

Financial Management

UNIT I:

Financial Management: Introduction to Finance -Meaning-Definition of Financial Management - Nature and Scope- Evolution of finance function – Its new role in the contemporary scenario – Functions of Finance Manager in Modern Age -Goals of finance function – maximizing vs. satisfying; Profit vs. Wealth vs. Welfare - Risk-Return trade off- Concept of Time Value of Money – Future Value and Present value (practical exercises)

INTRODUCTION

Financial management "is the operational activity of a business that is responsible for obtaining and effectively utilising the funds necessary for efficient operations".

Financial management is concerned with three key activities namely:

- Anticipating financial needs
- Acquiring financial resources
- Allocating funds in business

Traditional approach to financial management

Traditionally, financial management was considered as a branch of knowledge with focus on the procurement of funds. Instruments of financing, formation, merger and restructuring of firms, legal and institutional frame work involved therein occupied the prime place in this approach.

Modern approach to financial management

Modern phase has shown the commendable development with combination of ideas from economic and statistics that led the financial management more analytical and quantitative. The key work area of this approach is rational matching of funds to their uses, which leads to the maximisation of shareholders' wealth.

TYPES OF FINANCE

Finance is one of the important and integral part of business concerns, hence, it plays a major role in every part of the business activities. It is used in all the area of the activities under the different names.

Finance can be classified into **two major parts:**

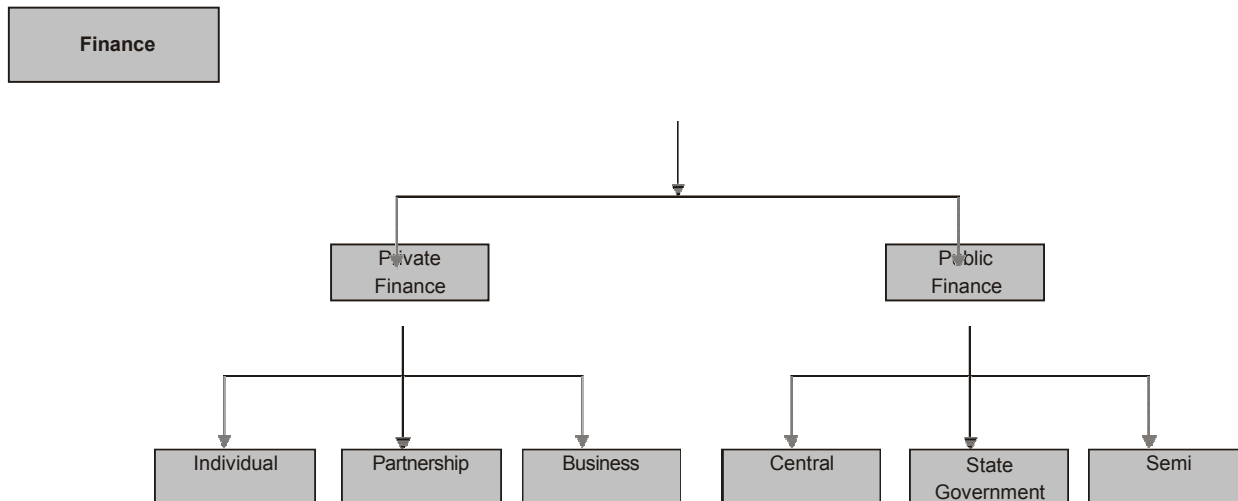


Fig. 1.1 Types of Finance

Private Finance, which includes the Individual, Firms, Business or Corporate Financial activities to meet the requirements.

Public Finance which concerns with revenue and disbursement of Government such as Central Government, State Government and Semi-Government Financial matters.

MEANING

Financial Management means planning, organizing, directing and controlling the financial activities such as procurement and utilization of funds of the enterprise. It means applying general management principles to financial resources of the enterprise

DEFINITION OF FINANCIAL MANAGEMENT

Financial management is an integral part of overall management. It is concerned with the duties of the financial managers in the business firm.

The term financial management has been defined by **Solomon**, “It is concerned with the efficient use of an important economic resource namely, capital funds”.

The most popular and acceptable definition of financial management as given by **S.C. Kuchalis** that “Financial Management deals with procurement of funds and their effective utilization in the business”.

Howard and Upton : Financial management “as an application of general managerial principles to the area of financial decision-making.

Weston and Brigham : Financial management “is an area of financial decision-making, harmonizing individual motives and enterprise goals”.

Joshep and Massie : Financial management “is the operational activity of a business that is responsible for obtaining and effectively utilizing the funds necessary for efficient operations.

Thus, Financial Management is mainly concerned with the effective funds management in the business. In simple words, Financial Management as practiced by business firms can be called as Corporation Finance or Business Finance.

NATURE

Financial management is management principles and practices applied to finance. General management functions include planning, execution and control. Financial decision making includes decisions as to size of investment, sources of capital, extent of use of different sources of capital and extent of retention of profit or dividend payout ratio.

Financial management, is therefore, planning, execution and control of investment of money resources, raising of such resources and retention of profit/payment of dividend.

Howard and Upton define financial management as "that administrative area or set of administrative functions in an organisation which have to do with the management of the flow of cash so that the organisation will have the means to carry out its objectives as satisfactorily as possible and at the same time meets its obligations as they become due.

Bonneville and Dewey interpret that financing consists in the raising, providing and managing all the money, capital or funds of any kind to be used in connection with the business.

Osbon defines financial management as the "process of acquiring and utilizing funds by a business".

Considering all these views, financial management may be defined as that part of management which is concerned mainly with raising funds in the most economic and suitable manner, using these funds as profitably as possible.

Nature or Features or Characteristics of Financial Management

Nature of financial management is concerned with its functions, its goals, trade-off with conflicting goals, its indispensability, its systems, its relation with other subsystems in the firm, its environment, its relationship with other disciplines, the procedural aspects and its equation with other divisions within the organisation.

- 1.** Financial Management is an integral part of overall management. Financial considerations are involved in all business decisions. So financial management is pervasive throughout the organisation.
- 2.** The central focus of financial management is valuation of the firm. That is financial decisions are directed at increasing/maximization/ optimizing the value of the firm.
- 3.** Financial management essentially involves risk-return trade-off Decisions on investment involve choosing of types of assets which generate returns accompanied by risks. Generally higher the risk, returns might be higher and vice versa. So, the financial manager has to decide the level of risk the firm can assume and satisfy with the accompanying return.
- 4.** Financial management affects the survival, growth and vitality of the firm. Finance is said to be the life blood of business. It is to business, what blood is to us. The amount, type, sources, conditions and cost of finance squarely influence the functioning of the unit.
- 5.** Finance functions, i.e., investment, rising of capital, distribution of profit, are performed in all firms - business or non-business, big or small, proprietary or corporate undertakings. Yes, financial management is a concern of every concern.

6. Financial management is a sub-system of the business system which has other subsystems like production, marketing, etc. In systems arrangement financial sub-system is to be well-coordinated with others and other sub-systems well matched with the financial subsystem.

SCOPE OF FINANCIAL MANAGEMENT

Financial management is one of the important parts of overall management, which is directly related with various functional departments like personnel, marketing and production. Financial management covers wide area with multidimensional approaches. The following are the important scope of financial management.

1. Financial Management and Economics

Economic concepts like micro and macroeconomics are directly applied with the financial management approaches. Investment decisions, micro and macro environmental factors are closely associated with the functions of financial manager. Financial management also uses the economic equations like money value discount factor, economic order quantity etc. Financial economics is one of the emerging area, which provides immense opportunities to finance, and economical areas.

2. Financial Management and Accounting

Accounting records includes the financial information of the business concern. Hence, we can easily understand the relationship between the financial management and accounting. In the olden periods, both financial management and accounting are treated as a same discipline and then it has been merged as Management Accounting because this part is very much helpful to finance manager to take decisions. But nowadays financial management and accounting discipline are separate and interrelated.

3. Financial Management or Mathematics

Modern approaches of the financial management applied large number of mathematical and statistical tools and techniques. They are also called as econometrics. Economic order quantity, discount factor, time value of money, present value of money, cost of capital, capital structure theories, dividend theories, ratio analysis and working capital analysis are used as mathematical and statistical tools and techniques in the field of financial management.

4. Financial Management and Production Management

Production management is the operational part of the business concern, which helps to multiple the money into profit. Profit of the concern depends upon the production performance. Production performance needs finance, because production department requires raw material, machinery, wages, operating expenses etc. These expenditures are decided and estimated by the financial department and the finance manager allocates the appropriate finance to production department. The financial manager must be aware of the operational process and finance required for each process of production activities.

5. Financial Management and Marketing

Produced goods are sold in the market with innovative and modern approaches. For this, the marketing department needs finance to meet their requirements.

The financial manager or finance department is responsible to allocate the adequate finance to the marketing department. Hence, marketing and financial management are interrelated and depends on each other.

6. Financial Management and Human Resource

Financial management is also related with human resource department, which provides manpower to all the functional areas of the management. Financial manager should carefully evaluate the requirement of manpower to each department and allocate the finance to the human resource department as wages, salary, remuneration, commission, bonus, pension and other monetary benefits to the human resource department. Hence, financial management is directly related with human resource management.

OBJECTIVES OF FINANCIAL MANAGEMENT

Effective procurement and efficient use of finance lead to proper utilization of the finance by the business concern. It is the essential part of the financial manager. Hence, the financial manager must determine the basic objectives of the financial management. Objectives of Financial Management may be broadly divided into two parts such as:

1. Profit maximization
2. Wealth maximization.

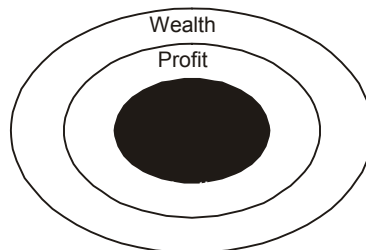


Fig. 1.2 Objectives of Financial Management

Profit Maximization

Main aim of any kind of economic activity is earning profit. A business concern is also functioning mainly for the purpose of earning profit. Profit is the measuring techniques to understand the business efficiency of the concern. Profit maximization is also the traditional and narrow approach, which aims at, maximizes the profit of the concern. Profit maximization consists of the following important features.

1. Profit maximization is also called as cashing per share maximization. It leads to maximize the business operation for profit maximization.
2. Ultimate aim of the business concern is earning profit, hence, it considers all the possible ways to increase the profitability of the concern.

3. Profit is the parameter of measuring the efficiency of the business concern. So it shows the entire position of the business concern.

4. Profit maximization objectives help to reduce the risk of the business.

Favourable Arguments for Profit Maximization

The following important points are in support of the profit maximization objectives of the business concern:

- (i) Main aim is earning profit.
- (ii) Profit is the parameter of the business operation.
- (iii) Profit reduces risk of the business concern.
- (iv) Profit is the main source of finance.
- (v) Profitability meets the social needs also.

Unfavourable Arguments for Profit Maximization

The following important points are against the objectives of profit maximization:

- (i) Profit maximization leads to exploiting workers and consumers.
- (ii) Profit maximization creates immoral practices such as corrupt practice, unfair trade practice, etc.
- (iii) Profit maximization objectives leads to inequalities among the stake holders such as customers, suppliers, public shareholders, etc.

Drawbacks of Profit Maximization

Profit maximization objective consists of certain drawback also:

- (i) **It is vague :** In this objective, profit is not defined precisely or correctly. It creates some unnecessary opinion regarding earning habits of the business concern.
- (ii) **It ignores the time value of money:** Profit maximization does not consider the time value of money or the net present value of the cash inflow. It leads certain differences between the actual cash inflow and net present cash flow during a particular period.
- (iii) **It ignores risk:** Profit maximization does not consider risk of the business concern. Risks may be internal or external which will affect the overall operation of the business concern.

Wealth Maximization

Wealth maximization is one of the modern approaches, which involves latest innovations and improvements in the field of the business concern. The term wealth means shareholder wealth or the wealth of the persons those who are involved in the business concern.

Wealth maximization is also known as value maximization or net present worth maximization. This objective is an universally accepted concept in the field of business.

Favourable Arguments for Wealth Maximization

- (i) Wealth maximization is superior to the profit maximization because the main aim of the business concern under this concept is to improve the value or wealth of the shareholders.
- (ii) Wealth maximization considers the comparison of the value to cost associated with the business concern. Total value detected from the total cost incurred for the business operation. It provides extra value of the business concern.
- (iii) Wealth maximization considers both time and risk of the business concern.
- (iv) Wealth maximization provides efficient allocation of resources.
- (v) It ensures the economic interest of the society.

Unfavourable Arguments for Wealth Maximization

- (i) Wealth maximization leads to prescriptive idea of the business concern but it may not be suitable to present day business activities.
- (ii) Wealth maximization is nothing, it is also profit maximization, it is the indirect name of the profit maximization.
- (iii) Wealth maximization creates ownership-management controversy.
- (iv) Management alone enjoy certain benefits.
- (v) The ultimate aim of the wealth maximization objectives is to maximize the profit.
- (vi) Wealth maximization can be activated only with the help of the profitable position of the business concern.

APPROACHES TO FINANCIAL MANAGEMENT

Financial management approach measures the scope of the financial management in various fields, which include the essential part of the finance. Financial management is not a revolutionary concept but an evolutionary. The definition and scope of financial management has been changed from one period to another period and applied various innovations. Theoretical points of view, financial management approach may be broadly divided into two major parts.

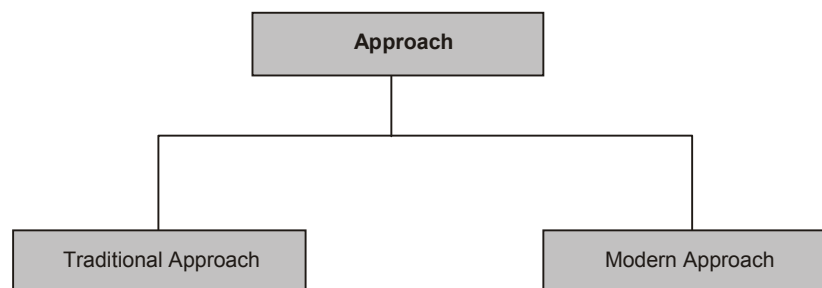


Fig. 1.3 Approaches to Finance Management

Traditional Approach

Traditional approach is the initial stage of financial management, which was followed, in the early part of during the year 1920 to 1950. This approach is based on the past experience and the traditionally accepted methods. Main part of the traditional approach is rising of funds for the business concern. Traditional approach consists of the following important area.

Arrangement of funds from lending body.

Arrangement of funds through various financial instruments. Finding out the various sources of funds.

FUNCTIONS OF FINANCE MANAGER

Finance function is one of the major parts of business organization, which involves the permanent, and continuous process of the business concern. Finance is one of the interrelated functions which deal with personal function, marketing function, production function and research and development activities of the business concern. At present, every business concern concentrates more on the field of finance because, it is a very emerging part which reflects the entire operational and profit ability position of the concern. Deciding the proper financial function is the essential and ultimate goal of the business organization.

Finance manager is one of the important role players in the field of finance function. He must have entire knowledge in the area of accounting, finance, economics and management. His position is highly critical and analytical to solve various problems related to finance. A person who deals finance related activities may be called finance manager.

Finance manager performs the following major functions:

1. Forecasting Financial Requirements

It is the primary function of the Finance Manager. He is responsible to estimate the financial requirement of the business concern. He should estimate, how much finances required to acquire fixed assets and forecast the amount needed to meet the working capital requirements in future.

2. Acquiring Necessary Capital

After deciding the financial requirement, the finance manager should concentrate how the finance is mobilized and where it will be available. It is also highly critical in nature.

3. Investment Decision

The finance manager must carefully select best investment alternatives and consider the reasonable and stable return from the investment. He must be well versed in the field of capital budgeting techniques to determine the effective utilization of investment. The finance manager must concentrate to principles of safety, liquidity and profitability while investing capital.

4. Cash Management

Present days cash management plays a major role in the area of finance because proper cash management is not only essential for effective utilization of cash but it also helps to meet the short-term liquidity position of the concern.

5. Interrelation with Other Departments

Finance manager deals with various functional departments such as marketing, production, personnel, system, research, development, etc. Finance manager should have sound knowledge not only in finance related area but also well versed in other areas. He must maintain a good relationship with all the functional departments of the business organization.

