

A composite image featuring a calculator on the left, a stack of coins on the right, and a line graph in the center. The graph shows a fluctuating line with values ranging from 6,000 to 6,750. The background is a light blue and white color scheme.

FINANCIAL MANAGEMENT

Lecture No. 18

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

FACUALTY PROFILE



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**Several Times Topper in
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Financial Terms

Present value is the current value of future amount

Future value is the value of current amount in future.

Suppose you invest today Rs 100 at 10% interest for 1 year. Then after one year, the amount becomes Rs110. This Rs 100, which you are investing today, is called the present value of Rs 110.

Future value is that value which will be the value in the future.

Compounding = Finding the future value from present value.

Discounting = Finding the present value from future value.

A person is shown from the chest up, sitting at a desk and working on a laptop. The image is overlaid with a semi-transparent green filter. On the left side, there are several thick, diagonal green lines and a green rectangular area with a white dotted pattern. On the right side, there is a dark green horizontal bar containing the text 'Capital Budget' in white, bold, serif font. The entire graphic is set against a light brown background with two dark brown horizontal bars on the left and right sides.

Capital Budget

CAPITAL BUDGETING

Capital budgeting is a process of evaluating investments and huge expenses in order to obtain the best returns on investment.



TECHNIQUES OF CAPITAL
BUDGETING

INVESTMENT CRITERIA

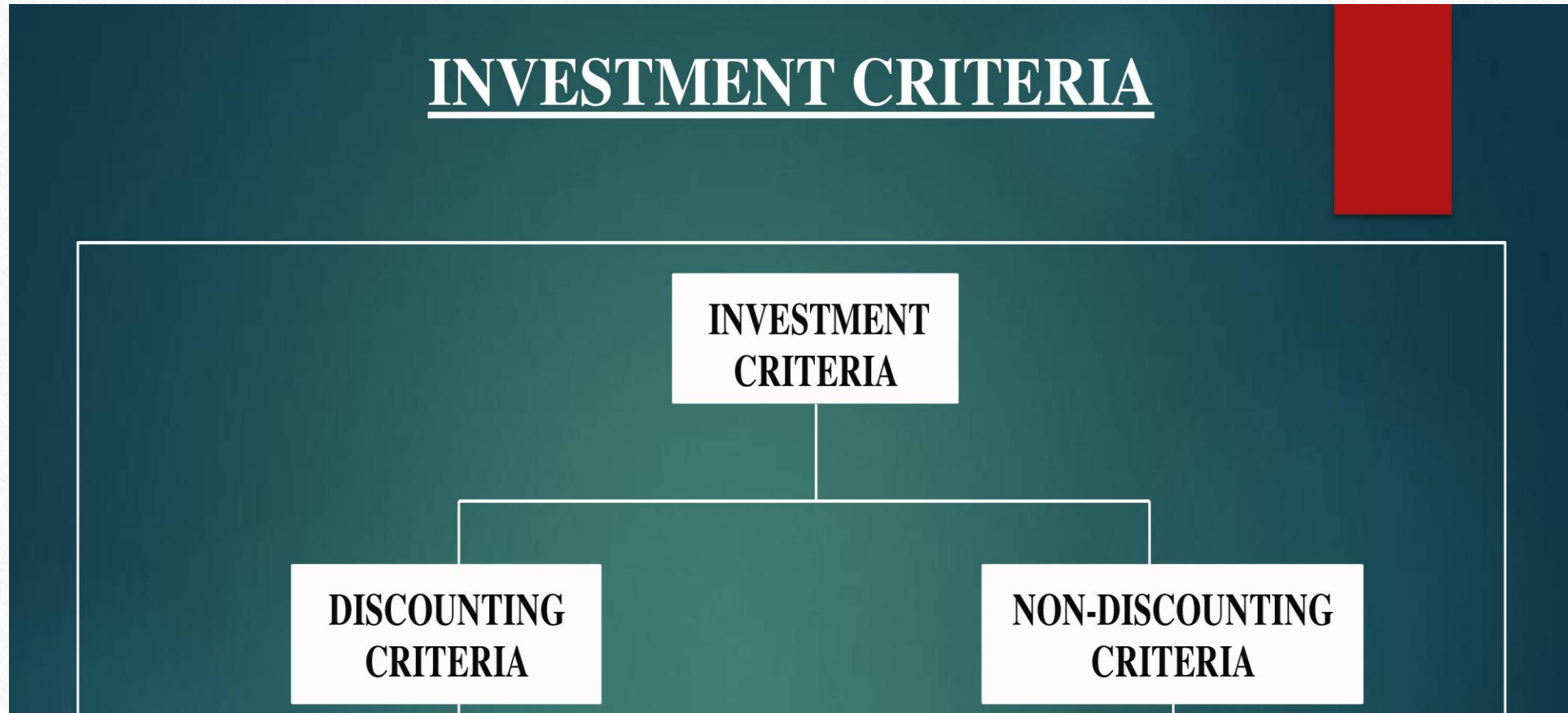
INVESTMENT
CRITERIA

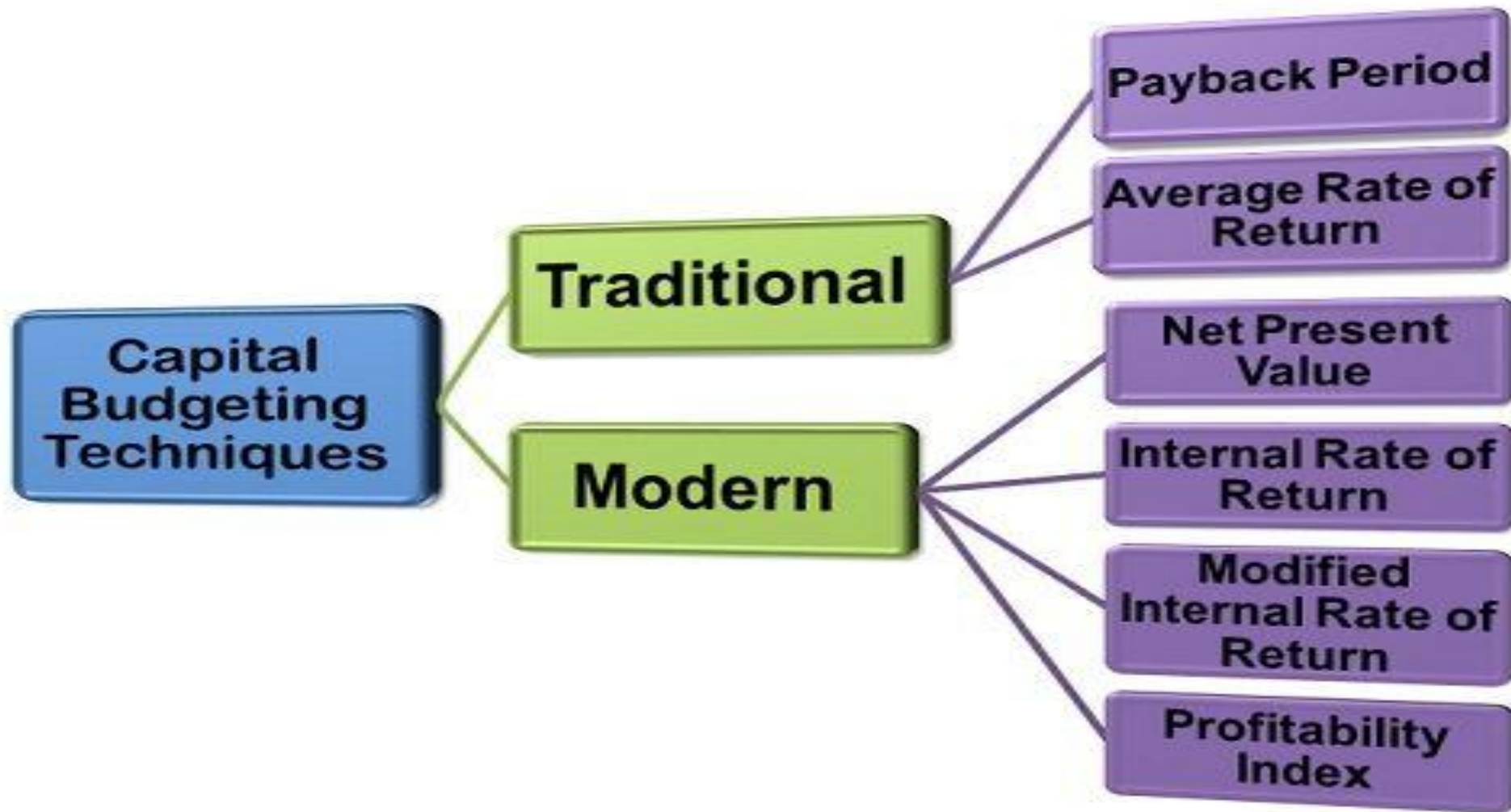
DISCOUNTING
CRITERIA

NON-DISCOUNTING
CRITERIA

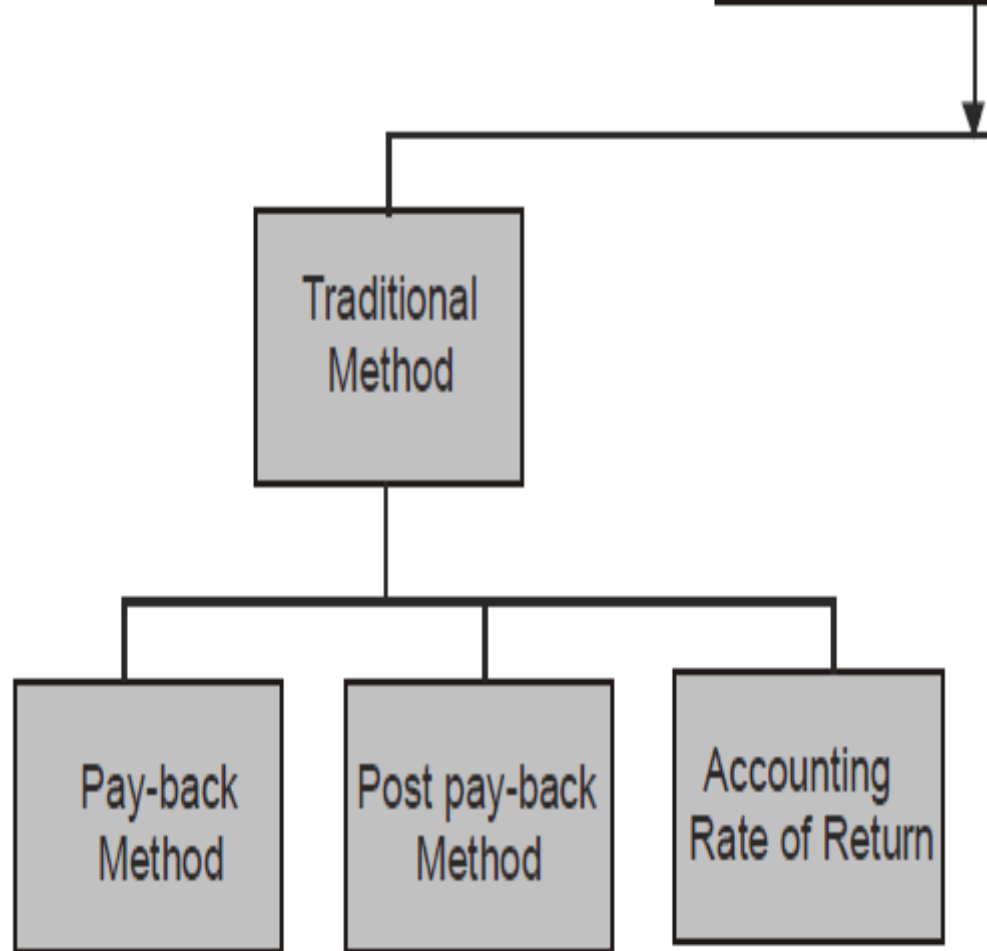
Modern capital
budgeting

Traditional capital
budgeting





Methods of Capital Budgeting



1. Pay-back Period

Pay-back period is the time required to recover the initial investment in a project.

The payback period method is the simplest of all. It defines the period in which the company can recover its investment value.

Pay-back Period

| | |
|-------------------------------------|------------|
| Total outflow or initial investment | Rs30,000/- |
| Annual Cash inflow | 10000/- |
| Expected Period | 5 |

| Sr | Cash inflows | Cumulative cash inflows |
|----|--------------|-------------------------|
| 1 | 10000 | 10000 |
| 2 | 10000 | 20000 |
| 3 | 10000 | 30000 |
| 4 | 10000 | 40000 |
| 5 | 10000 | 50000 |

Our investment is recovered in 3 years. So **pay back period is 3 years**

Post pay-back period=2 year
Post pay-back profit= 20000
 $50000-30000=20000$

Pay-back Period Formula

If inflow is uniform

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

Accept /Reject criteria

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.

