

FYBCOM SEMESTER 2 (EM) MANAGERIAL ECONOMICS

UNIT-3 CAPITAL BUDGETING

Ques. What do you mean by capital budgeting?

Ans. The process of selecting or choosing the best alternative from amongst the many, which gives maximum return on capital is generally known as capital budgeting.

In other words, capital budgeting is the process of conceiving, generating, evaluating and selecting the most profitable projects for investing the funds available to a firm.

For achieving one of the most important objective of profit maximizing from the funds available with the firm, the firm has to take number of decisions regarding choice of capital projects addition to the stock of capital replacement of the worn out capital, volume and timings of investments etc are which are known as capital budgeting or long term investment decisions.

The problem of capital budgeting is one of choosing amongst the investment alternatives available to the firm with the acceptance of the most profitable investment and rejection of those with low of negative profitability

By Prof. Paul, Mote and Haynes

Ques. What do you mean by capital budgeting? Explain the features of it.

Ans. The following are the features of capital budgeting:

- A. Capital budgeting refers to investment decision making such as
 1. Expansion of the plant
 2. Investment in new plant and equipment
 3. Replacement of the existing equipment
 4. Diversification product lines and market
 5. Rent or buy decision
 6. Important outlay such as cost of training programs, advertising expenditure, outlay on research and development, etc.
- B. The objective of capital budgeting is to choose the most profitable projects for investing a firm's funds.
- C. The returns on capital expenditure are expected to be received over a period of years.
- D. There is a considerable degree of uncertainty involved about the returns to be realized because capital budgeting involves investment for a long period which is relatively difficult to forecast.
- E. Capital budgeting involves the problem of efficient allocation of the limited capital resource amongst the various capital projects which the firm has conceived.

Ques. Explain the importance of capital budgeting.

Ans. The importance of capital budgeting is as follows:

1. As we know that capital expenditure is a long term investment and once investment is made, it cannot be reversed except at a considerable loss to the firm. Again there is also the element of risk, uncertainty and losses which compels the planning of investment projects [proposals] to be very careful and careful investment needs capital budgeting.
2. Again, to finance the investment proposals, large amounts of funds are raised from the market at a cost. Hence, it becomes necessary that earnings from such investment must

be quite adequate to cover the cost of borrowing. This requires careful study of future profitability which calls for capital budgeting.

3. The firm should avoid high operating costs and idleness of capital equipment. This is essential to ensure adequate return on investment. Accordingly, investment decisions should be based on careful calculations through capital budgeting.
4. Capital investment decisions are quite important for the reputation of the management as well. Once capital investments are made, there is an expansion of the capital base of the firm and is supposed to earn an expected rate of return on the capital employed, which is an important indicator of its achievement. A prudent capital budgeting decision, thus, becomes very important for management.

Ques. State the various methods of evaluating investment proposals.

Ans. The various methods of evaluating investment proposals are as follows:

1. Pay back or Pay out period method
2. Average rate of return method
3. Net present value method
4. Internal rate of return method
5. Profitability index method
6. Terminal value method

Ques. Explain the Payback method of evaluating investment proposals.

Ans. Pay-back period method indicates the period within which the cost of the project will be completely recovered, in other words, it indicates the period, within which the total cash inflows equals to the total cash outflow. Thus,

$$\text{Payback period} = \frac{\text{Cash outlay}}{\text{Annual cash inflow}}$$

or

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

Advantages of the Pay-back method:

1. This method is easy to compute without any complications.
2. It enables the firm or management to know about the recovery period of various projects and the risk involved in it.
3. Pay-back method is suitable when the management desires to secure an early return on investment.