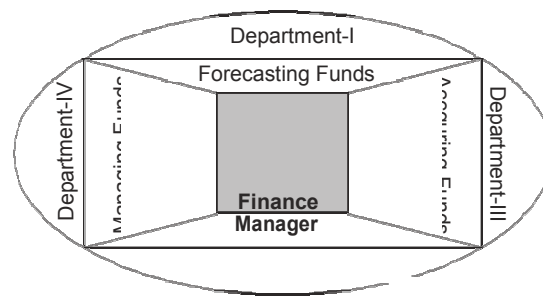


Fig 1.4 Functions of Financial Manager

IMPORTANCE OF FINANCIAL MANAGEMENT

Finance is the lifeblood of business organization. It needs to meet the requirement of the business concern. Each and every business concern must maintain adequate amount of finance for their smooth running of the business concern and also maintain the business carefully to achieve the goal of the business concern. The business goal can be achieved only with the help of effective management of finance. We can't neglect the importance of finance at any time at and at any situation. Some of the importance of the financial management is as follows:

Financial Planning

Financial management helps to determine the financial requirement of the business concern and leads to take financial planning of the concern. Financial planning is an important part of the business concern, which helps to promotion of an enterprise.

Acquisition of Funds

Financial management involves the acquisition of required finance to the business concern. Acquiring needed funds play a major part of the financial management, which involve possible source of finance at minimum cost.

Proper Use of Funds

Proper use and allocation of funds lead to improve the operational efficiency of the business concern. When the finance manager uses the funds properly, they can reduce the cost of capital and increase the value of the firm.

Financial Decision

Financial management helps to take sound financial decision in the business concern. Financial decision will affect the entire business operation of the concern. Because there is a direct relationship with various department functions such as marketing, production personnel, etc.

Improve Profitability

Profitability of the concern purely depends on the effectiveness and proper utilization of funds by the business concern. Financial management helps to improve the profitability position of the concern with the help of strong financial control devices such as budgetary control, ratio analysis and cost volume profit analysis.

Increase the Value of the Firm

Financial management is very important in the field of increasing the wealth of the investors and the business concern. Ultimate aim of any business concern will achieve the maximum profit and higher profitability leads to maximize the wealth of the investors as well as the nation.

Promoting Savings

Savings are possible only when the business concern earns higher profitability and maximizing wealth. Effective financial management helps to promoting and mobilizing individual and corporate savings.

Nowadays financial management is also popularly known as business finance or corporate finances. The business concern or corporate sectors cannot function without the importance of the financial management.

FUNCTION OF A FINANCE MANAGER

The functions performed by a finance manager are known as finance functions. In the course of following these functions finance manager takes the following decisions:

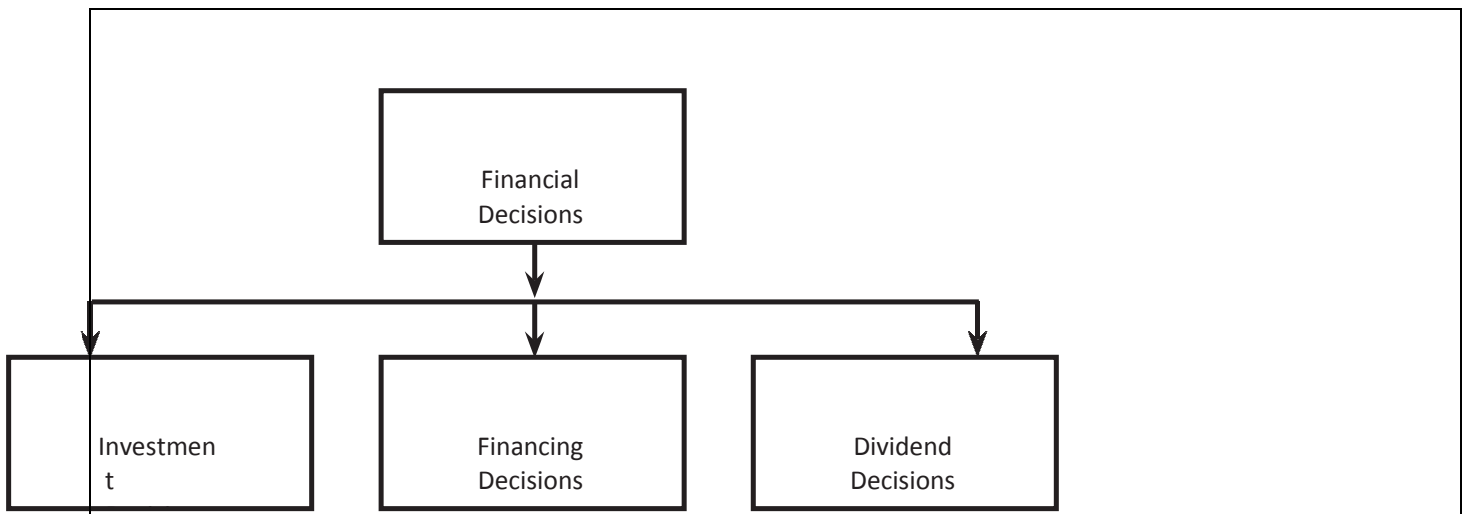


Fig. 1.1 Financial decisions

Investment decisions

Investment decisions begin with a determination of the total amount of assets needed to be held by the firm. It relates to the selection of assets, on which a firm will invest funds. The required assets fall into two groups namely:

Long-term assets: This involves huge investment and yield a return over a period of time in the future. It is also known as 'capital budgeting' and can be defined as the firm's decision to invest its current funds most efficiently in fixed assets with an expected flow of benefits over a series of years.

Short-term assets: These are the current assets that can be converted into cash within a financial year without any diminution in value. Investment in current assets is termed as 'working capital management'.

Financing decisions

Financing decisions relate to the acquisition of funds at the least cost. The cost has two dimensions which have been illustrated in the below mentioned table.

Explicit cost	Implicit cost
Refers to the cost in the form of interest rate, cost of floating and commissions on the securities and so on	Refers to the cost which is not visible but it continuously affect the company's operations especially when it is exposed to inflation and financial risk

Table 1.1 Cost dimension

The challenge before the finance manager is to arrive at a combination of debt and equity for financing decisions which would attain an optimal structure of capital.

Dividend decisions

Dividend decision is a major decision made by the finance manager on the formulation of dividend policy. Since the goal of financial management is maximisation of wealth of shareholders, dividend policy formulation demands the managerial attention on the impact of its policy on dividend on the market value of shares. Optimum dividend policy requires decision on dividend payment rates so as to maximise the market value of shares. The payout ratio means

that portion of earnings per share is given to the shareholders in the form of cash dividend.

Risk Return Tradeoff

The risk-return tradeoff is the trading principle that links high risk with high reward. The appropriate risk-return tradeoff depends on a variety of factors including an investor's risk tolerance, the investor's years to retirement and the potential to replace lost funds. Time also plays an essential role in determining a portfolio with the appropriate levels of risk and reward. For example, if an investor has the ability to invest in equities over the long term, that provides the investor with the potential to recover from the risks of bear markets and participate in bull markets, while if an investor can only invest over a short time frame, the same equities have a higher risk proposition.

Investors use the risk-return tradeoff as one of the essential components of each investment decision, as well as to assess their portfolios as a whole. At the portfolio level, the risk-return tradeoff can include assessments of the concentration or the diversity of holdings and whether the mix presents too much risk or a lower-than-desired potential for returns.

ME VALUE OF MONEY

the most fundamental concepts in finance is that money has a "time value." That is to say that money in hand worth more than money that is expected to be received in the future. This leads us to summarise the concept of ue: "A Rupee today is worth more than a Rupee tomorrow."

Time value of money

Rs. which is received today, is more valuable than a rupee receivable in future. The amount that is received earlier can be reinvested and it can earn an additional amount. Therefore, people prefer to receive the rupee that is available at the earliest.

Factors of time preference for money

Individuals prefer value opportunity to receive money now rather than waiting for one or more years to receive the same. It is known as an individual's time preference for money. There are three reasons that may be attributed to the individual's time preference for money:

Uncertainty: Future is uncertain and it involves risk. An individual is not certain about future cash inflows. Therefore, the individual would prefer to receive cash today instead of future.

Current consumption: Most of the people prefer to use the present money for satisfying existing needs.

Possibility of investment opportunity: The reason why individuals prefer present money is due to the possibility of investment opportunity through which they can earn additional cash.

Interest

Interest is the interest paid on only the original amount, or principle borrowed. Simple amount is a function of three elements such as principle amount borrowed or lent, interest per annum and the number of years for which the interest is calculated. Symbolically:

$$SI = P_0 (I) (n)$$

Where,

SI = Simple interest, P_0 = Principle amount at year '0', I = Interest rate per annum
n = Number of year for which interest is calculated

Compound Interest

The future values of all cash inflows at the end of the time horizon at a particular rate of interest are found, compounded when the amount earned on an initial deposit becomes part of the principal at the end of the first compounding period.

No difference between simple interest and compound interest when there is only one time investment yearly compounding, and for only one year maturity. But the difference can be seen only when the investment is made for more than two compounding interest is also referred as future value (FV).

Variable Compounding Periods

Monthly compounding is done once in a year. In the above problem, we assumed that the compounding is done annually. If the investor promised to pay compound interest for variable periods, compound value with variable compounding is determined with the following formula.

$$CV_n = P_0 \left[1 + \frac{I}{M} \right]^{m \times n}$$

Compound value at the end of year 'n', P_0 = Principal amount at the year '0', I = Interest per annum, m = Number of times per year compounding is done
n = Maturity period

Present Value

Present value of a future cash inflow (or outflow) is the amount of current cash that is of equivalent value to the future value. The processes of determining present value of future cash flows are 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. This return is referred to as discount rate, cost of capital or an opportunity cost.

Present value of a single amount

Present value can be calculated by the following formula:

$$PV_n \left[\frac{1}{(1+I)^n} \right] \text{ OR } FV_n [PVIF_{I,n}]$$

PV = Present value

FV = Future value receivable at the end of 'n' years
I = Interest rate
PVIF = Present value interest factor or cost of capital
n = Duration of the investment

PV = Present value interest factor at 'I' interest and for 'n' years

Compound Value of Series of cash Flows

Compound value means a series of cash flows (inflow or outflow) of a fixed amount for a specified number of years. Compound value of a series of cash flows can be calculated by the following formula (uneven cash flows)

$$CV_n = P_1(1+I)^{n-1} + P_2(1+I)^{n-2} + \dots + P_{n-1}(1+I) + P_n$$

CV_n = Compound value at the end of 'n' year

P₁ = Payment at the end of year 1, P₂ = Payment at the end of year 2, P_n = Payment at the end of year 'n', I = Interest rate

P₁ (CVIF I,1) + P₂ (CVIF I,2) + P_n (1+I,n)

P₁ (CVIF I,1) + P₂ (CVIF I,2) + P_n (1+I,n)

Compound Value of Annuity (Even Cash Flow)

Annuity is a series of even cash flows for a specified duration. It involves a regular cash outflow or inflow. For example, like the payment of LIC premium, depositing in a recurring deposit account, and the like. Cash flows may occur either at the end of year or beginning of the year. If cash flows happen at the beginning of the year, it is called as an annuity due, and when the cash flows happen at the end it is called as a regular or deferred annuity.

Compound Value of Deferred Annuity

For instance: Mr. Ram deposits Rs. 500 at the end of every year for 6 years at 6% interest. Determine Ram's money value at the end of 6 years.

UNIT II: INVESTMENT DECISION:

Meaning and Nature of Capital Budgeting - Investment decision process – Project generation, project evaluation, project selection and project implementation – Principles & techniques- Payback, Accounting rate of return, Net Present Value, Internal Rate of Return, Profitability Index (practical exercises) - Comparison of DCF techniques- Limitations of capital budgeting. Uncertainty Methods of Capital Budgeting- CE method, Probability Method, Sensitivity Analysis.

INTRODUCTION

The word Capital refers to be the total investment of a company of firm in money, tangible and intangible assets. Whereas budgeting defined by the “**Rowland and William**” it may be said to be the art of building budgets. Budgets are a blue print of a plan and action expressed in quantities and manners.

The examples of capital expenditure:

1. Purchase of fixed assets such as land and building, plant and machinery, goodwill, etc.
2. The expenditure relating to addition, expansion, improvement and alteration to the fixed assets.
3. The replacement of fixed assets.
4. Research and development project.

Definitions

According to the definition of **Charles T. Hrongreen**, “capital budgeting is a long-term planning for making and financing proposed capital outlays.

According to the definition of **G.C. Philippatos**, “capital budgeting is concerned with the allocation of the firm's source financial resources among the available opportunities. The consideration of investment opportunities involves the comparison of the expected future streams of earnings from a project with the immediate and subsequent streams of earnings from a project, with the immediate and subsequent streams of expenditure”.

According to the definition of **Richard and Green law**, “capital budgeting is acquiring inputs with long-term return”.

According to the definition of **Lyrich**, “capital budgeting consists in planning development of available capital for the purpose of maximizing the long-term profitability of the concern”.

It is clearly explained in the above definitions that a firm's scarce financial resources are utilizing the available opportunities. The overall objectives of the company from is to maximize the profits and minimize the expenditure of cost.

Need and Importance of Capital Budgeting

- 1. Huge investments:** Capital budgeting requires huge investments of funds, but the available funds are limited, therefore the firm before investing projects, plan are control its capitalexpenditure.
- 2. Long-term:** Capital expenditure is long-term in nature or permanent in nature. Therefore financial risks involved in the investment decision are more. If higher risks are involved, it needs careful planning of capitalbudgeting.
- 3. Irreversible:** The capital investment decisions are irreversible, are not changed back. Once the decision is taken for purchasing a permanent asset, it is very difficulttodisposeoffthoseassetswithoutinvolvinghuge losses.
- 4. Long-term effect:** Capital budgeting not only reduces the cost but also increases the revenue in long-term and will bring significant changes in the profit of the company by avoiding over or more investment or under investment. Over investments leads to be unable to utilize assets or over utilization of fixed assets. Therefore before making the investment, it is required carefully planning and analysis of the projectthoroughly.

CAPITAL BUDGETING PROCESS

Capital budgeting is a difficult process to the investment of available funds. The benefit will attained only in the near future but, the future is uncertain. However, the following stepsfollowedforcapitalbudgeting,thentheprocessmaybeasierare.

Identification of Various Investments ScreeningorMatchingtheAvailableResources

Evaluation of ProposalsFixing Property Final ApprovalImplementation

Identification of Various Investment ProposalsFeedback

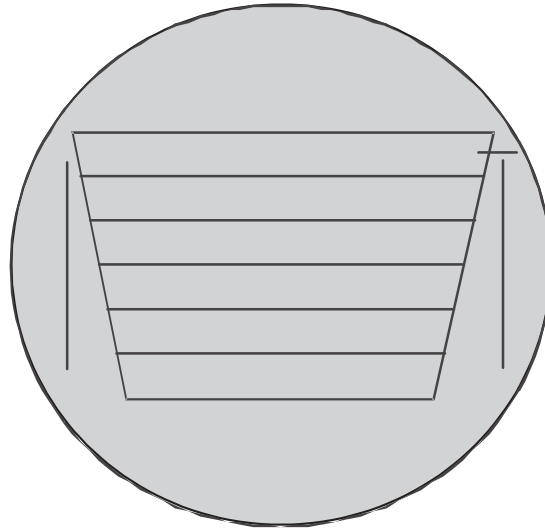


Fig. 9.1 Capital Budgeting Process

1. Identification of various investments proposals: The capital budgeting may have various investment proposals. The proposal for the investment opportunities may be defined from the top management or may be even from the lower rank. The heads of various department analyse the various investment decisions, and will select proposals submitted to the planning committee of competent authority.

2. Screening or matching the proposals: The planning committee will analyse the various proposals and screenings. The selected proposals are considered with the available resources of the concern. Here resources referred as the financial part of the proposal. This reduces the gap between the resources and the investment cost.

3. Evaluation: After screening, the proposals are evaluated with the help of various methods, such as pay back period proposal, net discovered present value method, accounting rate of return and risk analysis. Each method of evaluation used in detail in the later part of this chapter. The proposals are evaluated by.

- (a) Independent proposals
- (b) Contingent of dependent proposals
- (c) Partially exclusive proposals.

Independent proposals are not compared with another proposals and these may be accepted or rejected. Whereas higher proposals acceptance depends upon the other one or more proposals. For example, the expansion of plant machinery leads to constructing of new building, additional manpower etc. Mutually exclusive projects are those which competed with other proposals and to implement the proposals after considering the risk and return, market demand etc.

