e ignores the effect of risk on the value of the firm.

18.11 GORDON'S DIVIDEND MODEL

Gordon's dividend model contends that dividends are relevant. This model is of the view that dividend policy of a firm affects its market value of shares.

Assumptions of This Model : The firm is an all equity firm. No external financing is used and investment programmes are financed exclusively by retained earnings.

1. Return on investment (r) and Cost of equity (K_e) are constant.
2. The firm has perpetual life.
3. The retention ratio, once decided upon, is constant. Thus, the growth rate, ($g = br$) is also constant.
4. $K_e > br$
5. Corporate taxes do not exist.

Arguments of This Model :

1. Dividend policy of the firm is relevant and that investors put a positive premium on current incomes/ dividends.
2. Market value of shares is equal to the present value of its expected future dividends.
3. This model assumes that investors are risk averse and they put a premium on a certain return and discount uncertain returns.
4. Investors are rational and want to avoid risk.
5. The rational investors can reasonably be expected to prefer current dividend. They would discount future dividends. The retained earnings are evaluated by the investors as a risky promise. In case the earnings are retained, the market price of the shares would be adversely affected. In case the earnings are retained, the market price of the shares would be adversely affected.
6. Investors would be inclined to pay a higher price for shares on which current dividends are paid.

Dividend Capitalization Model : According to Gordon, the market value of a share is equal to the present value of the future streams of dividends.

$$P = \frac{E(1-b)}{K_e - br}$$

Where:

P = Price per share

E = Earnings per share

B = Retention ratio

1-b = Dividend payout ratio

K_e = Cost of Equity

$br = g$ = Growth rate

EXAMPLE-3: Determination of value of shares, given the following data:

	Case A	Case B
D/P Ratio	40	30
Retention Ratio	60	70
Cost of Capital	17%	18%
Return on investments	12%	12%
EPS	Rs. 20	Rs. 20

SOLUTION :

Case A

$$P = \frac{Rs.20(1-0.60)}{0.17-(0.60 \times 0.12)} = Rs. 81.63$$

Case B

$$P = \frac{Rs.20(1-0.70)}{0.18-(0.70 \times 0.12)} = Rs. 62.50$$

Gordon's model thus asserts that the dividend decision has a bearing on the market price of the shares and that the market price of the share is favorably affected with more dividends.

EXAMPLE-4 : The details regarding to three companies are below:

Palki Ltd.	Shivang Ltd.	Rrudraksh Ltd.
R > Ke	R = Ke	R < Ke
r = 15%	r = 10%	r = 8%
Ke = 13%	Ke = 10%	Ke = 10%
E = Rs. 20	E = Rs. 20	E = Rs. 20

Compute the market value of an equity share of each company applying Gordon's formula when dividend payout ratio is (a) 30% (b) 20% (c) 50%.

Palki Ltd.	Shivang Ltd.	Rrudraksh Ltd.
(a)When dividend payout ratio is 30% and b=70% G=br= 0.7x 0.15 = 0.105 $P = \frac{Rs.20(1-0.70)}{0.13-0.105} = Rs. 240$	G=br= 0.7x 0.10 = 0.07 $P = \frac{Rs.20(1-0.70)}{0.10-0.07} = Rs. 200$	G=br= 0.7x 0.08 = 0.056 $P = \frac{Rs.20(1-0.70)}{0.10-0.056} = Rs. 136.36$
(b)When dividend payout ratio is 20% and b=80% G=br= 0.8x 0.15 = 0.12 $P = \frac{Rs.20(1-0.80)}{0.13-0.12} = Rs. 400$	G=br= 0.8x 0.10 = 0.08 $P = \frac{Rs.20(1-0.80)}{0.10-0.08} = Rs. 200$	G=br= 0.8x 0.08 = 0.064 $P = \frac{Rs.20(1-0.80)}{0.10-0.064} = Rs. 111.11$
(c)When dividend payout ratio is 50% and b=50% G=br= 0.5x 0.15 = 0.075 $P = \frac{Rs.20(1-0.50)}{0.13-0.075} = Rs. 181.82$	G=br= 0.5x 0.10 = 0.05 $P = \frac{Rs.20(1-0.50)}{0.10-0.05} = Rs. 200$	G=br= 0.5x 0.08 = 0.04 $P = \frac{Rs.20(1-0.50)}{0.10-0.04} = Rs. 166.67$

Conclusions of Gordon's Model : Gordon's concept may be summarized as under-

1. **Growth Firms (When $r > k_e$) :** In this case dividend payout ratio decreases so price per share also decrease. A growth firm should distribute less dividend and should retain maximum earnings.
2. **Normal Firms (When $r = k_e$) :** In this case there are no any effects of dividend policy on price of shares. The price of shares remains unchanged. In this case, there is no optimum D/P ratio.
3. **Declining Firms (When $r < k_e$) :** As the Dividend Payout ratio increases, the market price of the shares also increases. The optimum payout ratio is 100%. Such firms should distribute their entire earnings.