4. The method helps to select short period less risky projects as against those with long gestation periods.

Limitations of the pay-back method:

1. The method does not measure profitability or productivity of capital in the sense of return on investment. It is therefore less helpful in long term capital budgeting.
2. The method does not allow the firm to select a project which gives low returns in initial years, but higher returns in the later years.
3. It does not consider the returns from a project after its pay back period is over. Suppose for example, the pay-back period of project A is of 5 years and project B's payback period is 3 years, now referring to this the firm will naturally select project B. but it is quite possible that project A may generate good cash inflows after 5 years till the end of 10 years, while project B may stop generating cash inflows after 3 years only. In such cases, project A may prove to be advantageous.
4. It ignores the time value of money. This method does not differentiate (the present value and future value of the gross earnings. Say, for example, Rs. 10,000 received after one or two years later cannot be equal to the present value of it (i.e., Rs. 10,000).
5. It may not be a suitable method to evaluate the projects, if they involve uneven cash inflows.
6. The method ignores cash flow variations. The two projects may have equal pay-back period but their cash inflows may vary.
7. The method puts undue emphasis on liquidity and ignores capital wastage and difference in earnings due to capital wastage.
8. This method does not take into account other activities and objectives of the firm like maximizing the market share or increase in the sales turnover.

Illustration/Solution-1:

A project requires an outlay of Rs. 5, 00,000 and earns annual cash inflow of Rs. 1,00,000 for 8 years. Calculate payback period.

Solution: Pay-back period for the project is-

$$\frac{\text{Cash outlay}}{\text{Annual cash inflow}} = \frac{\text{Rs. 5,00,000}}{\text{Rs. 1,00,000}} = 5 \text{ years}$$

If the project involves unequal cash inflows, the pay-back period can be computed by adding up the cash inflow till the total is equal to cash outlay. This is explained in solution-II.

Illustration/Solution-II:

A project requires an outlay (expenditure) of Rs. 1,00,000 and earns the annual cash inflow of Rs. 25,000, 30,000, 20,000 and 50 000 per year respectively. Calculate pay-back period.

Solution: If we add up cash inflows we find that in the first 3 years an amount of Rs. 75,000 of the cash outlay is recovered (ie, Rs 25,000 + Rs. 30,000 + Rs. 20,000 = Rs. 75,000). 4th year

generates the cash inflow of Rs. 50,000, whereas the amount remaining to be recovered is only Rs. 25,000 (Rs. 1,00,000 (-) Rs. 75,000 = 25,000). Assuming that the cash inflows occur evenly during the year, the time which will be required to recover Rs 25,000 will be,

$$\frac{\text{Rs. 25,000}}{\text{Rs. 50,000}} \times 12 \text{ months} = 6 \text{ months}$$

Thus, the pay-back period is 3 years and 6 months.

Acceptance rule (investment proposal to be accepted):

Pay-back period method can be used as accept or reject criteria or as a method on evaluating investment proposals. From the various investment proposals that proposal will be selected which is having shortest pay-back period.

Ques. Explain the Average (Accounting) rate of return method of evaluating investment proposals.

Ans. Average rate of return method computes the average annual yields (earnings) on the net investment in the project. ARR is calculated by dividing the average profit after depreciation and taxes are deducted, by net investment in the project. Thus, ARR can be computed as follows:

$$\text{ARR} = \frac{\text{Average NPAT}}{\text{Average Investment}} \times 100$$

Here, NPAT means Net Profit After Tax, and Average NPAT means Total profit over investment period / Number of years.

$$\text{Average investment} = \frac{\text{Initial Investment (+) Ending Value}}{2}$$

Advantages of the Average rate of return method:

1. It is simple to calculate and easy to understand.
2. It considers the profits from the project throughout its life.
3. It can be calculated with the help of various accounting methods.
4. With the help of this method it is possible to arrive at a unique number to represent the benefits resulting from investment. This can then be used for comparing and ranking the projects.

Limitations of the Average rate of return method:

1. As in the pay-back period method this method also ignores the time value of money. By giving the same importance to the money received now and money received in future.
2. The expected rate of return is misleading because it ignores the year by year pattern of profits.
3. The method does not take into consideration the earning life of the investment.
4. The method is inadequate for comparing projects of different duration. This may mean that a project with greater aggregate returns is given a lower rank.