4. Fixing property: After the evolution, the planning committee will predict which proposals will give more profit or economic consideration. If the projects or proposals are not

suitable for the concern's financial condition, the projects are rejected without considering the nature of the proposals.

5. Final approval: The planning committee approves the final proposals, with the help of the following:

- (a) Profitability
- (b) Economic constituents
- (c) Financial viability
- (d) Market conditions.

The planning committee prepares the cost estimation and submits to the management.

6. Implementing: The competent authority spends the money and implements the proposals. While implementing the proposals, assign responsibilities to the proposals, assign responsibilities for completing it, within the time allotted and reduce the cost for this purpose. The network techniques used such as PERT and CPM. It helps the management for monitoring and containing the implementation of the proposals.

7. Performance review of feedback: The final stage of capital budgeting is actual results compared with the standard results. The adverse or unfavourable results identified and removing the various difficulties of the project. This is helpful for the future of the proposals.

PROJECT GENERATION

Project generation occurs in the first stage of the project cycle. It involves coming up with innovative and original ideas from the project.

Program Evaluation is a systematic method for collecting, analyzing, and using information to answer questions about projects, policies and programs.

Project Selection is a process to assess each project idea and select the ... run as a management initiative before the implementing Project Manager is assigned.

KINDS OF CAPITAL BUDGETING DECISIONS

The overall objective of capital budgeting is to maximize the profitability. If a firm concentrates return on investment, this objective can be achieved either by increasing the revenues or reducing the costs. The increasing revenues can be achieved by expansion or the size of operations by adding a new product line. Reducing costs mean representing obsolete return on assets.

METHODS OF CAPITAL BUDGETING OF EVALUATION

By matching the available resources and projects it can be invested. The funds available are always living funds. There are many considerations taken for investment decision process such as environment and economic conditions.

The methods of evaluation are classified as follows:

- (A) Traditional methods (or Non-discount methods)
 - (i) Pay-back Period Methods
 - (ii) Post Pay-back Methods
 - (iii) Accounts Rate of Return
- (B) Modern methods (or Discount methods)

- (i) Net Present Value Method
- (ii) Internal Rate of Return Method
- (iii) Profitability Index Method

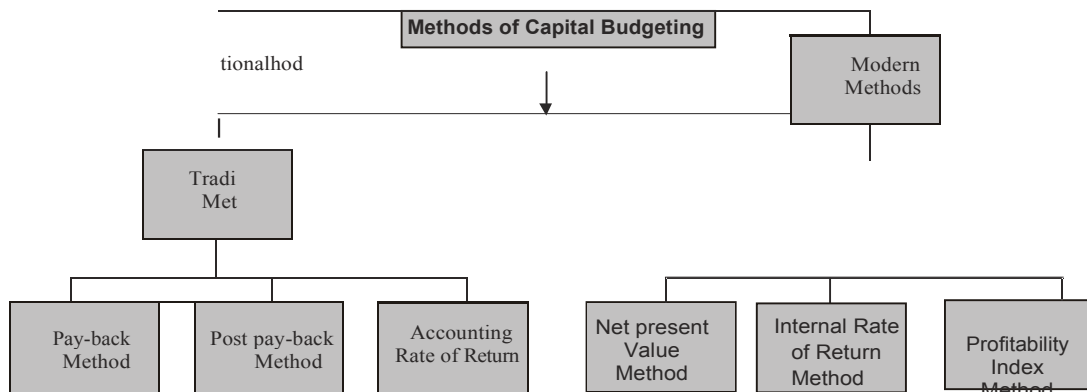


Fig. 9.2 Capital Budgeting Methods

Pay-back Period Pay-back period is the time required to recover the initial investment in a project. (It is one of the non-discounted cash flow methods of capital budgeting).

$$\text{Pay-back period} = \frac{\text{Initial investment}}{\text{Annual cash inflows}}$$

Merits of Pay-back method

The following are the important merits of the pay-back method:

1. It is easy to calculate and simple to understand.
2. Pay-back method provides further improvement over the accounting rate of return.
3. Pay-back method reduces the possibility of loss on account of obsolescence.

Demerits

1. It ignores the time value of money.
2. It ignores all cash inflows after the pay-back period.
3. It is one of the misleading evaluations of capital budgeting.

Accept /Reject criteria

If the actual pay-back period is less than the predetermined pay-back period, the project would be accepted. If not, it would be rejected.

Uneven Cash Inflows

Normally the projects are not having uniform cash inflows. In those cases the pay-back period is calculated, cumulative cash inflows will be calculated and then interpreted.

Post Pay-back Profitability Method

One of the major limitations of pay-back period method is that it does not consider the cash inflows earned after pay-back period and if the real profitability of the project cannot be assessed. To improve over this method, it can be made by considering the receivable after the pay-back period. These returns are called post pay-back profits.

Accounting Rate of Return or Average Rate of Return

Average rate of return means the average rate of return or profit taken for considering the project evaluation. This method is one of the traditional methods for evaluating the project proposals:

Merits

1. It is easy to calculate and simple to understand.
2. It is based on the accounting information rather than cash inflow.
3. It is not based on the time value of money.
4. It considers the total benefits associated with the project.

Demerits

1. It ignores the time value of money.
2. It ignores the reinvestment potential of a project.
3. Different methods are used for accounting profit. So, it leads to some difficulties in the calculation of the project.

Accept/Reject criteria

If the actual accounting rate of return is more than the predetermined required rate of return, the project would be accepted. If not it would be rejected.

Net Present Value

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.

Internal Rate of Return

Internal rate of return is time adjusted technique and covers the disadvantages of the traditional techniques. In other words it is a rate at which discount cash flows to zero. It is expected by the following ratio:

Cash inflow Investment initial _____

Steps to be followed: Step 1. find out factor

Factor is calculated as follows:

$F = \frac{\text{Cash outlay (or) initial investment}}{\text{Cash inflow}}$

Step 2. Find out positive net present value **Step 3.** Find out negative net present value **Step 4.** Find out formula net present value

Formula

$IRR = \text{Base factor} + \frac{\text{Positive net present value}}{\text{Difference in positive and}} \square DP$

Negative net present value

Base factor = Positive discount rate DP =

Difference in percentage

Merits

1. It considers the time value of money.
2. It takes into account the total cash inflow and outflow.
3. It does not use the concept of the required rate of return.
4. It gives the approximate/nearest rate of return.

Demerits

1. It involves a complicated computational method.
2. It produces multiple rates which may be confusing for taking decisions.
3. It is assumed that all intermediate cash flows are reinvested at the internal rate of return.

Accept/Reject criteria

If the present value of the sum total of the compounded reinvested cash flows is greater than the present value of the outflows, the proposed project is accepted. If not, it would be rejected.

RISK AND UNCERTAINTY IN CAPITAL BUDGETING

Capital budgeting requires the projection of cash inflow and outflow of the future. The future is always uncertain, estimate of demand, production, selling price, cost etc., cannot be exact.

For example: The product at any time it becomes obsolete therefore, the future is unexpected. The following methods for considering the accounting of risk in capital budgeting. Various evaluation methods are used for risk and uncertainty in capital budgeting are as follows:

- (i) Risk-adjusted cut off rate (or method of varying discount rate)
- (ii) Certainly equivalent method.
- (iii) Sensitivity technique.
- (iv) Probability technique
- (v) Standard deviation method.
- (vi) Co-efficient of variation method.
- (vii) Decision tree analysis.

(i) Risk-adjusted cutoff rate (or Method of varying)

This is one of the simplest methods while calculating the risk in capital budgeting. It increases the cutoff rate or discount factor by a certain percentage to account for risk.

(ii) Certainly equivalent method

It is also another simplest method for calculating risk in capital budgeting info reduceds expected cash inflows by certain amounts it can be employed by multiplying the expected cash inflows by certainly equivalent co-efficient in order the uncertain cash inflow to certain cash inflows.

(iii) Sensitivity technique

When cash inflows are sensitive under different circumstances more than one forecast of the future cash inflows may be made. These inflows may be regarded on 'Optimistic', 'most likely' and 'pessimistic'. Further cash inflows may be discounted to find out the net present values under these three different situations. If the net present values under the three situations differ widely it implies that there is a great risk in the project and the investor's is decision to accept or reject a project will depend upon his risk bearing activities.

(iv) Probability technique

Probability technique refers to the each event of future happenings are assigned with relative frequency probability. Probability means the likelihood of future event. The cash inflows of the future years further discounted with the probability. The higher present value may be accepted.

(v) Standard deviation method

Two Projects have the same cash outflow and their net values are also the same, standard durations of the expected cash inflows of the two Projects may be calculated to measure the comparative and risk of the Projects. The project having a higher standard deviation is said to be more risky as compared to the other.

(vi) Co-efficient of variation method

Co-efficient of variation is a relative measure of dispersion. If the projects here the same cost but different net present values, relative measure, i.e., Co-efficient of variation should be risk induced. It can be calculated as:

$$\text{Co-efficient of variation} = \frac{\text{Standard deviation}}{\text{mean}} \times 100$$

(vii) Decision tree analysis

In the modern business world, putting the investments are become more complex and taking decisions in the risky situations. So, the decision tree analysis helpful for taking risky and complex decisions, because it consider all the possible event's and each possible events are assigned with the probability.

Construction of Decision Tree

1. Defined the problem
2. Evaluate the different alternatives
3. Indicating the decision points
4. Assign the probabilities of the monetary values
5. Analysis the alternatives.

UNIT III: Financing Decision:

Introduction-Capital Structure forms-Capital Structure theories; Factors determining the capital structure. EBIT-EPS analysis (problems). Leverages – meaning and types -Cost of capital – concept – computation of cost of capital - computation of Weighted Average Cost of Capital-Average vs. Marginal cost of capital.

INTRODUCTION

Financial decision is one of the integral and important parts of financial management in any kind of business concern. A sound financial decision must consider the board coverage of the financial mix (Capital Structure), total amount of capital (capitalization) and cost of capital (K_0). Capital structure is one of the significant things for the management, since it influences the debt equity mix of the business concern, which affects the shareholder's return and risk. Hence, deciding the debt-equity mix plays a major role in the part of the value of the company and market value of the shares. The debt equity mix of the company can be examined with the help of leverage.

The concept of leverage is discussed in this part. Types and effects of leverage is discussed in the part of EBIT and EPS.

Meaning of Leverage

The term leverage refers to an increased means of accomplishing some purpose. Leverage is used to lifting heavy objects, which may not be otherwise possible. In the financial point of view, leverage refers to furnish the ability to use fixed cost assets or funds to increase the return to its shareholders.

Definition of Leverage

James Horne has defined leverage as, “the employment of an asset or fund for which the firm pays a fixed cost or fixed return.

Types of Leverage

Leverage can be classified into three major headings according to the nature of the finance mix of the company.

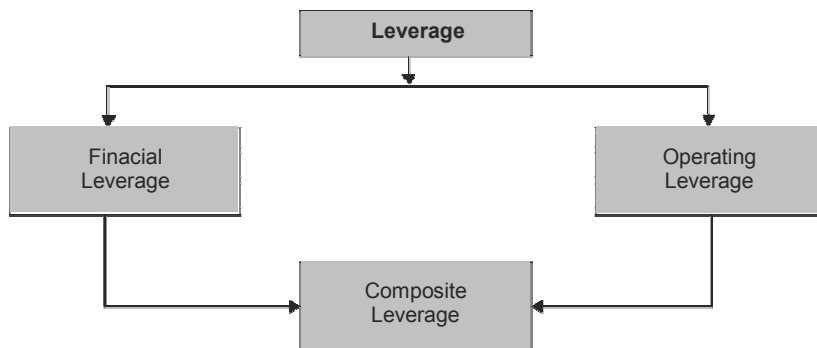


Fig. 7.1 Types of Leverage

The company may use finance or leverage or operating leverage, to increase the EBIT and EPS.

OPERATING LEVERAGE

The leverage associated with investment activities is called as operating leverage. It is caused due to fixed operating expenses in the company. Operating leverage may be defined as the company's ability to use fixed operating costs to magnify the effects of changes in sales on its earnings before interest and taxes. Operating leverage consists of two important costs viz., fixed cost and variable cost. When the company is said to have a high degree of operating leverage if it employs a great amount of fixed cost and smaller amount of variable cost. Thus, the degree of operating leverage depends upon the amount of various cost structure. Operating leverage can be determined with the help of a breakeven analysis.

Operating leverage can be calculated with the help of the following formula:

$$OL = \frac{C}{OP}$$

Where,

OL = Operating Leverage C =

Contribution

OP = Operating Profits

Degree of Operating Leverage

The degree of operating leverage may be defined as percentage change in the profits resulting from a percentage change in the sales. It can be calculated with the help of the following formula:

$$DOL = \frac{\text{Percentage change in profits}}{\text{Percentage change in sales}}$$

Accept/Reject criteria

If the net present values are in positive the project may be accepted otherwise it is rejected.

FINANCIAL LEVERAGE

Leverage activities with financing activities is called financial leverage. Financial leverage represents the relationship between the company's earnings before interest and taxes (EBIT) or operating profit and the earning available to equity shareholders.

Financial leverage is defined as "the ability of a firm to use fixed financial charges to magnify the effects of changes in EBIT on the earnings per share". It involves the use of funds obtained at a fixed cost in the hope of increasing the return to the shareholders. "The use of long-term fixed interest bearing debt and preference share capital along with share capital is called financial leverage or trading on equity".

Financial leverage may be favourable or unfavourable depends upon the use of fixed cost funds.

Favourable financial leverage occurs when the company earns more on the assets purchased with the funds, then the fixed cost of their use. Hence, it is also called as positive financial leverage.

Unfavourable financial leverage occurs when the company does not earn as much as the funds cost. Hence, it is also called as negative financial leverage.

Financial leverage can be calculated with the help of the following formula:

$$FL = \frac{OP}{PBT}$$

Where,

FL = Financial leverage

OP = Operating profit (EBIT) PBT =

Profit before tax.

Degree of Financial Leverage

Degree of financial leverage may be defined as the percentage change in taxable profit as a result of percentage change in earning before interest and tax (EBIT). This can be calculated by the following formula

$$DFL = \frac{\text{Percentage change in taxable Income}}{\text{change in EBIT}}$$

Alternative Definition of Financial Leverage

According to **Gitmar**, “financial leverage is the ability of a firm to use fixed financial changes to magnify the effects of change in EBIT and EPS”.

$$FL = \frac{EBIT}{EPS}$$

Where,

FL = Financial Leverage

EBIT = Earning Before Interest and Tax EPS = Earning Per Share.

COMBINED LEVERAGE

When the company uses both financial and operating leverage to magnification of any change in sales into a larger relative changes in earning per share. Combined leverage is also called as composite leverage or total leverage.

Combined leverage express the relationship between the revenue in the account of sales and the taxable income.

Combined leverage can be calculated with the help of the following formulas:

$$CL = OL \times FL$$

$$\frac{CL}{OP} = \frac{C}{PBT} \times \frac{OP}{PBT} = \frac{C}{PBT}$$

Where,

CL = Combined Leverage
OL = Operating Leverage
FL = Financial Leverage

C = Contribution

OP = Operating Profit (EBIT)
PBT = Profit Before Tax

Degree of Combined Leverage

The percentage change in a firm's earning per share (EPS) results from one percent change in sales. This is also equal to the firm's degree of operating leverage (DOL) times its degree of financial leverage (DFL) at a particular level of sales.

Degree of contributed coverage = $\frac{\text{Percentage change in EPS}}{\text{Percentage change in sales}}$

Capital is the major part of all kinds of business activities, which are decided by the size, and nature of the business concern. Capital may be raised with the help of various sources. If the company maintains proper and adequate level of capital, it will earn high profit and they can provide more dividends to its shareholders.

Meaning of Capital Structure

Capital structure refers to the kinds of securities and the proportionate amounts that make up capitalization. It is the mix of different sources of long-term sources such as equity shares, preference shares, debentures, long-term loans and retained earnings.

The term capital structure refers to the relationship between the various long-term source financing such as equity capital, preference share capital and debt capital. Deciding the suitable capital structure is the important decision of the financial management because it is closely related to the value of the firm.

Capital structure is the permanent financing of the company represented primarily by long-term debt and equity.

Definition of Capital Structure

The following definitions clearly initiate, the meaning and objective of the capital structures.

