RAMA UNIVERSITY

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FACULTY OF COMMERCE AND MANAGEMENT

COURSE: B.COM V SEM.

SUBJECT: INTRODUCTION TO FINANCIAL MANAGEMENT

SUBJECT CODE: BCH 505

LECTURE: 17

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LECTURE-17

- **Certainty Equivalent Method:**

Another simple method of accounting foe risk n capital budgeting is to reduce the expected cash flows by certain amounts. It can be employed by multiplying the expected cash flows by certainty equivalent co-efficient as to convert the cash flow to certain cash flows.

Illustration 5 . There are two projects X and Y. each involves an investment of Rs40,000. The expected cash flows and the certainty co-efficient are as under:

	Project X		**Project Y**	
Year	**Cash Inflows**	**Certainty Coefficient**	**Cash Inflows**	**Certainty Coefficient**
1	25,000	.8	20,000	.9
2	20,000	.7	30,000	.8
3	20,000	.9	20,000	.7

Risk free cut off rate is 10%. Suggest which of the two projects should be preferred?

Solution:

Calculation of cash inflows with certainty

	Project X			**Project Y**		
Yea	Cash Inflows	Certainty Coefficient	Certain Cash Inflow	Cash Inflows	Certainty Coefficient	Certain Cash flow
1	25,000	.8	20,000	20,000	.9	18,000
2	20,000	.7	14,000	30,000	.8	24,000
3	20,000	.9	18,000	20,000	.7	14,000

Calculations of Present Values of cash Inflows

		Project X		Project Y	
Year	Discount Factor @10%	Cash inflows Rs.	Present Values Rs.	Cash inflows Rs.	Present Value Rs.
1	.909	20,000	18,180	18,000	16,362
2	.826	14,000	11,564	24,000	19,824
3	.751	18,000	13,518	14,000	10,514
					46,700
			Project X		Project Y
	Net Present Value		Rs 43,262-40,000 Rs. 3262		Rs 46,700-40,000 Rs.6700

As the Net present value of project Y is more than that of Project X, Project Y should be preferred.

Illustration 6.A Company is considering a new project for which the investment data are as Follows:

Capital outlay Rs.2, 00,000
Depreciation 20% per annum
Forecasted annual income before charging depreciation, but after all other charges as follows:

Year	Rs.
1	100,000
2	100,000
3	80,000
4	80,000
5	40,000
	400,000

On the basis of available data, set out calculations, illustrating and comparing the following methods of evaluating the return of capital employed a. Pay back method b. Rate of return of original investment. State clearly any assumption you make. Ignore taxation.

Solution:
Annual income before depreciation and after all other charges is equivalent to CFAT.

PB period is 2 years. Capital outlay of Rs.2, 00,000 is recovered in first two years:
[(Rs 1, 00,000 (year 1) + Rs 1, 00,000 (year 2)]

Rate of return on original investment

Year	**CFAT (Rs)**	**Depreciation (Rs)**	**Net Income (Rs)**
1	1, 00,000	40,000	60,000
2	1, 00,000	40,000	60,000
3	80,000	40,000	40,000
4	80,000	40,000	40,000
5	40,000	40,000	---
			2, 00,000

$$\text{Rate of return} = \frac{\text{Average income}}{\text{Original investment}} \times 100$$

$$\text{Where, Average Income} = \frac{\text{Rs 2, 00,000}}{5} = \text{Rs. 40,000}$$

$$\text{Rate of return} = \frac{40,000}{2,00,000} \times 100 = 20\%$$

Illustration 7: A project of Rs. 20, 00,000 yielded annually a profit of Rs. 3, 00,000 after depreciation @12.5% and is subject to income tax @ 50%. Calculate pay-back period

Solution: Calculation of Annual Cash Flow

	Rs.
Profit after Depreciation but before tax	3, 00,000
Less: - Tax @ 50%	1, 50,000
Profit after Tax	1, 50,000
Add: - Depreciation	2, 50,000
Cash Flow	4, 00,000

Pay back period = Initial outlay/ Annual Cash Flow

= 20, 00,000/4, 00,000 = 5 Years