5. No allowance is made, in this method, for variations in annual earnings. In case, if there are variations in the annual earnings of alternative projects, any decision based on simply average rate of return is likely to be misleading.
6. It uses profits after depreciation and taxes are deducted and not the cash inflows for evaluating the projects.

Illustration/Solution:

Suppose a project involves the investment of Rs. 5, 00,000 which yields profits after depreciation and tax as stated below.

Year	Profits after depreciation and tax
1	25,000
2	37,500
3	62,500
4	65,500
5	40,000
Total	2,30,000

Again, at the end of 5 years, the machineries in the project can be sold for Rs. 40, 000. Find the ARR.

Solution: The total profits after deducting depreciation and taxes are Rs. 2, 30,000.

The net investment in the project will be,

original cost minus (-) salvage value ie., Rs. 5, 00,000 (-) Rs. 40, 000. Then,

$$\text{ARR} = \frac{\text{Average NPAT}}{\text{Average Investment}} \times 100$$

$$\text{ARR} = \frac{46,000}{2,70,000} \times 100$$

$$\text{ARR} = 17.04\%$$

Acceptance rule: As accept or reject criteria, the projects having the ARR more than minimum rate prescribed by the management will be accepted, and vice-a-versa. As a ranking method, the projects having maximum ARR will be ranked highest.

Ques. Explain the Net Present Value method of evaluating investment proposals.

Ans. Net present value is a method of evaluating present value of cash inflows and cash out flows in an investment project, by using cost of capital as the discounting rate and finding out

net present value by subtracting present value of cash outflows from present value of cash inflows. Thus,

$$NVP = (\sum \text{discounted cash inflows}) \text{ minus } (\sum \text{discounted cash outflows})$$

Or

$$NPV = \frac{\text{Cash flow}}{(1+i)^t} \text{ (-) initial investment}$$

where:

i = Required return or discount rate

t = Number of time periods

$$NPV = -C_0 + \frac{C_1}{1+r} + \frac{C_2}{(1+r)^2} + \dots + \frac{C_T}{(1+r)^T}$$

$- C_0 = \text{Initial Investment}$

$C = \text{Cash Flow}$

$r = \text{Discount Rate}$

$T = \text{Time}$

Advantages of the Net Present Value method:

1. This method takes into consideration the time value of money.
2. It considers cash inflows from the project throughout its life.
3. This method ensures that which individual project is worthwhile to select.
4. This method is theoretically found to be superior.
5. This method is simple to understand, easy to calculate and serves as a guide in accepting or rejecting a project.

Limitations of the Net Present Value method:

1. It involves considerable amounts of calculations and as such it is not too easy to calculate.
2. Again, to determine an appropriate discount rate in itself is a difficult task.
3. In view of, present and future value of project and the risk involved in various capital projects, the use of one common rate of cost of capital for discounting cash inflows can hardly be termed as desirable.
4. It presupposes that the cash inflows can be reinvested immediately to yield the return equivalent to the discounting rate, which may not be possible always.

Illustration/Solution -1;

Calculate net present value of a project involving initial cash outflow of Rs. 100,000 and generating annual cash inflows of Rs. 35, 000, Rs. 40, 000, Rs. 30 000 and Rs. 50, 000 Discounting rate is 15%.

Year	Cash inflows	Discounting factor @ 15%	Discounted cash inflow	Cumulative discounted inflows
1	35,000	0.870	30,450	30,450
2	40,000	0.756	30,240	60,690
3	30,000	0.658	19,740	80,430
4	50,000	0.572	28,600	1,09,030

$NVP = (\sum \text{discounted cash inflows}) \text{ minus } (\sum \text{discounted cash outflows})$

$NPV = 1,09,030 (-) 1,00,000 = 9,030.$

The NPV of the project is positive and therefore, the firm would make investment in it.

Ques. Explain the Internal Rate Of Return method of evaluating investment proposals.

