ADVANCED CAPITAL BUDGETING DECISIONS

CLASS 4-HW-Q9

Topic Sensitivity Analysis

Question 9:

From the following details relating to a project, analyse the sensitivity of the project to changes in initial project cost, annual cash inflow and cost of capital:

Initial Project Cost (₹)	1,20,000
Annual Cash Inflow (₹)	45,000
Project Life (Years)	4
Cost of Capital	10%

To which of the three factors, the project is most sensitive? (Use annuity factors: for 10% 3.169 and 11% 3.103).

(Source: ICAI)

ANSWER:

CALCULATION OF NPV	₹
PV of cash inflows (₹ 45,000 x 3.169)	1,42,605
Initial Project Cost	1,20,000
NPV	**22,605**
If initial project cost is varied adversely by 10%*	
NPV (Revised) (₹ 1,42,605 - ₹ 1,32,000)	₹ 10,605
Change in NPV (₹ 22,605 – ₹ 10,605)/ ₹ 22,605 i.e.	53.08 %
If annual cash inflow is varied adversely by 10%*	
Revised annual inflow	₹ 40,500
NPV (Revised) (₹ 40,500 x 3.169) – (₹ 1,20,000)	(+) ₹ 8,345
Change in NPV (₹ 22,605 – ₹ 8,345) / ₹ 22,605	63.08 %
If cost of capital is varied adversely by 10%*	
NPV (Revised) (₹ 45,000 x 3.103) – ₹ 1,20,000	(+) ₹ 19,635
Change in NPV (₹ 22,605 – ₹ 19,635) / ₹ 22,605	13.14 %

Conclusion: Project is most sensitive to 'annual cash inflow'.

*Note: Students may please note that they may assume any other percentage rate other than 10 % say 15%, 20 % 25 % etc.