18.12 MODIGLIANI AND MILLER DIVIDEND MODEL

Miller and Modigliani Model assume that the dividends are irrelevant. Dividend irrelevance implies that the value of a firm is unaffected by the distribution of dividends and is determined solely by the earning power and risk of its assets. Under conditions of perfect capital markets, rational investors, absence of tax discrimination between dividend income and capital appreciation, given the firm's investment policy, its dividend policy may have no influence on the market price of the shares, according to this model.

Assumptions of MM Model :

1. Existence of perfect capital markets and all investors in it are rational.
2. Information is available to all free of cost, there are no transactions costs, securities are infinitely divisible, no investor is large enough to influence the market price of securities and there are no floatation costs.
3. There are no taxes. Alternatively, there are no differences in tax rates applicable to capital gains and dividends.
4. A firm has a given investment policy which does not change. It implies that the financing of new investments out of retained earnings will not change the business risk complexion of the firm and thus there would be no change in the required rate of return.
5. Investors know for certain the future investments and profits of the firm (but this assumption has been dropped by MM later).

Argument of This Model : By the argument of arbitrage, MM Model asserts the irrelevance of dividends.

Arbitrage implies the distribution of earnings to shareholders and raising an equal amount externally. The effect of dividend payment would be offset by the effect of raising additional funds. MM model argues that when dividends are paid to the shareholders, the market price of the shares will decrease and thus whatever is gained by the investors as a result of increased dividends will be neutralized completely by the reduction in the market value of the shares. The cost of capital is independent of leverage and the real cost of debt is the same as the real cost of equity, according to this model. Those investors are indifferent between dividend and retained earnings imply that the dividend decision is irrelevant. With dividends being irrelevant, a firm's cost of capital would be independent of its dividend-payout ratio. Arbitrage process will ensure that under conditions of uncertainty also the dividend policy would be irrelevant.

MM Model : Market price of the share in the beginning of the period = Present value of dividends paid at the end of the period + Market price of share at the end of the period.

$$P_0 = \frac{D_1 - P_1}{1 + K_e}$$

Where:

P_0 = Prevailing market price of a share

K_e = Cost of Equity

D_1 = Dividend to be received at the end of period 1 and

P_1 = Market price of a share at the end of period 1.

The Market price of shares at the end of the period can be calculated by using the following formula:

$$P_1 = P_0 (1 + K_e) - D_1$$

Value of the firm can also be calculated by applying the following formula:

$$nP_0 = \frac{(n+m)P_1 - (1-X)I}{(1+K_e)}$$

Where:

n = number of shares outstanding at the beginning of the period

m = number of shares to be issued at the ending of the period

P_1 = Market price of the share at the end of the period

K_e = Cost of equity

I = Total amount required for investment

X = Total net profit of the firm during the period

EXAMPLE-5 : Aditi Ltd. whose capitalization rate is 10% has outstanding shares of 25,000 selling at Rs. 100 each. The firm is expecting to pay a dividend of Rs. 5 per share at the end of the current financial year. The company's expected net earnings are Rs. 250,000 and the new proposed investment requires Rs. 500,000. Prove that using MM model, the payment of dividend does not affect the value of the firm.

SOLUTION :

1. Value of the firm when dividends are paid:

i. Price per share at the end of year 1:

$$P_0 = 1/(1 + ke) \times (D_1 + P_1)$$

$$\text{Rs. } 100 = 1/(1 + 0.10) \times (\text{Rs. } 5 + P_1)$$

$$P_1 = \text{Rs. } 105$$

ii. Amount required to be raised from the issue of new shares:

$$n P_1 = I - (E - nD_1)$$

$$\geq \text{Rs. } 5,00,000 - (\text{Rs. } 2,50,000 - \text{Rs. } 1,25,000)$$

$$\geq \text{Rs. } 3,75,000$$

iii. Number of additional shares to be issued:

$$n = \text{Rs. } 3,75,000 / 105$$

$$\geq 3571.42857 \text{ shares or } 3572 \text{ shares}$$

iv. Value of the firm:

$$\begin{aligned} nP_0 &= \frac{(n+m)P_1 - (1-X)I}{(1+Ke)} \\ &= \frac{(25,000 + 3572) \times 105 - (\text{Rs. } 5,00,000 - \text{Rs. } 2,50,000)}{(1+0.10)} \\ &= \text{Rs. } 25,00,000 \end{aligned}$$