Ans. IRR is the rate at which the sum total of Discounted Cash inflows equals the Discounted Cash Outflows. The IRR of a project is the rate of discount which makes the NPV of the project equal to zero or very near to original investment. IRR refers to that discount rate r , such that,

$$0 = CF_0 + \frac{CF_1}{(1 + IRR)} + \frac{CF_2}{(1 + IRR)^2} + \frac{CF_3}{(1 + IRR)^3} + \dots + \frac{CF_n}{(1 + IRR)^n}$$

Or

$$0 = NPV = \sum_{n=0}^N \frac{CF_n}{(1 + IRR)^n}$$

Where:

CF_0 = Initial Investment / Outlay

$CF_1, CF_2, CF_3 \dots CF_n$ = Cash flows

n = Each Period

N = Holding Period

NPV = Net Present Value

IRR = Internal Rate of Return

Advantages of the Internal rate of return method:

1. IRR method is based on the time value of money. Therefore, it is more reliable.
2. It takes into account the net cash flow of all the years of the economic life of the project.
3. It determines the rate of return on investment taking into account time value of money. Therefore, it is the realistic approach of measuring profitability.
4. Selection decisions are made on the basis of profitability.
5. It is consistent with the wealth maximization objectives.
6. It limits the capital expenditures equal to the present value of internal cash flow.

Limitations of the Average rate of return method:

1. It is difficult to understand and calculate IRR.
2. Assumption that net cash flow of every year is reinvested in the business at the same internal rate of return may not be true in all the cases.
3. Time value of investment is not considered. It is possible that investment may not have been made at a time and may be spread over some years. Therefore, investments also have a time value which is not considered.
4. Investment itself is interpreted differently.
5. If there is a difference in economic life, size of investment and timings of cash flow this method cannot give the results consistent with net present value.

Illustration/Solution:

The estimated capital expenditures of a project are Rs. 23, 000. Its economic life is 5 years. Its net cash flow is Rs. 10, 000, 8, 000, 6, 000, 4,000 and 3, 000 respectively. Find out the internal rate of return.

Solution: For finding out the internal rate of return let us begin with a 12% rate of discount.

Year	Net Cash Flow	Discount Factor (12%)	Net Present Value
1	10,000	0.893	8930
2	8,000	0.797	6376
3	6,000	0.712	4272
4	4,000	0.636	2544
5	3,000	0.567	1701
Total Present Value			23,823

As per above calculation present value at 12% rate of discount is Rs. 23, 823 which is higher than investment of Its. 23, 000. Both are not equal. Therefore, let us try again with 16% rate of discount

Year	Net Cash Flow	Discount Factor (12%)	Net Present Value
1	10,000	0.862	8620
2	8,000	0.743	5944
3	6,000	0.641	3846
4	4,000	0.552	2208
5	3,000	0.476	1428

Total Present Value			22,046
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Present value of cash flow discounting at 16% is Rs. 22, 046 which is lower than investment of Rs. 23, 000. Both are not equal. Thirdly, we have to try by a slightly lower rate of discount. Now, let us try, discount with a value 14%.

Year	Net Cash Flow	Discount Factor (12%)	Net Present Value
1	10,000	0.877	8770
2	8,000	0.796	6152
3	6,000	0.675	4050
4	4,000	0.582	2328
5	3,000	0.518	1554
Total Present Value			22,854

Present value at 14% rate of discount is Rs. 22, 854 which is very near to the original investment of Rs. 23,000. Though both the figures are not equal, they are as good as equal for our purpose. Therefore, the internal rate of return is 14%.

Acceptance rule. The computed IRR will be compared with the cost of capital. If the IRR is more than or at least equal to the cost of capital the project may be accepted (IRR > cost of capital). If the IRR is less than cost of capital, the project may be rejected (IRR < cost of capital)

Ques. Explain the Profitability Index method (Cost-Benefit Ratio) of evaluating investment proposals.

