

***ADVANCED CAPITAL
BUDGETING DECISIONS***

CLASS 8-HW-Q18

Topic Inflation & Capital Budgeting

Question 18:

KLM Ltd. requires ₹ 15,00,000 for a new project. Useful life of project is 3 years.

Salvage value - NIL.

Depreciation is ₹ 5,00,000 p.a.

Given below are projected revenues and costs (excluding depreciation) ignoring inflation:

Year →	1	2	3
Revenues	₹ 10,00,000	₹13,00,000	₹14,00,000
Costs	₹ 5,00,000	₹6,00,000	₹6,50,000

Applicable tax rate is 35%. Assume cost of capital to be 14% (after tax). The inflation rates for revenues and costs are as under:

Year	Revenues %	Costs %
1	9	10
2	8	9
3	6	7

PVF at 14%, for 3 years = 0.877, 0.769 and 0.675

Show amount to the nearest rupee in calculations.

You are required to calculate net present value of the project.

(Source: ICAI)

ANSWER:

i. Inflation adjusted Revenues

Year	Revenues (₹)	Revenues (Nominal Revenue) (₹)
1	10,00,000	10,00,000(1.09) = 10,90,000
2	13,00,000	13,00,000(1.09) (1.08) = 15,30,360
3	14,00,000	14,00,000(1.09) (1.08)(1.06) = 17,46,965

ii. Inflation adjusted Costs

Year	Costs (₹)	Costs (Nominal Cost) (₹)
1	5,00,000	5,00,000(1.10) = 5,50,000
2	6,00,000	6,00,000(1.10)(1.09) = 7,19,400
3	6,50,000	6,50,000(1.10)(1.09)(1.07) = 8,33,905

iii. Tax Benefit on Depreciation = ₹ 5,00,000 x 0.35 = ₹ 1,75,000

iv. Net Profit after Tax

Year	Revenues (Nominal Revenue) (₹) (1)	Costs (Nominal Cost) (₹) (2)	EBDIT (₹) (3) =(1) -(2)	Tax (₹) (4) = 35% of (3)	EBDIT ×(1-t) (₹) (3) - (4)
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1	10,90,000	5,50,000	5,40,000	1,89,000	3,51,000
2	15,30,360	7,19,400	8,10,960	2,83,836	5,27,124
3	17,46,965	8,33,905	9,13,060	3,19,571	5,93,489

v. Present Value of Cash Inflows

Year	EBDIT $\times (1-t)$ (₹)	Tax Benefit on Depreciation (₹)	Cash Inflow (₹)	PVF@ 14%	PV (₹)
1	3,51,000	1,75,000	5,26,000	0.877	4,61,302
2	5,27,124	1,75,000	7,02,124	0.769	5,39,933
3	5,93,489	1,75,000	7,68,489	0.675	5,18,730
					15,19,965

$$\text{NPV} = ₹ 15,19,965 - ₹ 15,00,000 = ₹ 19,965$$