According to the definition of **Gerestenbeg**, "Capital Structure of a company refers to the composition or make up of its capitalization and it includes all long-term capital resources".

According to the definition of **James C. Van Horne**, "The mix of a firm's permanent long-term financing represented by debt, preferred stock, and common stock equity".

According to the definition of **Presana Chandra**, "The composition of a firm's financing consists of equity, preference, and debt".

According to the definition of **R.H. Wessel**, "The long term sources of fund employed in a business enterprise".

FINANCIAL STRUCTURE

The term financial structure is different from the capital structure. Financial structure shows the pattern total financing. It measures the extent to which total funds are available to finance the total asset of the business.

Financial Structure = Total liabilities

Or

Financial Structure = Capital Structure + Current liabilities.

The following points indicate the difference between the financial structure and capital structure.

Capital Structures	Financial Structures
It includes both long-term and short-term funds	It includes only the long-term funds.
It means the entire liabilities side of the balance sheet.	It means only the long-term liabilities of the company.
Financial structures consist of all sources of capital.	It consists of equity, preference and retained earnings capital.
It will not be more important while determining the value of the firm.	It is one of the major determinations of the value of the firm.

OPTIMUM CAPITAL STRUCTURE

Optimum capital structure is the capital structure at which the weighted average cost of capital is minimum and thereby the value of the firm is maximum.

Optimum capital structure may be defined as the capital structure or combination of debt and equity, that leads to the maximum value of the firm.

Objectives of Capital Structure

Decision of capital structure aims at the following two important objectives:

1. Maximize the value of the firm.
2. Minimize the overall cost of capital.

Forms of Capital Structure

Capital structure pattern varies from company to company and the availability of finance. Normally the following forms of capital structure are popular in practice.

- Equity shares only.
- Equity and preference shares only.
- Equity and Debentures only.
- Equity shares, preference shares and debentures.

FACTORS DETERMINING CAPITAL STRUCTURE

The following factors are considered while deciding the capital structure of the firm.

Leverage

It is the basic and important factor, which affect the capital structure. It uses the fixed cost financing such as debt, equity and preference share capital. It is closely related to the overall cost of capital.

Cost of Capital

Cost of capital constitutes the major part for deciding the capital structure of a firm. Normally long-term finance such as equity and debt consist of fixed cost while mobilization. When the cost of capital increases, value of the firm will also decrease. Hence the firm must take careful steps to reduce the cost of capital.

(a) Nature of the business: Use of fixed interest/dividend bearing finance depends upon the nature of the business. If the business consists of long period of operation, it will apply for equity than debt, and it will reduce the cost of capital.

(b) Size of the company: It also affects the capital structure of a firm. If the firm belongs to large scale, it can manage the financial requirements with the help of internal sources. But if it is small size, they will go for external finance. It consists of high cost of capital.

(c) Legal requirements: Legal requirements are also one of the considerations while dividing the capital structure of a firm. For example, banking companies are restricted to raise funds from some sources.

(d) Requirement of investors: In order to collect funds from different type of investors, it will be appropriate for the companies to issue different sources of securities.

Government policy

Promoter contribution is fixed by the company Act. It restricts to mobilize large, long-term funds from external sources. Hence the company must consider government policy regarding the capital structure.

CAPITAL STRUCTURE THEORIES

Capital structure is the major part of the firm's financial decision which affects the value of the firm and it leads to change EBIT and market value of the shares. There is a relationship among the capital structure, cost of capital and value of the firm. The aim of effective capital structure is to maximize the value of the firm and to reduce the cost of capital.

There are two major theories explaining the relationship between capital structure, cost of capital and value of the firm.

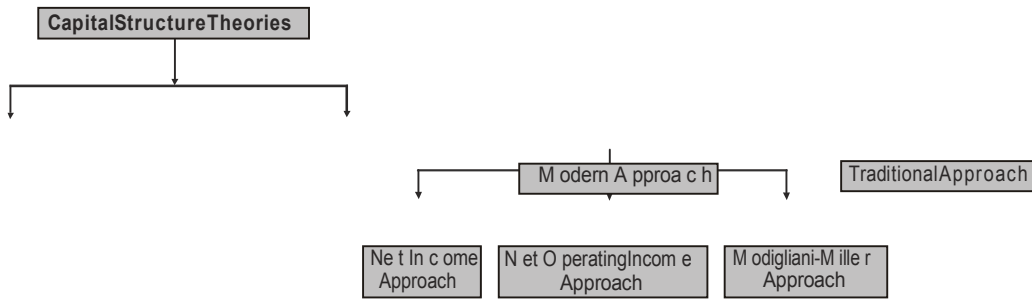


Fig. 5.1 Capital Structure Theories

Traditional

Approach

It is the mix of Net Income approach and Net Operating Income approach. Hence, it is also called as intermediate approach. According to the traditional approach, mix of debt and equity capital can increase the value of the firm by reducing overall cost of capital up to certain level of debt. Traditional approach states that the K_0 decreases only within the responsible limit of financial leverage and when reaching the minimum level, it starts increasing with financial leverage.

Assumptions

Capital structure theories are based on certain assumption to analysis in a single and convenient manner:

- There are only two sources of funds used by a firm; debt and shares.
- The firm pays 100% of its earnings as dividend.
- The total assets are given and do not change.
- The total finance remains constant.
- The operating profits (EBIT) are not expected to grow.
- The business risk remains constant.
- The firm has a perpetual life.
- The investors behave rationally.

Net Income (NI) Approach

Net income approach suggested by the Durand. According to this approach, the capital structure decision is relevant to the valuation of the firm. In other words, a change in the capital structure leads to a corresponding change in the overall cost of capital as well as the total value of the firm.

According to this approach, use more debt finance to reduce the overall cost of capital and increase the value of firm.

Net income approach is based on the following three important assumptions:

1. There are no corporate taxes.
2. The cost debt is less than the cost of equity.
3. The use of debt does not change the risk perception of the investor.

where

$$V = S+B$$

V = Value of firm

S = Market value of equity B = Market value of debt

Market value of the equity can be ascertained by the following formula:

$$S = \frac{NI}{K_e}$$

where

NI=Earnings available to equity shareholder

K_e =Cost of equity/equity capitalization rate

Format for calculating value of the firm on the basis of NI approach.

Particulars	Amount
Operating income (EBIT)	
Interest on debenture (i)	
Earnings available to equity holder (NI)	
Capitalization rate (K_e)	
Value of equity (S)	
Value of debt (B)	
Value of the firm (S+B)	
Cost of capital = $K_0 = EBIT/V(\%)$	

Net Operating Income (NOI) Approach

Another modern theory of capital structure, suggested by **Durand**. This is just the opposite to the Net Income approach. According to this approach, Capital Structure decision is irrelevant to the valuation of the firm. The market value of the firm is not at all affected by the capital structure changes.

According to this approach, the change in capital structure will not lead to any change in the total value of the firm and market price of shares as well as the overall cost of capital.

NI approach is based on the following important assumptions; The overall cost of capital remains constant;
There are no corporate taxes;
The market capitalizes the value of the firm as a whole;
Value of the firm (V) can be calculated with the help of the following formula

$$V = \frac{\text{EBIT}}{K_0}$$

EBIT-EPS analysis gives a scientific basis for comparison among various financial plans and shows ways to maximize EPS. Hence EBIT-EPS analysis may be defined as ‘a tool of financial planning that evaluates various alternatives of financing a project under varying levels of EBIT and suggests the best alternative having highest EPS and determines the most profitable level of EBIT’.

Concept of EBIT-EPS Analysis:

The EBIT-EBT analysis is the method that studies the leverage, i.e. comparing alternative methods of financing at different levels of EBIT. Simply put, EBIT-EPS analysis examines the effect of financial leverage on the EPS with varying levels of EBIT or under alternative financial plans.

It examines the effect of financial leverage on the behavior of EPS under different financing alternatives and with varying levels of EBIT. EBIT-EPS analysis is used for making the choice of the combination and of the various sources. It helps select the alternative that yields the highest EPS.

We know that a firm can finance its investment from various sources such as borrowed capital or equity capital. The proportion of various sources may also be different under various financial plans. In every financing plan the firm’s objectives lie in maximizing EPS.

Advantages of EBIT-EPS Analysis:

We have seen that EBIT-EPS analysis examines the effect of financial leverage on the behavior of EPS under various financing plans with varying levels of EBIT. It helps a firm in determining optimum financial planning having highest EPS.

Various advantages derived from EBIT-EPS analysis may be enumerated below:

Financial Planning:

Use of EBIT-EPS analysis is indispensable for determining sources of funds. In case of financial planning the objective of the firm lies in maximizing EPS. EBIT-EPS analysis evaluates the alternatives and finds the level of EBIT that maximizes EPS.

Comparative Analysis:

EBIT-EPS analysis is useful in evaluating the relative efficiency of departments, product lines and markets. It identifies the EBIT earned by these different departments, product lines and from various markets, which helps financial planners rank them according to profitability and also assess the risk associated with each.

Performance Evaluation:

This analysis is useful in comparative evaluation of performances of various sources of funds. It evaluates whether a fund obtained from a source is used in a project that produces a rate of return higher than its cost.

Determining Optimum Mix:

EBIT-EPS analysis is advantageous in selecting the optimum mix of debt and equity. By emphasizing on the relative value of EPS, this analysis determines the optimum mix of debt and equity in the capital structure. It helps

determine the alternative that gives the highest value of EPS as the most profitable financing plan or the most profitable level of EBIT as the case may be.

Limitations of EBIT-EPS Analysis:

Finance managers are very much interested in knowing the sensitivity of the earnings per share with the changes in EBIT; this is clearly available with the help of EBIT-EPS analysis but this technique also suffers from certain limitations, as described below

COST OF CAPITAL

Cost of capital is an integral part of investment decision as it is used to measure the worth of investment proposal provided by the business concern. It is used as a discount rate in determining the present value of future cash flows associated with capital projects. Cost of capital is also called as cut-off rate, target rate, hurdle rate and required rate of return. When the firms are using different sources of finance, the finance manager must take careful decision with regard to the cost of capital; because it is closely associated with the value of the firm and the earning capacity of the firm.

Meaning of Cost of Capital

Cost of capital is the rate of return that a firm must earn on its project investments to maintain its market value and attract funds.

Cost of capital is the required rate of return on its investments which belongs to equity, debt and retained earnings. If a firm fails to earn return at the expected rate, the market value of the shares will fall and it will result in the reduction of overall wealth of the shareholders.

Definitions

The following important definitions are commonly used to understand the meaning and concept of the cost of capital.

According to the definition of **John J. Hampton** “ Cost of capital is the rate of return the firm required from investment in order to increase the value of the firm in the market place”.

According to the definition of **Solomon Ezra**, “Cost of capital is the minimum required rate of earnings or the cut-off rate of capital expenditure”.

According to the definition of James C. Van Horne, Cost of capital is “A cut-off rate for the allocation of capital to investment of projects. It is the rate of return on a project that will leave unchanged the market price of the stock”.

According to the definition of William and Donaldson, “Cost of capital may be defined as the rate that must be earned on the net proceeds to provide the cost elements of the burden at the time they are due”.

Assumption of Cost of Capital

Cost of capital is based on certain assumptions which are closely associated while calculating and measuring the cost of capital. It is to be considered that there are three basic concepts:

1. It is not a cost as such. It is merely a hurdle rate.
2. It is the minimum rate of return.
3. 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.

$$K = r_f + b + f.$$

Where,

K = Cost of capital.

r_f = The riskless cost of the particular type of finance. b = The business risk premium.

f = The financial risk premium.

CLASSIFICATION OF COST OF CAPITAL

Cost of capital may be classified into the following types on the basis of nature and usage:

- Explicit and Implicit Cost.
- Average and Marginal Cost.
- Historical and Future Cost.
- Specific and Combined Cost.

Explicit and Implicit Cost

The cost of capital may be explicit or implicit cost on the basis of the computation of cost of capital.

Explicit cost is the rate that the firm pays to procure financing. This may be calculated with the help of the following equation;

$$CI_0 = \sum_{t=1}^n (t \times C)^t$$

Where,

CI_0 = initial cash inflow

C = outflow in the period concerned

N = duration for which the funds are provided
 T = tax rate

Implicit cost is the rate of return associated with the best investment opportunity for the firm and its shareholders that will be forgone if the projects presently under consideration by the firm were accepted.

Average and Marginal Cost

Average cost of capital is the weighted average cost of each component of capital employed by the company. It considers weighted average cost of all kinds of financing such as equity, debt, retained earnings etc.

Marginal cost is the weighted average cost of new finance raised by the company. It is the additional cost of capital when the company goes for further raising of finance.

Historical and Future Cost

Historical cost is the cost which has already been incurred for financing a particular project. It is based on the actual cost incurred in the previous project.

Future cost is the expected cost of financing in the proposed project. Expected cost is calculated on the basis of previous experience.

Specific and Combined Cost

The cost of each source of capital such as equity, debt, retained earnings and loans is called as specific cost of capital. It is very useful to determine the each and every specific source of capital.

The composite or combined cost of capital is the combination of all sources of capital. It is also called as overall cost of capital. It is used to understand the total cost associated with the total finance of the firm.

IMPORTANCE OF COST OF CAPITAL

Computation of cost of capital is a very important part of the financial management to decide the capital structure of the business concern.

Importance to Capital Budgeting Decision

Capital budget decision largely depends on the cost of capital of each source. According to net present value method, present value of cash inflow must be more than the present value of cash outflow. Hence, cost of capital is used to capital budgeting decision.

Importance to Structure Decision

Capital structure is the mix or proportion of the different kinds of long term securities. A firm uses particular type of sources if the cost of capital is suitable. Hence, cost of capital helps to take decision regarding structure.

Importance to Evolution of Financial Performance

Cost of capital is one of the important determine which affects the capital budgeting, capital structure and value of the firm. Hence, it helps to evaluate the financial performance of the firm.

Importance to Other Financial Decisions

Apart from the above points, cost of capital is also used in some other areas such as, market value of share, earning capacity of securities etc. hence, it plays a major part in the financial management.

COMPUTATION OF COST OF CAPITAL

Computation of cost of capital consists of two important parts:

1. Measurement of specific costs
2. Measurement of overall cost of capital

Measurement of Cost of Capital

It refers to the cost of each specific sources of finance like:

- Cost of equity
- Cost of debt
- Cost of preference share
- Cost of retained earnings

Cost of Equity

Cost of equity capital is the rate at which investors discount the expected dividends of the firm to determine its share value.

Conceptually the cost of equity capital (K_e) defined as the “Minimum rate of return that a firm must earn on the equity financed portion of an investment project in order to leave unchanged the market price of the shares”.

Cost of equity can be calculated from the following approach:

- Dividend price (D/P) approach
- Dividend price plus growth (D/P +g) approach
- Earning price (E/P) approach
- Realized yield approach.

Dividend Price Approach

The cost of equity capital will be that rate of expected dividend which will maintain the present market price of equity shares.

Dividend price approach can be measured with the help of the following formula:

$$K_e = \frac{D}{N_p}$$

Where,

K_e = Cost of equity capital

D = Dividend per equity share

N_p = Net proceeds of an equity share

Dividend Price Plus Growth Approach

The cost of equity is calculated on the basis of the expected dividend rate per share plus growth in dividend. It can be measured with the help of the following formula:

$$K_e = \frac{D}{N_p} + g$$

Where,

K_e = Cost of equity capital

D = Dividend per equity share

g = Growth in expected

dividend N_p = Net proceeds of an equity share

Cost of Retained Earnings

Retained earnings is one of the sources of finance for investment proposal; it is different from other sources like debt, equity and preference shares. Cost of retained earnings is the same as the cost of an equivalent fully subscribed issue of additional shares, which is measured by the cost of equity capital. Cost of retained earnings can be calculated with the help of the following formula:

$$K_r = K_e (1 - t) (1 - b)$$

Measurement of Overall Cost of Capital

It is also called as weighted average cost of capital and composite cost of capital. Weighted average cost of capital is the expected average future cost of funds over the long run found by weighting the cost of each specific type of capital by its proportion in the firm's capital structure.

The computation of the overall cost of capital (K_o) involves the following steps.

- (a) Assigning weights to specific costs.
- (b) Multiplying the cost of each of the sources by the appropriate weights.
- (c) Dividing the total weighted cost by the total weights.