Ans. Profitability Index is the ratio between total discounted cash inflows and total discounted cash outflows. Thus,

$$\text{Profitability Index} = \frac{\sum \text{Discounted Cash Inflows}}{\sum \text{Discounted Cash outflows}}$$

OR

$$\text{Profitability Index} = \frac{\text{Total Present Value of net cash inflows}}{\text{Total Present Value of cash outflow (investment)}}$$

Advantages of the profitability index method:

1. It is based on the time value of money.

- At the time of making capital expenditure decisions the size of the investment is taken into consideration. Therefore it provides a logical standard of making investment decisions.

Limitations of the profitability index method:

- It involves complicated calculations.
- Profitability Index gives us a ratio and not a rate of return.
- Cost of capital is used as a discount rate. However, the cost of capital itself is based on certain assumptions. If these assumptions prove to be wrong, the rate of discount will also prove to be wrong which leads to the wrong decision about selection of the project.

Illustration/Solution-1:

A project requires an outlay of Rs. 1, 00,000 and earns the annual cash inflows of Rs. 35, 000, Rs. 40, 000, Rs. 30, 000 and Rs. 50, 000. Calculate profitability index assuming the discounting rate of 15%.

Year	Cash Inflows (in ₹)	Discounting Factor @ 15%	Discounted Cash Inflows
1	35,000	0.870	30,450
2	40,000	0.756	30,240
3	30,000	0.658	19,740
4	50,000	0.572	28,600
Total			1,09,030

$$\text{Profitability index (Gross value)} = \frac{\text{₹. 1, 09,030}}{\text{₹. 1,00,000}} = 1.09$$

$$\text{Profitability index (net value): } 1.09 (-) 1.00 = 0.09$$

Illustration/Solution II

There are two mutually exclusive projects A & B. The estimated capital expenditures are ₹. 60, 000 and ₹. 40, 000 respectively. The economic life of both the projects is 5 years. The estimated net cash flow from project A is ₹. 18, 000 and from B is ₹. 13, 000 per year. The cost of capital is 10%. Evaluate both the projects on the basis of profitability index.

Solution: In this example, in both the projects, annual net cash flows are fixed for 5 years. Therefore, we can find out the present value with the help of total of 5 years' discount factor as under:

Sr. no.		Project A	Project B
1	Net Annual Cash Inflow	18,000	13,000
2	Total discount factor of 5 years at 10%	3.79	3.79
3	Present value (1x2)	65340	49,270
4	Present value of investment	60,000	40,000
5	Profitability index ($\frac{3}{4}$)	1.089	1.179

In the above example, the profitability index of project B is higher than that of A. Therefore, project B will be selected.

Acceptance rule: As accept or reject criteria, the projects having profitability index more than one will be accepted and vice-a-versa. As a ranking method, the projects having the highest profitability index will be ranked highest.

Que. What is meant by Capital Rationing"? How can the optimum allocation of capital resources be made amongst the various investment proposals?

Ans. Capital rationing means allocation of capital resources amongst the different projects in such a manner so as to get the maximum return.

Capital is a scarce factor and is obtained at a cost and therefore, it is essential that selection of the investment proposal should be done in a manner that the return on the investment exceeds the cost of capital.

Capital Rationing has two aspects:

1. Scrutiny of proposals: This implies that, of the various investment proposals before a firm, which are to be accepted and which are to be rejected- have to be thoroughly scrutinized. It may be said that those investment proposals should be accepted wherein the accrued rate of return is higher than the investment expenditure rest should be rejected.
2. Allocation of capital resources amongst each of the proposals which have been accepted: Allocation of resources will be in such a way that those investment proposals which are more profitable should be allocated more investible funds and those with low productivity shedded the allocated fewer funds.

For the optimum allocation of capital resources, the profitability index of each project should be worked out. On the basis of profitability index all the projects should be arranged in descending order. After that projects are selected in such a way that available funds are almost fully utilized and the value of the firm and economic interest of the shareholders are maximized.

