

HW - Chapter 8 - Risk Analysis- Q1

(i) Computation of expected net cash flow of Projects A and B

Project A			Project B		
NCF (Rs.)	Probability	ENCF	NCF (Rs.)	Probability	ENCF
15,000	0.4	6,000	15,000	0.3	4,500
12,000	0.3	3,600	12,000	0.5	6,000
10,000	0.2	2,000	10,000	0.1	1,000
8,000	0.1	800	8,000	0.1	800
ENCF		12,400			12,300

(ii) Computation of Standard deviation of each project

Project A

P	ENCF	NCF	(NCF - ENCF)	P (NCF - ENCF) ²
0.4	12,400	15,000	2,600	27,04,000
0.3	12,400	12,000	-400	48,000
0.2	12,400	10,000	-2,400	11,52,000
0.1	12,400	8,000	-4,400	19,36,000
Variance				58,40,000

Standard Deviation of Project A = Square root of Rs. 58,40,000 = Rs. 2416.61

Project B

P	ENCF	NCF	(NCF - ENCF)	P (NCF - ENCF) ²
0.3	12,300	15,000	2,700	21,87,000
0.5	12,300	12,000	-300	45,000
0.1	12,300	10,000	-2,300	5,29,000
0.1	12,300	8,000	-4,300	18,49,000
Variance				46,10,000

Standard Deviation of Project B = Square root of Rs. 46,10,000 = 2147.09

(iii) Profitability index = PV of inflows ÷ PV of outflows

Project A = 12,400 ÷ 12,000 = 1.033

Project B = 12,300 ÷ 11,000 = 1.118

(iv) Recommendation of the project

ENCF (**Returns**) of both the projects is almost the same but Standard deviation (risk) is lower in Project B as compared to Project A. Also, profitability index of Project B is higher than that of Project A. So, Project B is preferable because of lower risk and higher profitability index.