The overall cost of capital can be calculated with the help of the following formula;

$$K_o = K_d W_d + K_p W_p + K_e W_e + K_r W_r$$

Where,

K_o = Overall cost of capital K_d = Cost of debt

K_p = Cost of preference share K_e = Cost of equity

K_r = Cost of retained earnings

W_d = Percentage of debt of total capital

W_p = Percentage of preference share to total capital
Percentage of equity to total capital

W_r = Percentage of retained earnings

Weighted average cost of capital is calculated in the following formula also:

$$K_w = \frac{\sum XW}{\sum W}$$

Where,

K_w = Weighted average cost of capital

X = Cost of specific sources of finance

W = Weight, proportion of specific sources of finance.

The financial manager must take careful decisions on how the profit should be distributed among shareholders. It is very important and crucial part of the business concern, because these decisions are directly related with the value of the business concern and shareholder's wealth. Like financing decision and investment decision, dividend decision is also a major part of the financial manager. When the business concerns decide dividend policy, they have to consider certain factors such as retained earnings and the nature of shareholder of the business concern.

UNIT IV: Working Capital & Dividend Decision:

Meaning –characteristics -Concepts of working capital -Need-Factors determining working capital –estimating working capital requirements (practical exercises) ; **Receivables Management:** Concept, impact of credit policy – components of credit policy ; **Inventory management:** Concept, motives – need & Technique ; **Cash management** Concept, motives & Technique; new trends in financing working capital by banks; Dividend policy-types-factors influencing dividend policy – Dividend valuation theories – Gordon & Walter. (Practical exercises).

INTRODUCTION

Working capital management is also one of the important parts of the financial management. It is concerned with short-term finance of the business concern which is a closely related trade between profitability and liquidity. Efficient working capital management leads to improve the operating performance of the business concern and it helps to meet the short- term liquidity. Hence, study of working capital management is not only an important part of financial management but also an overall management of the business concern.

Working capital is described as the capital which is not fixed but the more common uses of the working capital is to consider it as the difference between the book value of current assets and current liabilities.

This chapter deals with the following important aspects of the working capital management.

- Meaning of Working Capital
- Concept of Working Capital
- Types of Working Capital
- Needs of Working Capital
- Factors determining Working Capital
- Computation of Working Capital
- Sources of Working Capital
- Working Capital Management Policy
- Working Capital and Banking Committee

MEANING OF WORKING CAPITAL

Capital of the concern may be divided into two major headings.

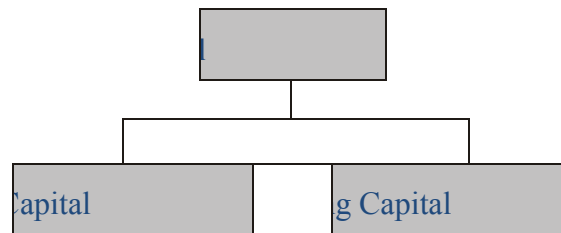


Fig. 10.1 Capital of the Business

Fixed capital means that capital, which is used for long-term investment of the business concern. For example, purchase of permanent assets. Normally it consists of non-recurring in nature.

Working Capital is another part of the capital which is needed for meeting day to day requirement of the business concern. For example, payment to creditors, salary paid to workers, purchase of raw materials etc., normally it consists of recurring in nature. It can be easily converted into cash. Hence, it is also known as short-term capital.

Definitions

According to the definition of **Mead, Baker and Malott**, “Working Capital means Current Assets”.

According to the definition of **J.S. Mill**, “The sum of the current asset is the working capital of a business”.

According to the definition of **Weston and Brigham**, “Working Capital refers to a firm’s investment in short-term assets, cash, short-term securities, accounts receivables and inventories”.

According to the definition of **Bonneville**, “Any acquisition of funds which increases the current assets, increase working capital also for they are one and the same”.

According to the definition of **Shubin**, “Working Capital is the amount of funds necessary to cover the cost of operating the enterprises”.

According to the definition of **Genestenberg**, “Circulating capital means current assets of a company that are changed in the ordinary course of business from one form to another, for example, from cash to inventories, inventories to receivables, receivables to cash”.

CONCEPT OF WORKING CAPITAL

Working capital can be classified or understood with the help of the following two important concepts.

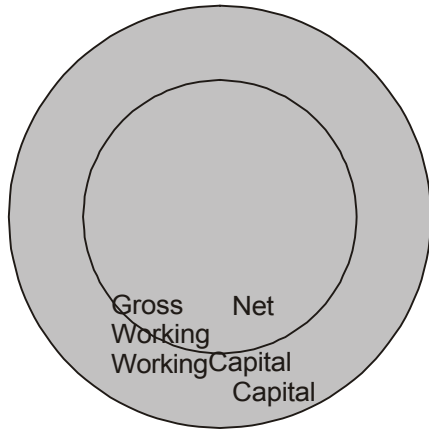


Fig. 10.2 Working Capital Concept

Gross Working Capital

Gross Working Capital is the general concept which determines the working capital concept. Thus, the gross working capital is the capital invested in total current assets of the business concern.

Gross Working Capital is simply called as the total current assets of the concern.

$$\boxed{GWC = CA}$$

Net Working Capital

Net Working Capital is the specific concept, which, considers both current assets and current liability of the concern.

Net Working Capital is the excess of current assets over the current liability of the concern during a particular period.

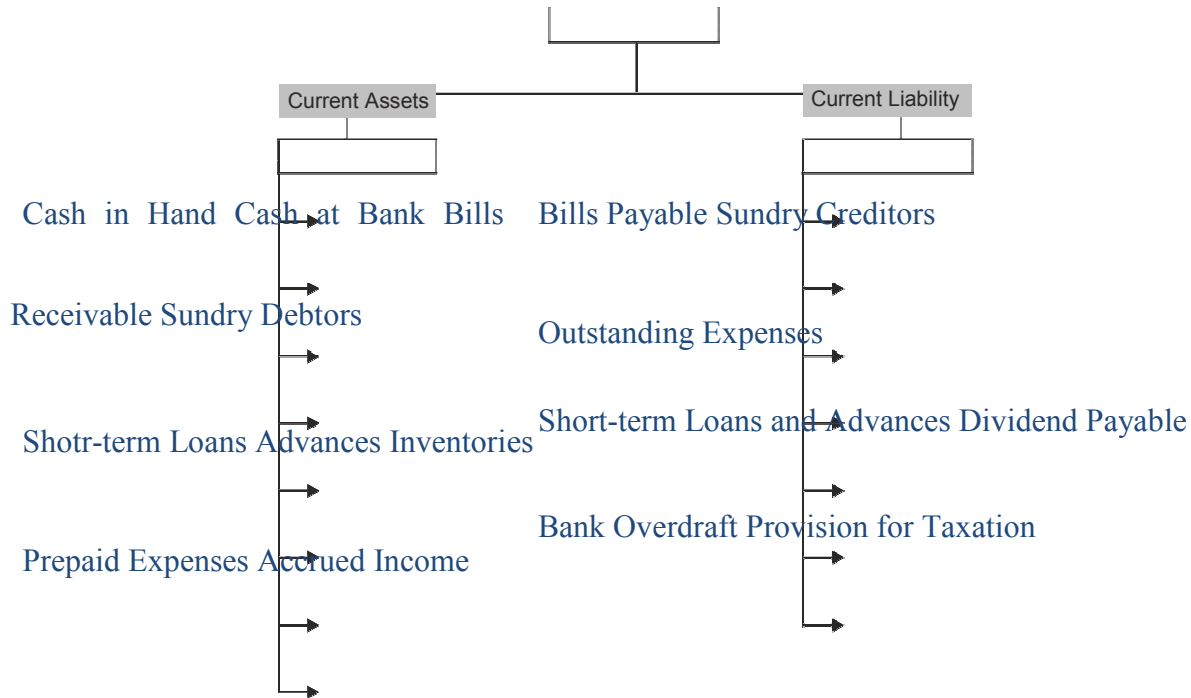
If the current assets exceed the current liabilities it is said to be positive working capital; it is reverse, it is said to be Negative working capital.

$$\boxed{NWC = CA - CL}$$

Component of Working Capital

Working capital constitutes various current assets and current liabilities. This can be illustrated by the following chart.

WorkingCapital



TYPES OF WORKING CAPITAL

Working Capital may be classified into three important types on the basis of time.

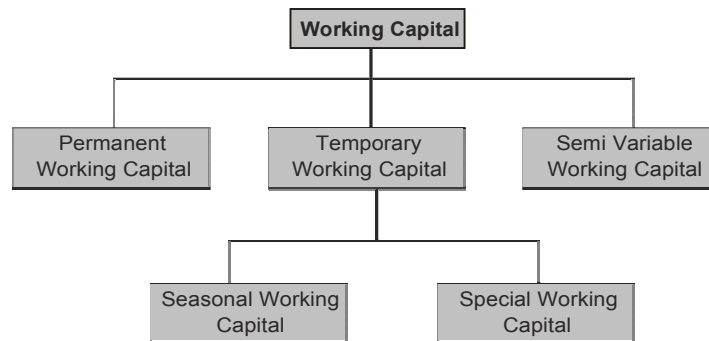


Fig. 10.3 Types of Working Capital

Permanent Working Capital

It is also known as Fixed Working Capital. It is the capital; the business concern must maintain certain amount of capital at minimum level at all times. The level of Permanent Capital depends upon the nature of the business. Permanent or Fixed Working Capital will not change irrespective of time or volume of sales.

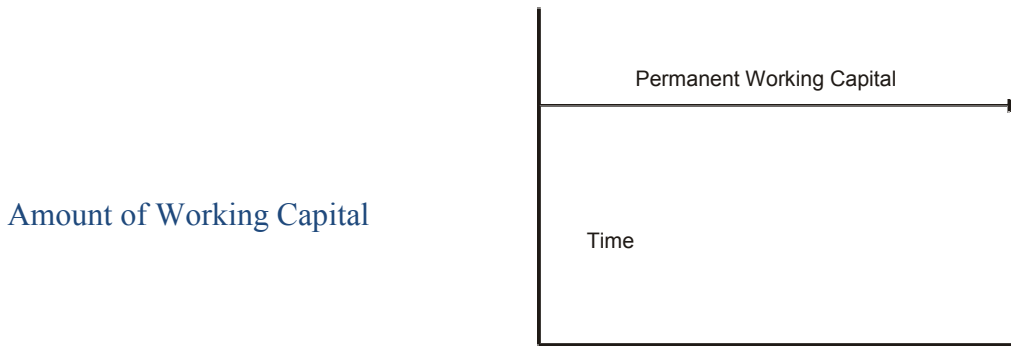
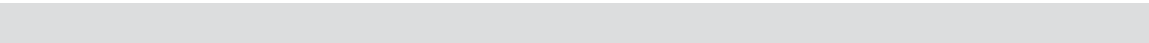


Fig. 10.4 Permanent Working Capital

Temporary Working Capital

It is also known as variable working capital. It is the amount of capital which is required to meet the Seasonal demands and some special purposes. It can be further classified into Seasonal Working Capital and Special Working Capital.

The capital required to meet the seasonal needs of the business concern is called as Seasonal Working Capital. The capital required to meet the special exigencies such as launching of extensive marketing campaigns for conducting research, etc.

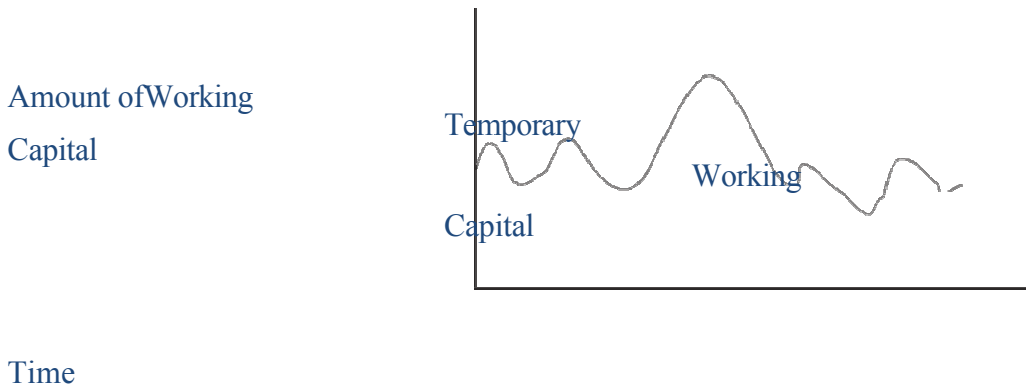
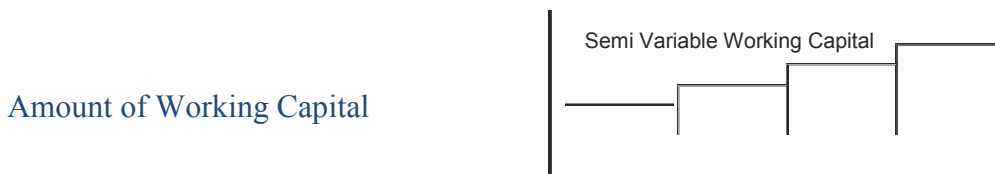


Fig. 10.5 Temporary Working Capital

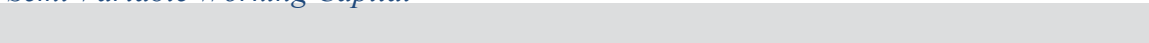
Semi Variable Working Capital

Certain amount of Working Capital is in the field level up to a certain stage and after that it will increase depending upon the change of sales or time.



Time

Fig. 10.6 *Semi Variable Working Capital*



NEED FOR WORKING CAPITAL

Working Capital is an essential part of the business concern. Every business concern must maintain certain amount of Working Capital for their day-to-day requirements and meet the short-term obligations.

Working Capital is needed for the following purposes.

- 1. Purchase of raw materials and spares:** The basic part of manufacturing process is, raw materials. It should purchase frequently according to the needs of the business concern. Hence, every business concern maintains certain amount as Working Capital to purchase raw materials, components, spares, etc.
- 2. Payment of wages and salary:** The next part of Working Capital is payment of wages and salaries to labour and employees. Periodical payment facilities make employees perfect in their work. So a business concern maintains adequate the amount of working capital to make the payment of wages and salaries.
- 3. Day-to-day expenses:** A business concern has to meet various expenditures regarding the operations at daily basis like fuel, power, office expenses, etc.
- 4. Provide credit obligations:** A business concern responsible to provide credit facilities to the customer and meet the short-term obligation. So the concern must provide adequate Working Capital.

Working Capital Position/ Balanced Working Capital Position.

A business concern must maintain a sound Working Capital position to improve the efficiency of business operation and efficient management of finance. Both excessive and inadequate Working Capital lead to some problems in the business concern.

A. Causes and effects of excessive working capital.

- (i) Excessive Working Capital leads to unnecessary accumulation of raw materials, components and spares.
- (ii) Excessive Working Capital results in locking up of excess Working Capital.
- (iii) It creates bad debts, reduces collection periods, etc.
- (iv) It leads to reduce the profits.

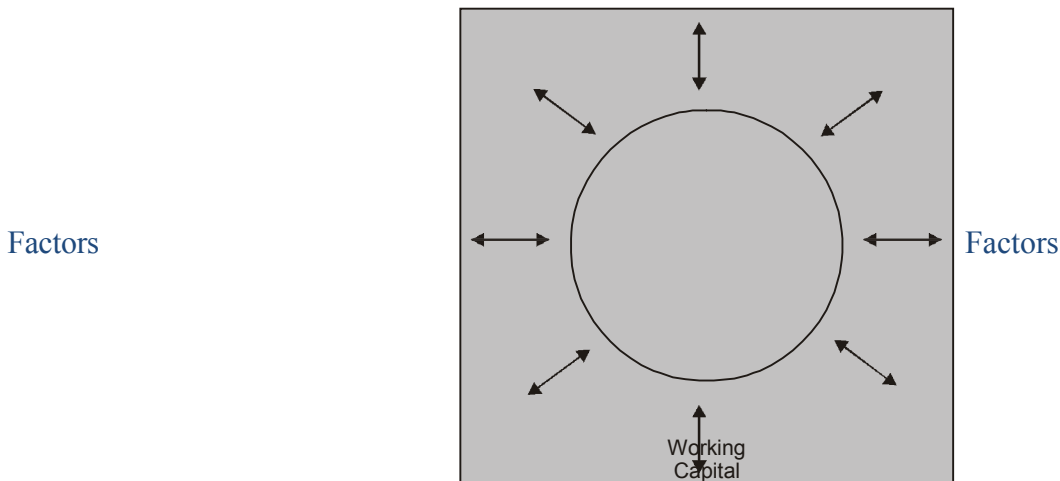
B. Causes and effects of inadequate working capital

- (i) Inadequate working capital cannot buy its requirements in bulk order.
- (ii) It becomes difficult to implement operating plans and activate the firm's profit target.
- (iii) It becomes impossible to utilize efficiently the fixed assets.
- (iv) The rate of return on investments also falls with the shortage of Working Capital.
- (v) It reduces the overall operation of the business.