2. Value of the firm when dividends are not paid:

i. Price per share at the end of year 1:

$$P_0 = 1/(1 + ke) \times (D_1 + P_1)$$

$$\text{Rs. } 100 = 1/(1 + 0.10) \times (\text{Rs. } 0 + P_1)$$

$$P_1 = \text{Rs. } 110$$

ii. Amount required to be raised from the issue of new shares:

$$\geq \text{Rs. } 5,00,000 - (\text{Rs. } 2,50,000 - 0) = \text{Rs. } 2,50,000$$

iii. Number of additional shares to be issued:

$$\geq \text{Rs. } 2,50,000 / \text{Rs. } 110 = 2273$$

iv. Value of the firm:

$$\begin{aligned}nP_0 &= \frac{(n+m)P_1 - (1-X)}{(1+Ke)} \\ &= \frac{(25,000 + 2273) \times 110 - (Rs.5,00,000 - Rs.2,50,000)}{(1+0.10)} \\ &= Rs. 25,00,000\end{aligned}$$

Thus, according to MM model, the value of the firm remains the same whether dividends are paid or not. This example proves that the shareholders are indifferent between the retention of profits and the payment of dividend.

Limitations of MM Model :

1. The assumption of perfect capital market is unrealistic. Practically, there are taxes, floatation costs and transaction costs.
2. Investors cannot be indifferent between dividend and retained earnings under conditions of uncertainty. This can be proved at least with the aspects of
 - i) Near Vs distant dividends,
 - ii) Informational content of dividends,
 - iii) Preference for current income and
 - iv) Sale of stock at uncertain price.

18.13 CRITICISMS OF MODIGLIANI AND MILLER MODEL

(A) On the basis of the *arbitrage process*, M-M conclude that the market value of firms are not affected by leverage but due to the existence of imperfections in the capital market, arbitrage may fail to work and may give rise to differences between the market values of levered and unlevered firms. The arbitrage process may fail to bring equilibrium in the capital market for the following reasons:

1. **Transaction costs** : Transaction cost interferes with the working of the arbitrage. Due to the cost involved in the buying and selling of securities, it is necessary to invest a larger amount in order to earn the same return. As a result, the levered firm will have a higher market value.
2. **Investor's willingness** : Investors will not show much interest in purchasing low rated issued by highly geared firms.

3. **Institutional restrictions** : Personal leverage are not feasible as a number of investors would not be able to substitute personal leverage for corporate leverage and thus affecting the work of arbitrage process.
4. **Corporate taxation and personal taxation** : M-M theory is also criticize for the reason that it ignores the corporate taxation and personal taxation.
5. **Lending and borrowing rates differences** : Based on the assumption that firms and individuals can borrow and lend at the same rate of interest does not hold good in practice. This is so because firms which hold a substantial amount of fixed assets will have a higher credit standing, thus they will be able to borrow at a lower rate of interest than individuals.
6. **Non-substitutability of personal and corporate leverages:** It is incorrect to say that personal leverage and corporate leverage are perfect substitute because of the existence of limited liability a firms hold compare to the unlimited liability of individuals hold. For examples, if a levered firm goes bankrupt, all investors will lose the amount of the purchase price of the shares. But if an investor creates personal leverage, in the event of a unlevered firm's insolvency, he would lose not only his principal in the shares but also be liable to return the amount of his personal loan.
7. **Retained earnings** : It also ignores personal aspect of financing through retained earnings. In real world, corporate will not pay out the entire earnings in the form of dividends.

(B) MM hypothesis has been criticized on account of various unrealistic assumptions as given below.

1. Perfect capital market does not exist in reality
2. Information about the company is not available to all the persons.
3. The firms have to incur flotation costs while issuing securities
4. Taxes do exit and there is normally different tax treatment for dividends and capital gains.
5. The firms do not follow a rigid investment policy.
6. The investors have to pay brokerage, fees, etc. while doing any transaction.
7. Shareholders may prefer current income as compared to further gains.