Let us explain it with a simple example,

Murli Ltd. company has investible funds of Rs. 10,00,000. For investment the company has the following investment proposals (projects):

Sr. no.	Project	Profitability Index	Estimated Capital Expenditure
1	4th	1.50	3,20,000
2	5th	1.40	3,50,000
3	3rd	1.30	1,30,000
4	2nd	1.25	3,00,000
5	1st	1.10	2,00,000

In the above example, the investible fund is Rs. 10, 00,000. Hence, for utilizing Rs. 10 lakhs we have the following options:

- 1 Option A: Selection of project no. 4, 5 and 2
- 2 Option B. Selection of project no. 4,5,3 and 1.

1. In option A total NPV (Net Present Value) will be as follows:

- Project no. 4: Rs. 3, 20,000 (1.50 - 1) = Rs 1,60,000
- Project no. 5: Rs. 3, 50,000 (1.40 - 1) = Rs. 1, 40,000
- Project no. 2: Rs. 3,00,000 (1.25 - 1) = Rs. 75,000

Hence, total net present value of option A is:

$$₹ 9,70,000 (-) ₹ 3,75,000 = 5,95,000.$$

2. In option B total NPV (Net Present Value) will be as follows:

- Project no. 4. Rs. 3, 20,000 (1.50-1) = Rs. 1, 60,000
- Project no. 5: Rs. 3, 50,000 (1.40-1) = Rs. 1, 40, 000
- Project no. 3: Rs. 1, 30,000 (1.30-1) = Rs. 39,000
- Project no. 1: Rs. 2,00,000 (1.10-1) = Rs. 20,000

Hence, total net present value of option B is:

$$₹ 10, 00,000 (-) ₹ 3, 59,000 = 6,41,000$$

Hence, option B involves the total investment of Rs. 10, 00,000 and its NPV is Rs. 6,41,000. Therefore, option B containing projects no. 4, 5, 3 and 1 will be selected for investment as per the principle of capital rationing which leads to maximization of wealth.

Alternative methods of capital rationing:

1. One method is, all the different projects are to be entrusted to the judgment of the top executives of the management.
2. The second method is to evaluate the projects on the basis of their social need and public interest.
3. The third method is to appraise the individual investment projects in the life of predetermined long term objectives of the future growth of the firm.

4. Still another device is to use the postponeability criteria. Thus, for example, those investment proposals which cannot be postponed to a future date are taken up during the present period and vice-a-versa.

Ques Explain the demand for and supply of capital by the firm.

Ans: Demand for capital: Demand for capital means the company's demand for total capital which depends on the number of investment proposals which the company has. These projects open up the opportunities for capital expenditure and needs.

Demand schedule for capital expenditure: The most important factor affecting demand for capital is the prospective profitability or the expected rate of return. The demand schedule of a firm is prepared from the list of investment proposals properly arranged according to its profitability.

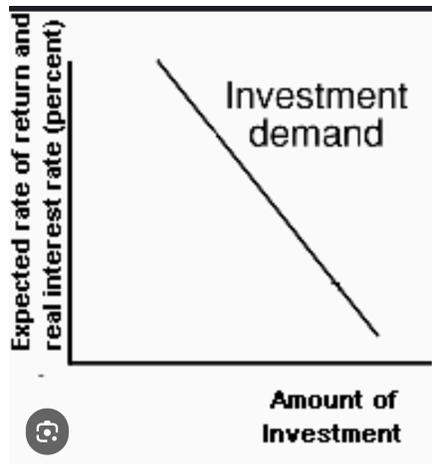
Thus demand schedule shows:

- a. The total amount demanded,
- b. Given the rate of interest.

Note: The demand schedule and curve explain the nature of demand for capital.

