



PAYBACK PERIOD METHOD

Non uniform Cash flows



Problem

- A company has to choose one of the following mutually exclusive projects. The cost of each project is Rs.15,000. Both projects have to be depreciated on straight line basis. The tax rate is 50% use payback method as its criterion.

Year	Profit before tax and after depreciation	
	Project X	Project Y
1	4,200	4,200
2	4,500	4,800
3	4,000	7,000
4	5,000	8,000
5	10,000	2,000



Calculation of annual cash inflow of project X

Particulars	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
Profit before tax and after depreciation	4,200	4,500	4,000	5,000	10,000
Less: Tax(50%)	2,100	2,250	2,000	2,500	5,000
Profit after tax and depreciation	2,100	2,250	2,000	2,500	5,000
Add: Depreciation (15,000/5)	3,000	3,000	3,000	3,000	3,000
Annual Cashinflow	5,100	5,250	5,000	5,500	8,000



Calculation of Payback of Project X (Investment 15,000)

Year	Cash Inflow	Cumulative Cash Inflows
1	5,100	5,100
2	5,250	10,350
3	5,000	15,350
4	5,500	20,850
5	8,000	28,850



Calculation of Payback of Project X (Investment 15,000)

- Payback period = $2 \text{ years} + (15,000 - 10,350) / 5,000$
= 2 years + 0.93
= 2.93 years



Calculation of annual cash inflow of project Y

Particulars	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
Profit before tax and after depreciation	4,200	4,800	7,000	8,000	2,000
Less: Tax(50%)	2,100	2,400	3,500	4,000	1,000
Profit after tax and depreciation	2,100	2,400	3,500	4,000	1,000
Add: Depreciation (15,000/5)	3,000	3,000	3,000	3,000	3,000
Annual Cashinflow	5,100	5,400	6,500	7,000	4,000



Calculation of Payback of Project Y (Investment 15,000)

Year	Cash Inflow	Cumulative Cash Inflows
1	5,100	5,100
2	5,400	10,500
3	6,500	17,000
4	7,000	24,000
5	4,000	28,000



Calculation of Payback of Project Y (Investment 15,000)

- Payback period = $2 \text{ years} + (15,000 - 10,500) / 6,500$
= 2 years + 0.69
= 2.69 years