UNIT-2

CAPITAL BUDGETING

NATURE & MEANING

Capital budgeting decisions are related to the allocation of funds to different long term assets. Though there is no hard and fast rule to define the long term, yet period involving more than a year may be taken as a long period for investments decisions. The capital budgeting decision involve the entire process of decision making relating to acquisition of long term assets whose returns are expected to arise over a period beyond one year.

The objective of capital budgeting is to select those long-term investment projects that are expected to make maximum contribution to the wealth of the shareholders

The capital budgeting decisions affect the profitability of a firm for a long period, therefore the importance of these decisions is obvious. Even a single wrong decision by a firm may endanger the existence of the firm as a profitable firm. There are several factors and considerations which make the capital budgeting decisions as the most important decisions of a finance manager.

The relevance and significance of capital budgeting may be stated as follows :

(a) **Long-Term Effects** : Perhaps, the most important features of a capital budgeting decision and which makes the capital budgeting so significant is that these decisions have long term effects on the risk and return composition of the firm. These decision affect the future position of the firm to a considerable extent as the capital budgeting decisions have long term implications and consequences..

(b) **Substantial Commitments** : The capital budgeting decisions generally involve large commitment of funds and as a result substantial portion of capital funds are blocked in the capital budgeting decisions. In relative terms therefore, more attention is required for capital budgeting decisions, otherwise the firm may suffer from the heavy capital losses in time to come.

(c) **Irreversible Decisions** : Most of the capital budgeting decisions are irreversible decisions. Once taken, the firm may not be in a position to revert back unless it is ready to absorb heavy losses which may result due to abandoning a project in midway. Therefore, the capital budgeting decisions should be taken only after considering and evaluating each and every minute detail of the project, otherwise the financial consequences may be far reaching.

(d) **Affect the Capacity and Strength to Compete** : The capital budgeting decisions affect the capacity and strength of a firm to face the competition. A firm may loose competitiveness if the decision to modernize is delayed or not rightly taken. Similarly, a timely decision to take over a minor competitor may ultimately result even in the monopolistic position of the firm. Thus, the capital budgeting decisions involve a largely irreversible commitment of resources i.e., subject to a significant degree of risk.

PRINCIPLE & PROCESS

The process involved in the evaluation of capital budgeting projects is based on the following sequence of steps:

1. Estimate the costs and benefits from the project.
2. Estimate the minimum required rate of return.

3. Convert these costs and benefits to a single figure.
4. Compare this against a predetermined amount, rate or time period.
5. Make a choice based on the accept/reject criterion of various evaluation techniques.

Assumptions of Capital Budgeting

1. All the cash flows take place at the end of each time period.
2. There is no change in the risk i.e. quantum and timing of cash flows are known with certainty.
3. Existence of perfect capital markets.
4. Projects are infinitely divisible but they exhibit decreasing return to scale.
5. Cash flows are independent of each other overtime and other investment decisions.
6. Rational decision parties
7. It is a well-behaved project or conventional cash flow project:
    I. **Cash Flows of the Project**: Only incremental cash flows are considered for evaluating a project. The cash flows that are generated only due to the acceptance of the project should be considered whether they are inflow or outflow.
    II. **Changes in Working Capital**: Only changes in requirements are considered which will have an effect in the initial cash outlay, during the economic life and at the end of the project

COST OF CAPITAL

MEANING & CONCEPT

A firm needs funds for various capital budgeting proposals. These funds can be procured from different types of investors i.e., equity shareholders, preference shareholders, debt holders, depositors etc. These investors while providing the funds to the firm will have an expectation of receiving a minimum return from the firm.

Obviously, this return payable to investors would be earned out of the revenues generated by the proposal wherein the funds are being used. This return payable to investor is therefore, the minimum return the proposal must earn otherwise, the firm need not take up the proposal. The minimum rate of return that a firm must earn in order to satisfy the expectations of its investor is the **cost of capital of the firm**.

Importance and Significance :

The importance and significance of the concept of cost of capital can be stated in terms of the contribution it makes towards the achievement of the objective of maximization of the wealth of the shareholders.

