

- Discounting method brings all future cash flow to its equivalent current value.
- Money loses value, which could be attributed to growth in inflations
- Based on an expected Opportunity cost, the loss in £1 is denoted in each column of the present value table. More the expected opportunity cost, greater will be the loss in value of future cash flows

EXAMPLE QUESTION - DPP

Following is the cash flow and investment information for two Machines A and B that the company is considering for investment. Using Discounted PP method estimate which of the two machine is a better investment option for the company? Take discount factor at 10%. Rank the machines according to discounted payback.

Machine A	Net Cash flows	Machine B	Net Cash flows
Year 0	(10,000)	Year 0	(75,000)
Year 1	5,000	Year 1	50,000
Year 2	4,000	Year 2	30,000
Year 3	4,000	Year 3	10,000

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ANSWER

Machine A	Net CF	10% DF	D Net CF	Cum. Net CF
Year 0	(10,000)	1.000	(10,000)	(10,000)
Year 1	5,000	0.909	4545	(5,455)
Year 2	4,000	0.826	3304	(2,151)
Year 3	4,000	0.751	3004	853

Machine A "pay back period" is: 2 years and 9 months

Machine B	Net CF	10% DF	D Net CF	Cum. Net CF
Year 0	(75,000)	1.000	(75,000)	(75,000)
Year 1	50,000	0.909	45,450	(29,550)
Year 2	30,000	0.826	24,780	(4,770)
Year 3	10,000	0.751	7,510	2,740

Machine B "pays back period" is: 2 years and 8 months

According to discounted payback, Machine B is the better investment option.

NPV – Ex. 2

Consider 3 investment projects A, B and C. All projects have some initial investment outlay. The projected end of year cash flow for the three investment options are also provided. Using NPV method comment on which project the Manager should select and Why? Consider the opportunity cost of investment at 20%

	A	B	C
Project Investment outlay	100,000	100,000	100,000
End of year cash flow			
Year 1	0	31,000	80,000
Year 2	0	31,000	50,000
Year 3	0	31,000	25,000
Year 4	100,000	31,000	0
Year 5	55,000	31,000	0
Total Profits	155,000	155,000	155,000

ANSWER

NPV Ex. 2 Solution

Project A	Net cash Flow	Discount factor 20%	Dis cash flow	Project B	Net cash Flow	Discount factor 20%	Dis cash flow
Year 0	-100,000	1.000	-100,000	Year 0	-100,000	1.000	-100,000
Year 1	0	0.833	0	Year 1	31,000	0.833	25,823
Year 2	0	0.694	0	Year 2	31,000	0.694	21,514
Year 3	0	0.579	0	Year 3	31,000	0.579	17,949
Year 4	100,000	0.482	48,200	Year 4	31,000	0.482	14,942
Year 5	55,000	0.402	22,110	Year 5	31,000	0.402	12,462
NPV			-29,690	NPV			-7,310

Project C	Net cash Flow	Discount factor 20%	Dis cash flow
Year 0	-100,000	1.000	-100,000
Year 1	80,000	0.833	66,640
Year 2	50,000	0.694	34,700
Year 3	25,000	0.579	14,475
Year 4	0	0.482	0
Year 5	0	0.402	0
NPV			15,815

Project rank as per NPV

Rank 1 - Project C

NPV decision:

- Only Project C is worth considering for investment as the NPV is positive
- Project A and Project B will lead to shareholder value destruction