FACTORS DETERMINING WORKING CAPITAL REQUIREMENTS

Working Capital requirements depends upon various factors. There are no set of rules or formula to determine the Working Capital needs of the business concern. The following are the major factors which are determining the Working Capital requirements.

Factors



Factors

Fig. 10.7 Factors Determining Working Capital Requirements

1. Nature of business: Working Capital of the business concerns largely depend upon the nature of the business. If the business concerns follow rigid credit policy and sell goods only for cash, they can maintain lesser amount of Working Capital. A transport company maintains lesser amount of Working Capital while a construction company maintains larger amount of Working Capital.

2. Production cycle: Amount of Working Capital depends upon the length of the production cycle. If the production cycle length is small, they need to maintain lesser amount of Working Capital. If it is not, they have to maintain large amount of Working Capital.

3. Business cycle: Business fluctuations lead to cyclical and seasonal changes in the business condition and it will affect the requirements of the Working Capital. In the booming conditions, the Working Capital requirement is larger and in the depression condition, requirement of Working Capital will reduce. Better business results lead to increase the Working Capital requirements.

4. Production policy: It is also one of the factors which affects the Working Capital requirement of the business concern. If the company maintains the continues production policy, there is a need of regular Working Capital. If the production policy of the company depends upon the situation or conditions, Working Capital requirement will depend upon the conditions laid down by the company.

5. Credit policy: Credit policy of sales and purchase also affect the Working Capital requirements of the business concern. If the company maintains liberal credit policy to collect the payments from its customers, they have to maintain more Working Capital. If the company pays the dues on the last date it will create the cash maintenance in hand and bank.

6. Growth and expansion: During the growth and expansion of the business concern, Working Capital requirements are higher, because it needs some additional Working Capital and incurs some extra expenses at the initial stages.

7. Availability of raw materials: Major part of the Working Capital requirements are largely depend on the availability of raw materials. Raw materials are the basic components of the production process. If the raw material is not readily available, it leads to production stoppage. So, the concern must maintain adequate raw material; for that purpose, they have to spend some amount of Working Capital.

8. Earning capacity: If the business concern consists of high level of earning capacity, they can generate more Working Capital, with the help of cash from operation. Earning capacity is also one of the factors which determines the Working Capital requirements of the business concern.

COMPUTATION (OR ESTIMATION) OF WORKING CAPITAL

Working Capital requirement depends upon number of factors, which are already discussed in the previous parts. Now the discussion is on how to calculate the Working Capital needs of the business concern. It may also depend upon various factors but some of the common methods are used to estimate the Working Capital.

A. Estimation of components of working capital method

Working capital consists of various current assets and current liabilities. Hence, we have to estimate how much current assets as inventories required and how much cash required to meet the short term obligations.

Finance Manager first estimates the assets and required Working Capital for a particular period.

B. Percent of sales method

Based on the past experience between Sales and Working Capital requirements, a ratio can be determined for estimating the Working Capital requirement in future. It is the simple and tradition method to estimate the Working Capital requirements. Under this method, first we have to find out the sales to Working Capital ratio and based on that we have to estimate Working Capital requirements. This method also expresses the relationship between the Sales and Working Capital.

C. Operating cycle

Working Capital requirements depend upon the operating cycle of the business. The operating cycle begins with the acquisition of raw material and ends with the collection of receivables.

Operating cycle consists of the following important stages:

1. Raw Material and Storage Stage,(R)
2. Work in Process Stage,(W)
3. Finished Goods Stage,(F)
4. Debtors Collection Stage,(D)
5. Creditors Payment Period Stage.(C)

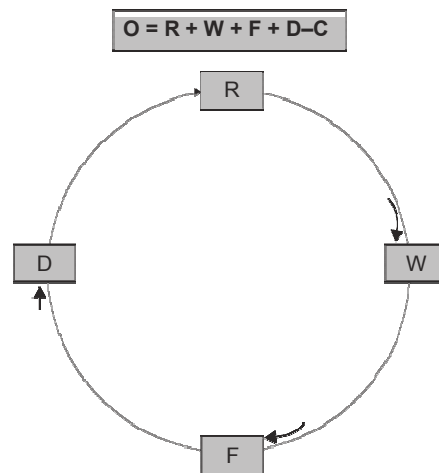


Fig. 10.8 Working Capital Cycle

Each component of the operating cycle can be calculated by the following formula:

$$R = \frac{\text{Average Stock of Raw Material}}{\text{Average Raw Material Consumption Per Day}}$$

$$W = \frac{\text{Average Work in Process Inventory}}{\text{Average Cost of Production Per Day}}$$

$$F = \frac{\text{Average Finished Stock Inventory}}{\text{Average Cost of Goods Sold Per Day}}$$

$$D = \frac{\text{Average Book Debts}}{\text{Average Credit Sales Per Day}}$$

$$C = \frac{\text{Average Trade Creditors}}{\text{Average Credit Purchase Per Day}}$$

WORKING CAPITAL MANAGEMENT POLICY

Working Capital Management formulates policies to manage and handle efficiently; for that purpose, the management established three policies based on the relationship between Sales and Working Capital.

1. Conservative Working Capital Policy.

2. Moderate Working Capital Policy.

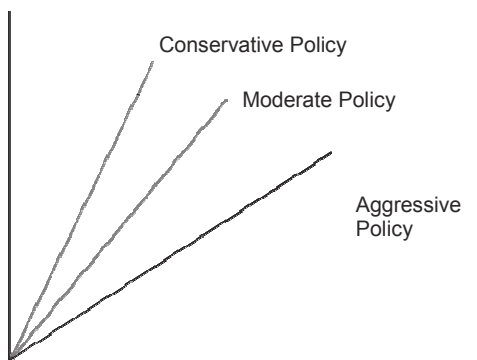
3. Aggressive Working Capital Policy.

1. **Conservative working capital policy:** Conservative Working Capital Policy refers to minimize risk by maintaining a higher level of Working Capital. This type of Working Capital Policy is suitable to meet the seasonal fluctuation of the manufacturing operation.

2. **Moderate working capital policy:** Moderate Working Capital Policy refers to the moderate level of Working Capital maintenance according to moderate level of sales. It means one percent of change in Working Capital, that is Working Capital is equal to sales.

3. **Aggressive working capital policy:** Aggressive Working Capital Policy is one of the high risky and profitability policies which maintains low level of Aggressive Working Capital against the high level of sales, in the business concern during a particular period.

Current Assets



Sales

Fig. 10.9 Working Capital Policies

SOURCES OF WORKING CAPITAL

Working Capital requirement can be normalized from short-term and long-term sources. Each source will have both merits and limitations up to certain extent. Uses of Working Capital may be differing from stage to stage.

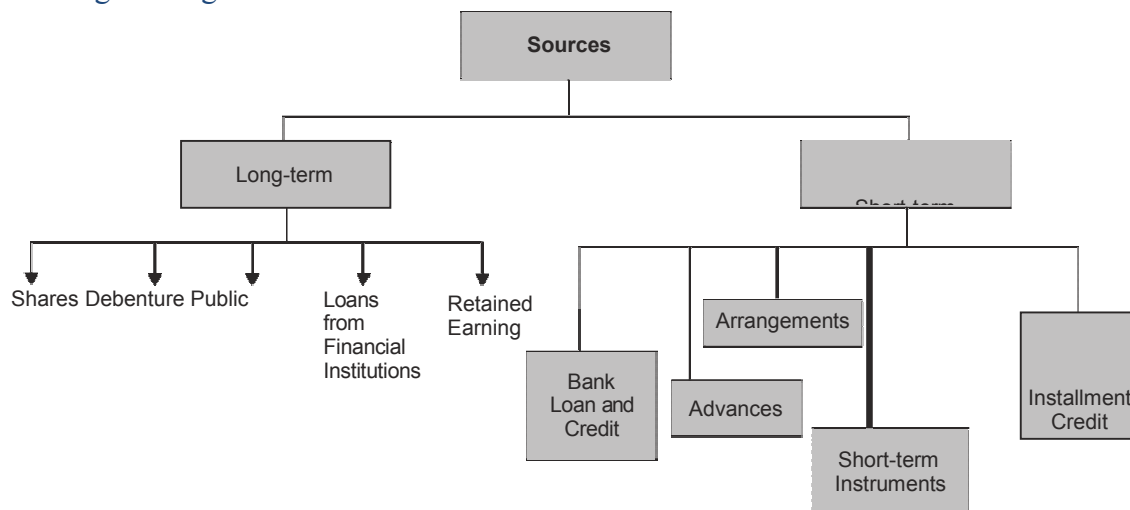


Fig. 10.10 Sources of Working Capital

The above sources are also classified into internal sources and external sources of working capital.

Internal sources such as:

- Retained Earnings
- Reserve and Surplus
- Depreciation Funds etc.

External sources such as:

- Debentures and Public Deposits
- Loans from Banks and Financial Institutions
- Advances and Credit
- Financial arrangements like Factoring, etc.

Determining the Finance Mix

Determining the finance mix is an important part of working capital management. Under this decision, the relationship among risk, return and liquidity are measured and also which type of financing is suitable to meet the Working Capital requirements of the business concern. There are three basic approaches for determining an appropriate Working Capital finance mix.

1. Hedging or matching approach
2. Conservative approach
3. Aggressive approach.

Hedging Approach

Hedging approach is also known as matching approach. Under this approach, the business concern can adopt a financial plan which matches the expected life of assets with the expected life of the sources of funds raised to finance assets.

When the business follows matching approach, long-term finance shall be used to finance fixed assets and permanent current assets and short-term financing to finance temporary or variable assets.

Temporary Current Assets Short-term

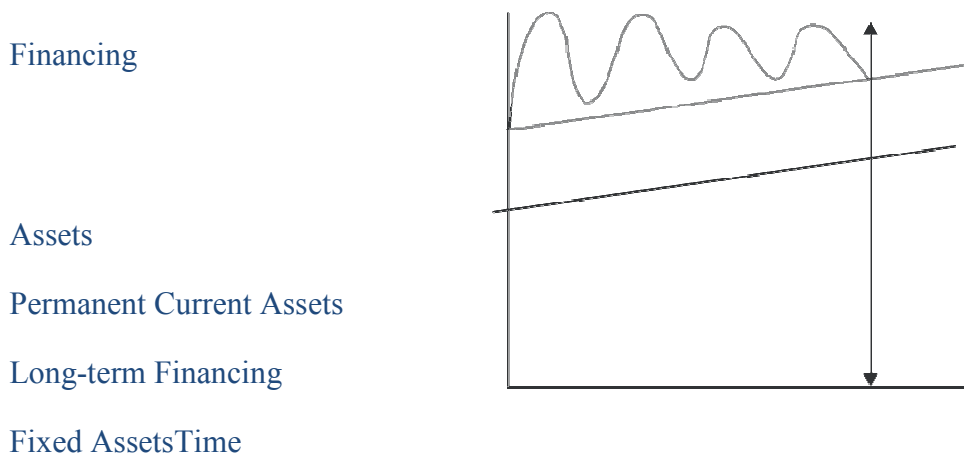


Fig. 10.11 Financing under Matching Approach

Conservative Approach

Under this approach, the entire estimated finance in current assets should be financed from long-term sources and the short-term sources should be used only for emergency requirements. This approach is called as “Low Profit – Low Risk” concept.

Temporary Current Assets

Short-term Financing

Assets

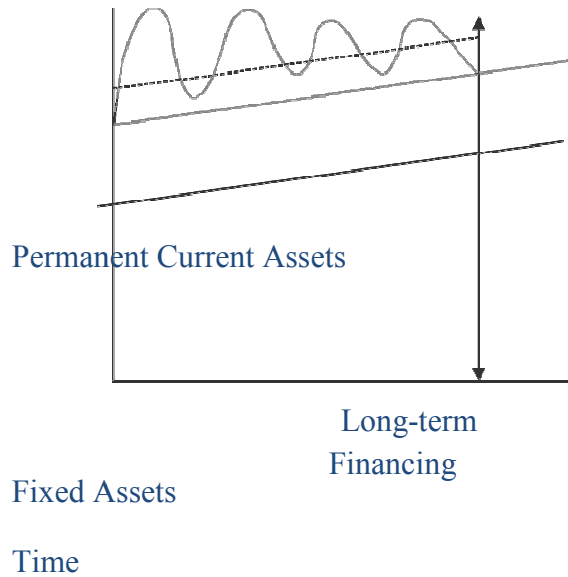


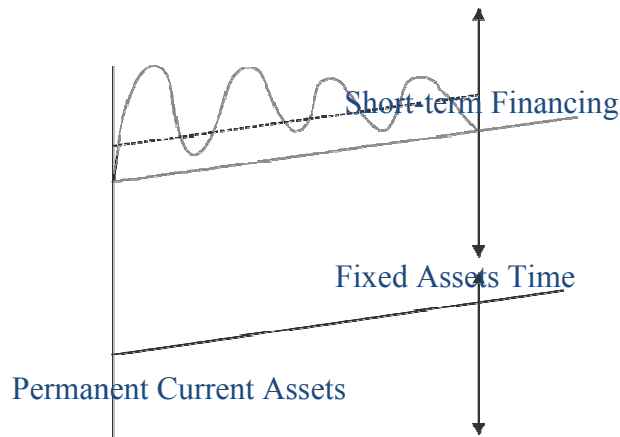
Fig. 10.12 Conservative Approach

Aggressive Approach

Under this approach, the entire estimated requirement of current assets should be financed from short-term sources and even a part of fixed assets financing be financed from short-term sources. This approach makes the finance mix more risky, less costly and more profitable.

Temporary Current Assets

Assets



L o n g -		t	Financing
		e	
	<i>Working Capital</i>	r	
		m	163

Fig. 10.13 Aggressive Approach

WORKING CAPITAL AND BANKING COMMITTEE

Banking finance to working capital requirements is a very important part of the business concern. Banks provide finance to business concerns to meet the requirements. To regulate and control bank finance, RBI constitute committees. These committees submit reports with findings and recommendations to formulate the finance policy of the banks. The major committee and their recommendations are as follows:

Committee		Recommendations
IA		sal of credit applications received by banks for granting
DN		must carry out the realize appraisal for granting loan of norms for bank lending to industry.
E		creation of cash credit accounts separate limits for peak level peak level requirements.
THE		method of lending to industry, introduction of fast track
AN		conduct with the borrowers, periodical monitoring the ion.

INVENTORY MANAGEMENT

Introduction

Inventories constitute the most significant part of current assets of the business concern. It is also essential for smooth running of the business activities.

A proper planning of purchasing of raw material, handling, storing and recording is to be considered as a part of inventory management. Inventory management means, management of raw materials and related items. Inventory management considers what to purchase, how to purchase, how much to purchase, from where to purchase, where to store and when to use for production etc.

Meaning

The dictionary meaning of the inventory is stock of goods or a list of goods. In accounting language, inventory means stock of finished goods. In a manufacturing point of view, inventory includes, raw material, work in process, stores, etc.

Kinds of Inventories

Inventories can be classified into five major categories.

A. *Raw Material*

It is basic and important part of inventories. These are goods which have not yet been committed to production in a manufacturing business concern.

B. *Work in Progress*

These include those materials which have been committed to production process but have not yet been completed.

C. *Consumables*

These are the materials which are needed to smooth running of the manufacturing process.

D. *Finished Goods*

These are the final output of the production process of the business concern. It is ready for consumers.

E. *Spares*

It is also a part of inventories, which includes small spares and parts.

Objectives of Inventory Management

Inventory occupy 30–80% of the total current assets of the business concern. It is also very essential part not only in the field of Financial Management but also it is closely associated with production management. Hence, in any working capital decision regarding the inventories, it will affect both financial and production function of the concern. Hence, efficient management of inventories is an essential part of any kind of manufacturing process concern.