If a firm's actual rate of return exceeds its cost of capital and if this return is earned without of course, increasing the risk characteristics of the firm, then the wealth maximization goal will be achieved. The reason for this is obvious. If the firm's return is more than its cost of capital, then the investor will no doubt be receiving their expected rate of return from the firm. The excess portion of the return will however be available to the firm and can be used in several ways e.g.,

(i) for distribution among the shareholders in the form of higher than expected dividends,

(ii) for reinvestment within the firm for increasing further the subsequent returns.

In both the cases, the market price of the share of the firm will tend to increase and consequently will result in increase in the shareholders wealth. Moreover, the cost of capital when used as a discount rate in capital budgeting, helps accepting only those proposals whose rate of return is more than the cost of capital of the firm and hence results in increasing the value of the firm. Further, the cost of capital has a useful role to play in deciding the financial plan or capital structure of the firm. It may be noted that in order to maximize the value of the firm, the cost of all the different sources of funds must be minimized.

Factors affecting Cost of Capital

The cost of capital is the minimum expected rate of return of the investors or suppliers of funds to the firm. The expected rate of return depends upon the risk characteristics of the firm, risk perception of the investors and a host of other factors. Following are some of the factors which are relevant for the determination of cost of capital of the firm.

1. **Risk-free Interest Rate** : The risk free interest rate is the interest rate on the risk free and default-free securities. Theoretically speaking, the risk free interest rate, depends upon the supply and demand consideration in financial market for long term funds. The market sources of demand and supply determines the If , which is consisting of two components :
   (a) **Real Interest Rate** : The real interest rate is the interest rate payable to the lender for supplying the funds or in other words, for surrendering the funds for a particular period.
   (b) **Purchasing Power Risk Premium** : When a lender lends money, he in fact lends his present purchasing power in favour of the other party i.e., borrower. After sometimes, when the lender gets the repayment, he recovers the same face value money. But if the prices have increased during the same period, then he is not getting back the same purchasing power which he lent. Investors, in general, like to maintain their purchasing power and therefore, like to be compensated for the loss in purchasing power over the period of lending or supply of funds. So, over and above the real interest rate, the purchasing power risk premium is added to find out the risk-free interest rate.
2. **Business Risk** : Another factor affecting the cost of capital is the risk associated with the firm's promise to pay interest and dividends to its investors. The business risk is related to the response of the firm's Earnings Before Interest and Taxes, EBIT, to change in sales revenue. Every project has its effect on the business risk of the firm. If a firm accepts a proposal which is more risky than average present risk, the investor will probably raise the cost of funds so as to be compensated for the increased risk. This premium added for the business risk compensation is also known as business risk premium.
3. **Financial Risk** : The financial risk is an other type of risk which can affect the cost of capital of the firm. The particular composition and mixing of different sources of finance, known as the financial plan or the capital structure, can affect the return available to the investors. The financial risk is often defined as the likelihood that the firm would not be able to meet its fixed financial charges. It is related to the response of the firm's earning per share to a variation in EBIT. The financial risk is affected by the capital structure or the financial plan of the firm.

4. **Other Considerations** : The investors may also like to add a premium with reference to other factors. One such factor may be the liquidity or marketability of the investment. Higher the liquidity available with an investment, lower would be the premium demanded by the investor. If the investment is not easily marketable, then the investors may add a premium for this also and consequently demand a higher rate of return.

   In view of the above, the cost of capital may be defined as

$$k=IRF + b + f$$

where, k = Cost of capital of different sources. IRF = Risk free interest rate. b = Business risk premium, and f = Financial risk premium

The investor will be ready to supply the funds only if the firm offers a return which is at least equal to the opportunity cost of the investor. The opportunity cost of the investor may be defined as the return foregone by the investor on the alternative investment opportunity of the same or comparable risk. So, the cost of capital of the firm may be defined as the opportunity cost of the suppliers of funds i.e., the investors. The opportunity cost of the investors depends upon the nature and type of security being offered by the firm. Every investor has a risk perception regarding the risk inherent in different types of investment. As the risk increases, an investor may be ready to supply the funds only if sufficiently compensated for the risk. That is why the opportunity cost of the investor is not the same for different types of securities. Therefore, the cost of capital of the firm is not same for different types of securities. The firm has to offer different returns to the investors depending upon the risk of the security.