Actual pay back period < predetermined (Estimated) Pay back period

Example

Pay Back Calculation

$$\text{Payback Period} = \frac{\text{Cash Outlay (Investment)}}{\text{Annual Cash Inflow}}$$

Exercise 1

Project cost is Rs. 30,000 and the cash inflows are Rs. 10,000, the life of the project is 5 years. Calculate the pay-back period.

Solution

$$= \frac{\text{Rs. 30,000}}{\text{Rs. 10,000}} = 3 \text{ Years}$$

Initial Cost = 30000

Annual cash inflow = 10000

Predetermined period = 5 years

We Accept or Reject = ???

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.

Exercise 3

Certain projects require an initial cash outflow of Rs. 25,000. The cash inflows for 6 years are Rs. 5,000, Rs. 8,000, Rs. 10,000, Rs. 12,000, Rs. 7,000 and Rs. 3,000.

Solution

| Year | Cash Inflows (Rs.) | Cumulative Cash Inflows (Rs.) |
|------|--------------------|-------------------------------|
| 1 | 5,000 | 5,000 |
| 2 | 8,000 | 13,000 |
| 3 | 10,000 | 23,000 |
| 4 | 12,000 | 35,000 |
| 5 | 7,000 | 42,000 |
| 6 | 3,000 | 45,000 |

The above calculation shows that in 3 years Rs. 23,000 is recovered.

And in year 4 total recovered = 35000

Our pay-back period is between 3 and 4 years

$$\frac{\text{Due amount}}{\text{Total amount of next inflow}} \times 12 \text{ months}$$



$$\text{Pay-back period} = 3 \text{ years} +$$

$$\left\{ \frac{2000}{12000} \times 12 \text{ months} \right\}$$

$$= 3 \text{ years } 2 \text{ months}$$

Merits of Pay-back method

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

Merits

1. It is easy to calculate and simple to understand.
2. Pay-back method provides further improvement over the accounting rate 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

2. Post Pay-back Profitability Method

Post Pay-back Period method **takes into account the period beyond the pay-back method.**

This method is also known as **Surplus Life over Pay-back method.**

Post Pay-back Profitability formula

Post pay-back profitability

$$= \text{Cash inflow (Estimated life - Pay-back period)}$$

Accepted/ rejected

According to this method,
the project which gives the **greatest post pay-back period or post pay-back profit** may be accepted.

Example

Post Pay-Back Calculation

| | | |
|-----|---|--------------|
| (a) | Cash outflow | Rs. 1,00,000 |
| | Annual cash inflow (After tax before depreciation) | Rs. 25,000 |
| | Estimate Life | 6 years |

From the following particulars, compute:

1. Payback period.
2. Post pay-back profitability and post pay-back profitability index.

Example

Post Pay-Back Calculation

Solution

(a) (i) Pay-back period

$$\begin{aligned} &= \frac{\text{Initial investment}}{\text{Annual cash inflows}} \\ &= \frac{1,00,000}{25,000} = 4 \text{ Years} \end{aligned}$$

(ii) Post pay-back profitability

$$\begin{aligned} &= \text{Cash inflow (Estimated life - Pay-back period)} \\ &= 25,000 (6 - 4) \\ &= \text{Rs. } 50,000 \end{aligned}$$

3. Accounting Rate of Return or Average Rate of Return

The accounting rate of return (ARR) is a formula that reflects the percentage rate of return expected on an investment or asset, compared to the initial investment's cost.

$$\text{Accounting Rate of Return (ARR)} = \frac{\text{Average Income}}{\text{Average Investment}} \times 100$$

➔ Where, Average Income = Total Profit/ No of years

Example

ARR Calculation

Net profit for 5 years = 13,50,000

Initial cost is = 20,00,00

Find out ARR

Calculating ARR

$$\text{ARR (\%)} = \frac{\text{Total net profit / No years}}{\text{Initial cost}} \times 100$$

Example Project

Total net profit (5 years) = £1,350,000

Divided by project life = £1,350,000 / 5

= £270,000

Divided by the initial cost (£2,000,000) = £270,000 /

£2,000,000 = **13.5%**

Self Calculation

From the following particulars, compute:

1. Payback period.
2. Post pay-back profitability and post pay-back profitability index.

| | |
|--|--------------|
| (b) Cash outflow | Rs. 1,00,000 |
| Annual cash inflow (After tax depreciation) | |
| First five years | Rs. 20,000 |
| Next five years | Rs. 8,000 |
| Estimated life | 10 Years |
| Salvage value | Rs. 16,000 |



Thank
You

Q & A

You have

Questions

We have

Answers