The major objectives of the inventory management are as follows:

- To efficient and smooth production process.
- To maintain optimum inventory to maximize the profitability.
- To meet the seasonal demand of the products.

- To avoid price increase in future.
- To ensure the level and site of inventories required.
- To plan when to purchase and where to purchase
- To avoid both overstock and understock of inventory.

Techniques of Inventory Management

Inventory management consists of effective control and administration of inventories. Inventory control refers to a system which ensures supply of required quantity and quality of inventories at the required time and at the same time prevent unnecessary investment in inventories. It needs the following important techniques.

Inventory management techniques may be classified into various types:

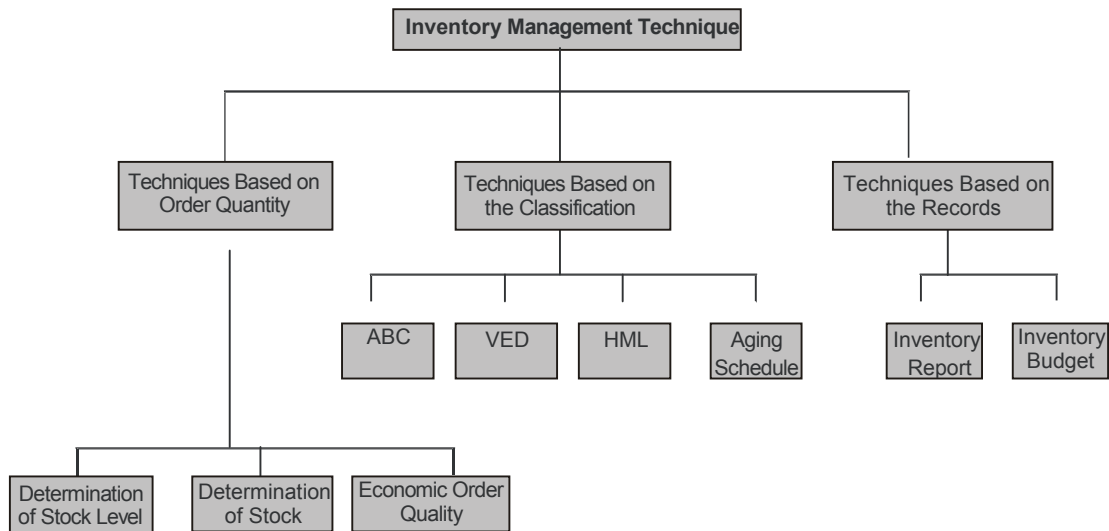


Fig. 11.1 Inventory Management Techniques

A. Techniques based on the order quantity of Inventories

Order quantity of inventories can be determined with the help of the following techniques:

Stock Level

Stock level is the level of stock which is maintained by the business concern at all times. Therefore, the business concern must maintain optimum level of stock to smooth running of the business process. Different level of stock can be determined based on the volume of the stock.

Minimum Level

The business concern must maintain minimum level of stock at all times. If the stocks are less than the minimum level, then the work will stop due to shortage of material.

Re-order Level

Re-ordering level is fixed between minimum level and maximum level. Re-order level is the level when the business concern makes fresh order at this level.

Re-order level = maximum consumption × maximum Re-order period.

Maximum Level

It is the maximum limit of the quantity of inventories, the business concern must maintain. If the quantity exceeds maximum level limit then it will be overstocking.

Maximum level = Re-order level + Re-order quantity
– (Minimum consumption × Minimum delivery period)

Danger Level

It is the level below the minimum level. It leads to stoppage of the production process.

Danger level = Average consumption × Maximum re-order period for emergency purchase

Average Stock Level

It is calculated such as,

Average stock level = $\frac{\text{Minimum stock level} + \text{maximum level}}{2}$ + ½ of re-order quantity

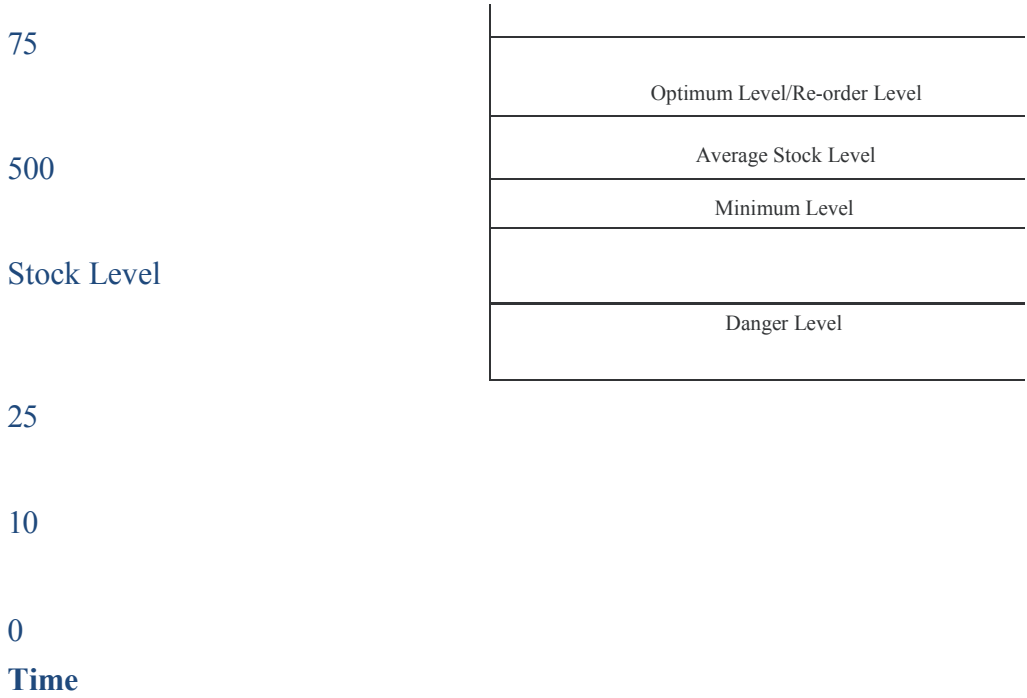


Fig. 11.2 Determining the Stock Level

Lead Time

Leadtime is the time normally taken in receiving delivery after placing orders with suppliers. The time taken in processing the order and then executing it is known as leadtime.

Safety Stock

Safety stock implies extra inventories that can be drawn down when actual lead time and/ or usage rates are greater than expected. Safety stocks are determined by opportunity cost and carrying cost of inventories. If the business concerns maintain low level of safety stock, it will lead to larger opportunity cost and the larger quantity of safety stock involves higher carrying costs.

Economic Order Quantity (EOQ)

EOQ refers to the level of inventory at which the total cost of inventory comprising ordering cost and carrying cost. Determining an optimum level involves two types of cost such as ordering cost and carrying cost. The EOQ is that inventory level that minimizes the total of ordering of carrying cost.

EOQ can be calculated with the help of the mathematical formula:

$$EOQ = \sqrt{2ab/c}$$

Where,

a = Annual usage of inventories (units)
b = Buying cost per order

c = Carrying cost per unit

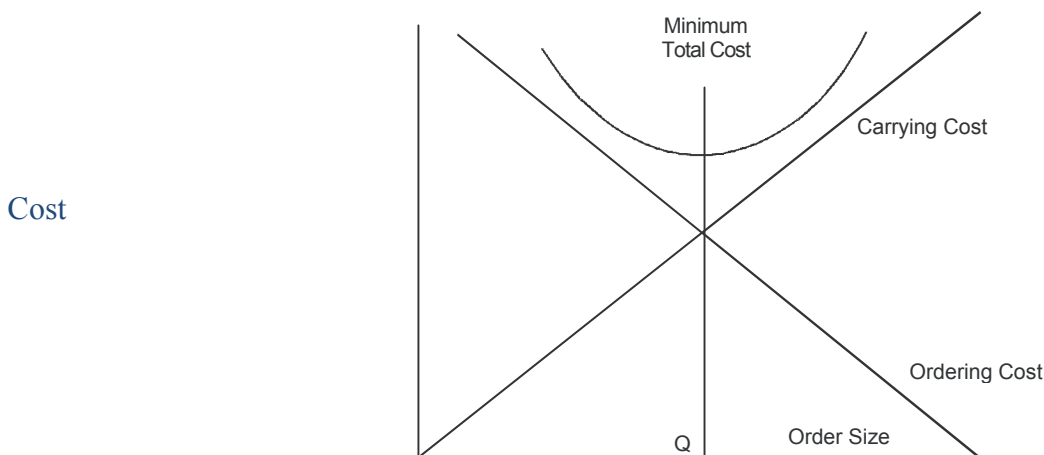


Fig. 11.3 Economic Order Quantity

TECHNIQUES BASED ON THE CLASSIFICATION OF INVENTORIES

A-B-C analysis

It is the inventory management techniques that divide inventory into three categories based on the value and volume of the inventories; 10% of the inventory's item contributes to 70% of value of consumption and this category is known as A category. About 20% of the inventory item contributes about 20% of value of consumption and this category is called category B and 70% of

inventory item contributes only 10% of value of consumption and this category is called C category.

Inventory Breakdown Between Value and Volume

Category	Volume (%)	Value (%)

ABC analysis can be explained with the help of the following Graphical presentation.

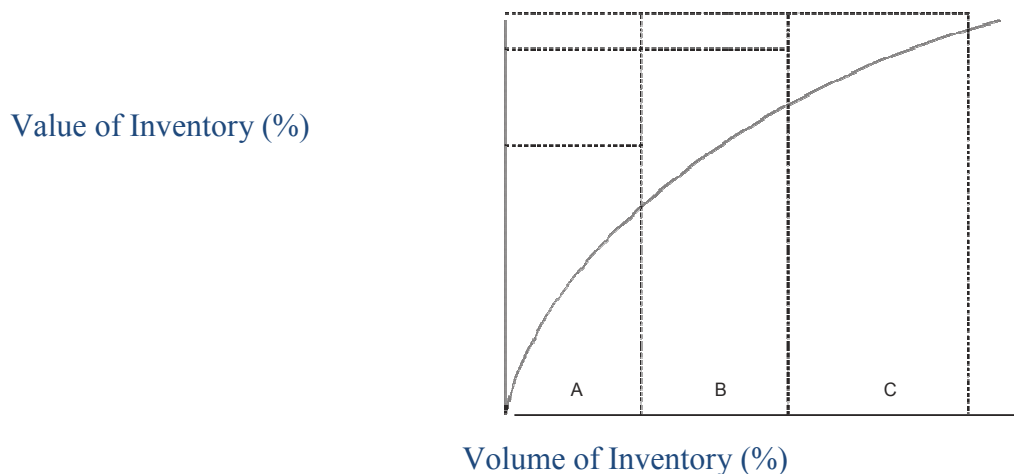


Fig. 11.4 ABC Analysis

Aging Schedule of Inventories

Inventories are classified according to the period of their holding and also this method helps to identify the movement of the inventories. Hence, it is also called as, FNSD analysis—

where,

F = Fast moving inventories

N = Normal moving inventories S = Slow

moving inventories

D = Dead moving inventories

This analysis is mainly calculated for the purpose of taking disposal decision of the inventories.

VED Analysis

This technique is ideally suited for spare parts in the inventory management like ABC analysis. Inventories are classified into three categories on the basis of usage of the inventories.

V = Vital item of inventories

E=Essentialitemofinventories

D=Desirableitemofinventories

HML Analysis

Under this analysis, inventories are classified into three categories on the basis of the value of the inventories.

H = High value of inventories

M=Mediumvalueofinventories L = Low
value ofinventories

TECHNIQUES ON THE BASIS OF RECORDS

A. Inventorybudget

It is a kind of functional budget which facilitates the estimated inventory required for the business concern during a particular period. This budget is prepared based on the past experience.

B. Inventoryreports

Preparation of periodical inventory reports provides information regarding the order level, quantity to be procured and all other information related to inventories. On the basis of these reports, Management takes necessary decision regarding inventory control and Management in the business concern.

Valuation of Inventories

Inventories are valued at different methods depending upon the situation and nature of manufacturing process. Some of the major methods of inventory valuation are mentioned as follows:

1. First in First Out Method(FIFO)
2. Last in First Out Method(LIFO)
3. Highest in First Out Method(HIFO)
4. Nearest in First Out Method(NIFO)
5. Average PriceMethod

6. Base Stock Method
 7. Standard Price Method
 8. Market Price Method

Exercise 3

From the particulars given below write up the stores ledger card :
 1988 January 1, Opening stock 1,000 units at Rs. 26 each.

5 Purchased	500 units at Rs. 24.50 each.
7 Issued	750 units.
10 Purchased	1,500 units at Rs. 24 each.
12 Issued	1,100 units.
15 Purchased	1,000 units at Rs. 25 each.
17 Issued	500 units.

Adopt the FIFO and LIFO method of issue and ascertain the value of the closing stock.

CASH MANAGEMENT

Business concern needs cash to make payments for acquisition of resources and services for the normal conduct of business. Cash is one of the important and key parts of the current assets.

Cash is the money which a business concern can disburse immediately without any restriction. The term cash includes coins, currency, cheques held by the business concern and balance in its bank accounts. Management of cash consists of cash inflow and outflows, cash flow within the concern and cash balance held by the concern etc.

Motives for Holding Cash

1. Transaction motive

It is a motive for holding cash or near cash to meet routine cash requirements to finance transaction in the normal course of business. Cash is needed to make purchases of raw materials, pay expenses, taxes, dividends etc.

2. Precautionary motive

It is the motive for holding cash or near cash as a cushion to meet unexpected contingencies. Cash is needed to meet the unexpected situation like, floods, strikes etc.

3. Speculative motive

It is the motive for holding cash to quickly take advantage of opportunities typically outside the normal course of business. Certain amount of cash is needed to meet an opportunity to purchase raw materials at a reduced price or make purchase at favorable prices.

4. Compensating motive

It is a motive for holding cash to compensate banks for providing certain services or loans. Banks provide variety of services to the business concern, such as clearance of cheque, transfer of funds etc.

Cash Management Techniques

Managing cash flow constitutes two important parts:

- A. Speedy Cash Collections.
- B. Slowing Disbursements.

Speedy Cash Collections

Business concern must concentrate in the field of Speedy Cash Collections from customers. For that, the concern prepares systematic plan and refined techniques. These techniques aim at, the customer who should be encouraged to pay as quickly as possible and the payment from customer without delay. Speedy Cash Collection business concern applies some of the important techniques as follows:

Prompt Payment by Customers

Business concern should encourage the customer to pay promptly with the help of offering discounts, special offer etc. It helps to reduce the delaying payment of customers and the firm can avoid delays from the customers. The firm may use some of the techniques for prompt payments like billing devices, self address cover with stamp etc.

Early Conversion of Payments into Cash

Business concern should take careful action regarding the quick conversion of the payment into cash. For this purpose, the firm may use some of the techniques like postal float, processing float, bank float and deposit float.

Concentration Banking

It is a collection procedure in which payments are made to regionally dispersed collection centers, and deposited in local banks for quick clearing. It is a system of decentralized billing and multiple collection points.

Lock Box System

It is a collection procedure in which payers send their payment or cheques to a nearby post box that is cleared by the firm's bank. Several times that the bank deposit the cheque

in the firm's account. Under the lock box system, business concerns hire a post office lock box at important collection centers where the customers remit payments. The local banks are authorized to open the box and pick up the remittances received from the customers. As a result, there is some extra savings in mailing time compared to concentration bank.

Slowing Disbursement

An effective cash management is not only in the part of speedy collection of its cash and receivables but also it should concentrate to slowing their disbursement of cash to the customers or suppliers. Slowing disbursement of cash is not the meaning of delaying the payment or avoiding the payment. Slowing disbursement of cash is possible with the help of the following methods:

1. **Avoiding the early payment of cash**

The firm should pay its payable only on the last day of the payment. If the firm avoids early payment of cash, the firm can retain the cash with it and that can be used for other purpose.

2. **Centralised disbursement system**

Decentralized collection system will provide the speedy cash collections. Hence centralized disbursement of cash system takes time for collection from our accounts as well as we can pay on the date.

Cash Management Models

Cash management models analyse methods which provide certain framework as to how the cash management is conducted in the firm. Cash management models are the development of the theoretical concepts into analytical approaches with the mathematical applications. There are three cash management models which are very popular in the field of finance.

1. **Baumol model**

The basic objective of the Baumol model is to determine the minimum cost amount of cash conversion and the lost opportunity cost.