18.14 SUMMARY

Dividend policy is one of the major financial decisions for the firms. Dividend could be classified as Preference shares or Equity shares on the basis of Security. It can be Interim or Regular dividend on the basis of time and on the basis of mode of payment it could be classified as Cash, stocks or Scrip dividend. The dividend policy of a company is one of the most prominent decisions as it not only affects the nature and the quantity of the dividends that shareholders receive, it can also result in good corporate image and build up the favourable corporate financing environment to ensures the company's long-term growth and expansion. Dividend policy has three main aspects:

1. How much dividend to pay i.e. the dividend payout ratio which determines the actual distribution of earnings per share
2. The pattern of payment i.e. the dividend policy which could be a stable or residual or fixed dividend policy
3. The form of dividend payment i.e. whether the common dividend is to be paid in the form of cash stock or any mode permissible by the law.

A dividend policy is a company's approach to distributing profits back to its owners or stockholders. In case of inflation a company should rely upon retained earnings as a source of funds to replace those assets. Agency theory claims that the dividends provide an incentive for the managers to reduce the costs related to the principal/agent relationship. A liberal dividend policy may lead to enhancement of shareholder's value. The main model supporting view of irrelevance of dividends is the **Miller and Modigliani Model (MM Hypothesis)** whereas traditionalists such as **Myron Gordon** have put forth models arguing that dividends are relevant. **Modigliani Miller Model** argues that the declaration of dividend does not affect the market price of a share. The optimal payout ratio for a declining firm is 100%. Myron Gordon has also developed a model on the lines of **Prof. Walter** suggesting that dividends are relevant and the dividend decision of the firm affects its value. **Gordon's theory** contends that dividends are relevant. This model is of the view that dividend policy of a firm affects its value.

18.15 SELF-ASSESSMENT QUESTIONS

1. What do you understand by Dividend?
2. What do you understand by Retained earnings?
3. Explain various types of dividend.

4. Define dividend policy. What are the factors affecting dividend policy?
5. Describe how shareholders' desire for income influence a firm's dividend decision.
6. Discuss the characteristics of stable dividend policy.
7. What are the various dangers of stable dividend policy?
8. Elaborate types of dividend policy.
9. Explain assumptions of Walter's model.
10. What do you understand by Gordon's Model? Explain it with their assumptions.
11. State assumptions of M-M Model.
12. Discuss the criticisms of Modigliani and Miller model.
13. A company has a capitalization rate of 10%. It currently has outstanding shares worth 25000 shares selling currently at Rs. 100 each. The firm expects to have a net income of Rs. 400000 for the current financial year and it are contemplating to pay a dividend of Rs. 4 per share. The company also requires Rs. 600000 to fund its investment requirement. Show that under MM model, the dividend payment does not affect the value of the firm.
14. A company has the following figures:

Cost of capital (k) = 0.10

Earnings per share (E) = Rs. 10

Rate of return on investments (r) = 8%

Dividend payout ratio:

Case A: 50%

Case B: 25%

Show the effect of the dividend policy on the market price of the shares.
15. XYZ Ltd. paid a dividend of Rs.5 per share for 2017-18. The company follows a fixed dividend payout ratio of 30% and earns a return of 18% on its investments. Cost of capital is 12%. Calculate the expected price of the shares of XYZ Ltd. using Walter Model.
16. The earning per share of a company is Rs.10 and the rate of capitalization applicable to it is 10%. The company has before it the option of adopting a payout of 20% or 40% or 80%. Using Walter's formula, compute the market value of the company's share if the productivity of retained earnings is (a) 20% (b) 10% and (c) 8%. What inference can be drawn from the above exercise?

17. Following are the details regarding three companies. The details regarding to three companies are below:

A Ltd.	B Ltd.	C Ltd.
$R > K_e$	$R = K_e$	$R < K_e$
$r = 15\%$	$r = 10\%$	$r = 8\%$
$K_e = 12\%$	$K_e = 10\%$	$K_e = 10\%$
$E = \text{Rs. } 15$	$E = \text{Rs. } 15$	$E = \text{Rs. } 15$

You are required to calculate the effect of dividend payment on the value of shares of each of the above companies under the following situations by using Walter's formula.

- When no dividend is paid.
- When dividend is paid at Rs. 8 per share.

18.16 TEXT AND REFERENCES

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