Demand schedule for capital-

Projects ranked according to their prospective earnings	Prospective rate of return	Volume of proposed investment/ Demand for capital	Cumulative demand
A	Over 100 %	2,00,000	2,00,000
B	50 to 100 %	3,80,000	5,80,000
C	25 to 50%	2,00,000	7,80,000
D	15 to 25 %	1,20,000	9,00,000
E	5 to 15 %	3,40,000	12,40,000



Explanation of the diagram:

In the given diagram, it can be seen that,

1. On OY axis, prospective rate of returns and on OX axis demand for capital is measured.
2. Initially, investing behind the highest ranked project 'A', it hopes for a 100% rate of return.
3. In the next year, investing behind the next highest ranked project, it hopes the average rate of return inbetween 100-50%.
4. Selecting the 3 highest ranked project again the demand for capital increases but the average prospective rate of return reduces and lies in between 50- 25% and so on.
5. Hence, as the firm goes on selecting different projects one by one, the demand for capital will increase accordingly and the prospective rate of returns diminishes.

Factors affecting demand for capital: The demand for capital is mainly affected by its productivity, that is the rate of return of the proposed capital expenditure.

Prof. Joel Dean has suggested the following factors affecting productivity of the capital which after all will affect the demand for capital:

1. The demand for capital will be more if capital investment results in cost reduction or increases in sales or both.
2. For proper estimation of demand for capital, earning of each project should be estimated separately.
3. To find out the profitability of each project, future price and cost of projects should be considered.
4. To estimate the demand for capital the opportunity cost of an investment should also be considered.
5. Particularly in case of the long term projects the NPV of the cash inflows must be calculated before demanding capital for such investments.
6. The time value of money should be considered before making comparisons between the projects.
7. Estimated earnings should take into account the indirect effects of the proposed capital outlay upon the operation of the existing facilities.

8. The risk involved in selecting the projects must also be examined while estimating future earnings.
9. Some systematic method should be used to make necessary adjustments on accounts of margins of error.
10. Capital productivity should be measured only for those investment proposals which are in need.

Supply of capital: Supply of capital means from where the firm can raise capital, that is, the sources of capital funds.

In raising capital funds the firm faces the following problems:

A. How much capital will be available and from which sources?

There are broadly two sources:

- a. Internal sources:
 - Depreciation charges: The depreciation reserves are created out of the firm's earnings with a view to maintaining capital for replacement of worn out capital.
 - Retained earnings or plough back policy: In this policy dividends may be kept stable at certain levels so that the shareholders are assured of an adequate and regular dividend and on the other hand the firm too is able to build up sufficient reserve for its future development.
- b. External sources: External sources are raising capital funds from capital market such as from:
 - Sale of bonds,
 - Issue of new shares,
 - Issue of preference shares,
 - Convertible securities, and
 - Direct loans, etc

B. At what cost this capital will be available?

At what cost this capital will be available: As we know that capital is a scarce and productive factor and is obtained at a price. The cost of capital plays an important role in capital budgeting decisions. Again it compels the firm to make the optimum use of available capital funds. Besides, the cost of capital is a significant criterion for the selection or rejection of projects.

Meaning: Cost of capital may be defined as the rate or price that must be paid to obtain funds for the operation of the firm.

Factors determining cost of capital:

1. The first step in finding out the cost of capital of a firm is to find out the market values of debt (bonds, debentures, public deposits, etc.) and equity capital, (shares, preference shares, etc.).
2. The next step is to find out the cost of floatation (liquidity) of capital.
3. A company's cost of capital depends not only on the cost of debt capital and equity capital; it also depends on the capital structure of the firm. Meaning, a high proportion of

equity capital in the capital structure of the company implies high cost of capital. On the other hand, a high proportion of debt capital is likely to raise the cost of equity capital. It has generally been found that firms avert (not prefer) raising capital through external sources, because:

1. Debt financing (financing through external sources) is likely to curtail the freedom and autonomy of the company in the decision making process.
2. Debt financing lowers the credibility and reputation of the company.
3. Debt financing also involves risk on the part of the management in the matter of repayment of loan or deposits and therefore, few would prefer to take such risks for fear of threat to their personal security in the organizations which may ultimately make them jobless.