It is a model that provides for cost efficient transactional balances and assumes that the demand for cash can be predicated with certainty and determines the optimal conversion size. Total conversion cost per period can be calculated with the help of the following formula:

$$t = \frac{Tb}{C}$$

where,

T = Total transaction cash needs for the period
b = Cost per conversion

C = Value of marketable securities

Opportunity cost can be calculated with the help of the following formula;

$$i = \frac{C}{2}$$

where,

i = interest rate earned

C/2 = Average cash balance

Optimal cash conversion can be calculated with the help of the following formula;

$$C = \sqrt{\frac{2bT}{i}}$$

where,

C = Optimal conversion amount

b = Cost of conversion into cash per lot or transaction

T = Projected cash requirement
i = interest rate earned

2. Miller-Orr model

This model was suggested by Miller Orr. This model is to determine the optimum cash balance level which minimises the cost of management of cash. Miller-Orr Model can be calculated with the help of the following formula;

$$C = \frac{bE(N)}{t} + iE(M)$$

where,

C = Total cost of cash management
b = fixed cost per conversion

E(M) = expected average daily cash balance
E(N) = expected number of conversion

t = Number of days in the period
i = lost opportunity cost

3. Orgler's model

Orgler model provides for integration of cash management with production and other aspects of the business concern. Multiple linear programming is used to determine the optimal cash management.

Orgler's model is formulated, based on the set of objectives of the firm and specifying the set of constraints of the firm.

RECEIVABLE MANAGEMENT

The term receivable is defined as debt owed to the concern by customers arising from sale of goods or services in the ordinary course of business. Receivables are also one of the major parts of the current assets of the business concerns. It arises only due to credit sales to customers, hence, it is also known as Account Receivables or Bills Receivables.

Management of account receivable is defined as the process of making decision resulting to the investment of funds in these assets which will result in maximizing the overall return on the investment of the firm.

The objective of receivable management is to promote sales and profit until that point is reached where the return on investment in further funding receivables is less than the cost of funds raised to finance that additional credit.

The costs associated with the extension of credit and accounts receivables are identified as follows:

- A. Collection Cost
- B. Capital Cost
- C. Administrative Cost
- D. Default Cost.

Collection Cost

This cost incurred in collecting the receivables from the customers to whom credit sales have been made.

Capital Cost

This is the cost on the use of additional capital to support credit sales which alternatively could have been employed elsewhere.

Administrative Cost

This is an additional administrative cost for maintaining account receivable in the form of salaries to the staff kept for maintaining accounting records relating to customers, cost of investigation etc.

Default Cost

Default costs are the over dues that cannot be recovered. Business concern may not be able to recover the over dues because of the inability of the customers.

Factors Considering the Receivable Size

Receivable size of the business concern depends upon various factors. Some of the important factors are as follows:

1. Sales Level

Sales level is one of the important factors which determines the size of receivable of the firm. If the firm wants to increase the sales level, they have to liberalise their credit policy and terms and conditions. When the firms maintain more sales, there will be a possibility of a large size of receivable.

2. Credit Policy

Credit policy is the determination of credit standards and analysis. It may vary from firm to firm or even sometimes product to product in the same industry. Liberal credit policy leads to increase the sales volume and also increases the size of receivable. Stringent credit policy reduces the size of the receivable.

3. Credit Terms

Credit terms specify the repayment terms required of credit receivables, depend upon the credit terms, size of the receivables may increase or decrease. Hence, credit term is one of the factors which affects the size of receivable.

4. Credit Period

It is the time for which trade credit is extended to customer in the case of credit sales. Normally it is expressed in terms of 'Net days'.

5. Cash Discount

Cash discount is the incentive to the customers to make early payment of the due date. A special discount will be provided to the customer for his payment before the due date.

6. Management of Receivable

It is also one of the factors which affects the size of receivable in the firm. When the management involves systematic approaches to the receivable, the firm can reduce the size of receivable.

Meaning of Dividend

Dividend refers to the business concerns net profits distributed among the shareholders. It may also be termed as the part of the profit of a business concern, which is distributed among its shareholders.

According to the **Institute of Chartered Accountant of India**, dividend is defined as "a distribution to shareholders out of profits or reserves available for this purpose".

TYPES OF DIVIDEND/ FORM OF DIVIDEND

Dividend may be distributed among the shareholders in the form of cash or stock. Hence, Dividends are classified into:

- A. Cash dividend
- B. Stock dividend
- C. Bond dividend
- D. Property dividend

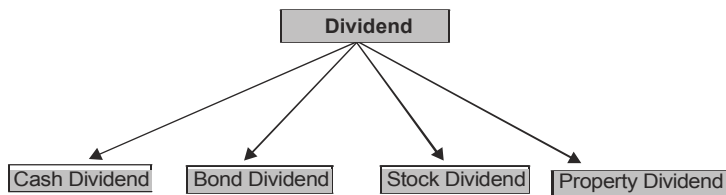


Fig. 8.1 Types of Dividend

Cash Dividend

If the dividend is paid in the form of cash to the shareholders, it is called cash dividend. It is paid periodically out the business concerns EAIT (Earnings after interest and tax). Cash dividends are common and popular types followed by majority of the business concerns.

Stock Dividend

Stock dividend is paid in the form of the company stock due to raising of more finance. Under this type, cash is retained by the business concern. Stock dividend may be bonus issue. This issue is given only to the existing shareholders of the business concern.

Bond Dividend

Bond dividend is also known as script dividend. If the company does not have sufficient funds to pay cash dividend, the company promises to pay the shareholder at a future specific date with the help of issue of bond or notes.

Property Dividend

Property dividends are paid in the form of some assets other than cash. It will distributed under the exceptional circumstance. This type of dividend is not published in India.

DIVIDEND DECISION

Dividend decision of the business concern is one of the crucial parts of the financial manager, because it determines the amount of profit to be distributed among shareholders and amount of profit to be treated as retained earnings for financing its long term growth. Hence, dividend decision plays very important part in the financial management.

Dividend decision consists of two important concepts which are based on the relationship between dividend decision and value of the firm.

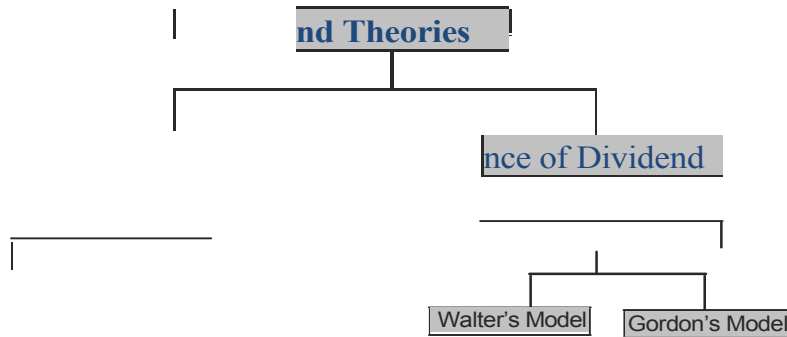


Fig. 8.2 Dividend Theories

Irrelevance of Dividend

According to professors **Soloman, Modigliani and Miller**, dividend policy has no effect on the share price of the company. There is no relation between the dividend rate and value of the firm. Dividend decision is irrelevant of the value of the firm. Modigliani and Miller contributed a major approach to prove their irrelevance dividend concept.

Modigliani and Miller’s Approach

According to MM, under a perfect market condition, the dividend policy of the company is irrelevant and it does not affect the value of the firm.

“Under conditions of perfect market, 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 shares”.

Assumptions

MM approach is based on the following important assumptions:

1. Perfect capital market.
2. Investors are rational.
3. There are no taxes.
4. The firm has fixed investment policy.
5. No risk or uncertainty.

Proof for MM approach

MM approach can be proved with the help of the following formula:

$$P_0 = \frac{D_1}{r} + \frac{P_1(1 - W_e)}{r}$$

Where,

P_0 = Prevailing market price of a share. K_e = Cost of equity capital.

D_1 = Dividend to be received at the end of period one.

P_1 = Market price of the share at the end of period one.

Irrelevance of Dividend

P_1 can be calculated with the help of the following formula.

$$P_1 = P_0 (1 + K_e) - D_1$$

Solomon Approach

MM Approach

The number of new shares to be issued can be determined by the following formula: $M \times$

$$P_1 = I - (X - nD_1)$$

Where,

M = Number of new share to be issued.

P_1 = Price at which new issue is to be made. I

= Amount of investment required.

X = Total net profit of the firm during the period. nD_1 = Total dividend paid during the period.

Criticism of MM approach

MM approach consists of certain criticisms also. The following are the major criticisms of MM approach.

MM approach assumes that tax does not exist. It is not applicable in the practical life of the firm.

MM approach assumes that, there is no risk and uncertain of the investment. It is also not applicable in present day business life.

MM approach does not consider floatation cost and transaction cost. It leads to affect the value of the firm.

MM approach considers only single decrement rate, it does not exist in real practice.

MM approach assumes that, investor behaves rationally. But we cannot give assurance that all the investors will behave rationally.

RELEVANCE OF DIVIDEND

According to this concept, dividend policy is considered to affect the value of the firm. Dividend relevance implies that shareholders prefer current dividend and there is no direct relationship between dividend policy and value of the firm. Relevance of dividend concept is supported by two eminent persons like Walter and Gordon.

Walter's Model

Prof. James E. Walter argues that the dividend policy almost always affects the value of the firm.

Walter model is based in the relationship between the following important factors:

- Rate of return r
- Cost of capital (k)

According to the Walter's model, if $r > k$, the firm is able to earn more than what the shareholders could by reinvesting, if the earnings are paid to them. The implication of $r > k$ is that the shareholders can earn a higher return by investing elsewhere.

If the firm has $r = k$, it is a matter of indifference whether earnings are retained or distributed.

Assumptions

Walter's model is based on the following important assumptions:

1. The firm uses only internal finance.
2. The firm does not use debt or equity finance.
3. The firm has constant return and cost of capital.
4. The firm has 100 percent payout.
5. The firm has constant EPS and dividend.
6. The firm has a very long life.

Walter has evolved a mathematical formula for determining the value of market share.

$$P_e = \frac{E + D}{W_e}$$

Where,

P = Market price of an equity share
 D = Dividend per share

r = Internal rate of return
 E = Earning per share

K_e = Cost of equity capital

Criticism of Walter's Model

The following are some of the important criticisms against Walter model:

Walter model assumes that there is no extracted finance used by the firm. It is not practically applicable.

There is no possibility of constant return. Return may increase or decrease, depending upon the business situation. Hence, it is applicable.

According to Walter model, it is based on constant cost of capital. But it is not applicable in the real life of the business.

Gordon's Model

Myron Gordon suggest one of the popular model which assume that dividend policy of a firm affects its value, and it is based on the following important assumptions:

1. The firm is an all equity firm.
2. The firm has no external finance.
3. Cost of capital and return are constant.
4. The firm has perpetual life.
5. There are no taxes.
6. Constant relation ratio ($g = br$).
7. Cost of capital is greater than growth rate ($K_e > br$).

Gordon's model can be proved with the help of the following formula:

$$P = \frac{E(1 - b)}{K_e - br}$$

Where,

P = Price of a share

E = Earnings per share

1 - b = D/p ratio (i.e., percentage of earnings distributed as dividends)

K_e = Capitalization rate

br = Growth rate = rate of return on investment of an all equity firm.

Criticism of Gordon's Model

Gordon's model consists of the following important criticisms:

Gordon model assumes that there is no debt and equity finance used by the firm. It is not applicable to present day business.

K_e and r cannot be constant in the real practice.

According to Gordon's model, there are no tax paid by the firm. It is not practically applicable.

FACTORS DETERMINING DIVIDEND POLICY

Profitable Position of the Firm

Dividend decision depends on the profitable position of the business concern. When the firm earns more profit, they can distribute more dividends to the shareholders.

Uncertainty of Future Income

Future income is a very important factor, which affects the dividend policy. When the shareholder needs regular income, the firm should maintain regular dividend policy.

Legal Constrains

The Companies Act 1956 has put several restrictions regarding payments and declaration of dividends. Similarly, Income Tax Act, 1961 also lays down certain restrictions on payment of dividends.

Liquidity Position

Liquidity position of the firms leads to easy payments of dividend. If the firms have high liquidity, the firms can provide cash dividend otherwise, they have to pay stock dividend.

Sources of Finance

If the firm has finance sources, it will be easy to mobilise large finance. The firm shall not go for retained earnings.

Growth Rate of the Firm

High growth rate implies that the firm can distribute more dividend to its shareholders.

Tax Policy

Tax policy of the government also affects the dividend policy of the firm. When the government gives tax incentives, the company pays more dividend.

Capital Market Conditions

Due to the capital market conditions, dividend policy may be affected. If the capital market is perfect, it leads to improve the higher dividend.

UNIT V: Corporate Restructuring & Corporate Governance

Mergers, acquisitions and takeovers-meaning –types –advantages –difficulties-reasons for Mergers, Financial evaluation of mergers; Approaches for valuation- DCF approach and Comparable Company approach (No practical exercises). **Corporate Value based management** –introduction –Methods of VBM- Markov approach Alcar and McKinsey approach-hurdles for VBM in India; **Corporate Governance** -concept-need for Corporate Governance – principles – Regulatory framework for Corporate Governance.

CORPORATE RESTRUCTURING

It refers to changes in ownership, business mix and alliance with a view to enhance shareholders value. Corporate restructuring includes mergers, acquisitions, takeovers, sale of business units, leveraged buyout and capital reorganization.

- **Merger** occurs when two or more companies combine into one
- **Amalgamation** occurs when two or more companies with other company or merger of two or more companies to form a new company.
- **Absorption** refers to two or more companies into an existing company
- **Acquisition or take over** refers to act of acquiring effective control over assets or management of company by another company without any combination of business or companies

REASONS FOR CORPORATE RESTRUCTURING

- Sales enhancement and operating economies
- Improved Management
- Wealth Transfer
- Tax reasons

Corporate Valuation

The process of determining the economic value of a business or company.

It is a process and a set of procedures used to estimate the economic value of an owner's interest in a business. Valuation is used by financial market participants to determine the price they are willing to pay or receive

to effect a sale of a business.

Steps:

- Analyze the Economy
- Analyze the Industry
- Analyze Subject Company
- Analyze Financial Aspects of Subject and Comparable Companies
- Choose Observable Financial Variable
- Value the Subject Company
- Bottom Line

Approaches

Marakon Approach

• “Marakon Associates” is an international management-consultancy firm that has done pioneer research in area of value-based management. James M McTaggart, Peter W Kontes, and Michel C Mankins have dealt with this approach extensively in the book titled, “The Value Imperative”.

- This approach is based on market and book value of company’s equity.
- Market value is the value at which equity shares are traded and book value is the capital contributed by shareholders

Alkar Approach

This approach was developed by Alkar Group, which is a software company and is based on discounted cash flows.

- Three Components of Valuation
- Cash Flow from Operations
- Discount Rate
- Debt

Mc Kinsey Approach

The McKinsey model, developed by leading management consultants McKinsey & Company, is a comprehensive approach to value-based management. This approach is based on the discounted cash flow principle, which is a direct measure of value creation.

- **McKinsey Model of Value Based Management** focuses on the identification of key value drivers at various levels of the organization, and places emphasis on these value drivers in all the areas, i.e. in setting up of targets, in the various management processes, in performance measurement, etc

Economic Value Added Approach

It is a measure of economic profit created by an investment or portfolio of investments

- **Steps:**
- Get Top Management Commitment
- Define relevant EVA Centers
- Define rules to measure EVA with GAAP adjustments
- Identify drivers of EVA at all levels of EVA Centres
- Design Bonus / incentive plans
- Employee training

CORPORATE GOVERNANCE

- It is the set of processes, customs, policies, laws and institutions affecting the way a corporation is directly administered or controlled. It specifies the distribution of rights and responsibilities among different participants.

- It also includes the relationship among many shareholders involved and the goals for which the corporation is governed.

Features

- Autonomy in Management
- Equity Ownership
- Well determined performance standards

Principles

- Right and equitable treatment of shareholders
- Interest of other stakeholders
- Roles and responsibilities of the board
- Integrity and ethical behaviour

Disclosure and Transparency

Elements

- Good Board practices
- Control Environment
- Transparent disclosure
- Well-defined shareholder rights

Board commitment

Pillars of Corporate Governance

- Accountability
- Fairness
- Transparency

Independence

