

PORTFOLIO MANAGEMENT CLASS 2

CLASS WORK COVERAGE

To streamline our learning process, I've categorized the questions we'll tackle in class into four distinct groups:

1. **Classic:** These questions are exactly as presented in your book, providing a familiar foundation.
2. **Transformed:** Here, we've converted book questions into multiple-choice format to enhance your analytical skills.
3. **Adapted:** These are similar to book questions but with altered numbers or names, presented as multiple-choice questions for varied practice.
4. **Original:** These are entirely new questions not found in your book, designed to challenge and expand your understanding.

This structure will help us navigate through a range of problems, ensuring a comprehensive grasp of the material. Looking forward to our next session!

Q. No.	Type	Book	Page No.	Q No.
Case Study 1	<i>Transformed</i>	CW QUESTION BOOK	44	1
Case Study 2	<i>Transformed</i>	CW QUESTION BOOK	72	69
Case Study 3	<i>Transformed</i>	CW QUESTION BOOK	72	70

CASE STUDY 1

Following is the data regarding six securities:

	U	V	W	X	Y	Z
Return (%)	10	10	15	5	11	10
Risk (%) (Standard deviation)	5	6	13	5	6	7

Question 1:

Which securities should be selected based on the risk-return analysis among the given six securities (U, V, W, X, Y, Z)?

- A. Securities V, X, and Z
- B. Securities U, W, and Y
- C. Securities U, V, and Z
- D. Securities X, Y, and Z

Question 2:

Assuming perfect positive correlation, what is the risk of the portfolio that invests 80% in security U and 20% in security W?

- A. 5.8%
- B. 6.0%
- C. 6.6%
- D. 7.2%

Question 3:

What is the return of the portfolio that invests 80% in security U and 20% in security W under perfect positive correlation?

- A. 10%
- B. 11%
- C. 12%
- D. 13%

Question 4:

Considering the risk and return, which investment is preferable: investing 80% in security U and 20% in security W or investing 100% in security Y?

- A. 80% in U and 20% in W is better due to higher return.
- B. Both options are equally preferable due to identical return and risk levels.
- C. Neither option is preferable as they carry high risks.
- D. 100% in Y is better due to lower risk.

Answer:**Question 1:**

B is correct.

- Security U provides a return of 10% at a risk level of 5%, which is the most efficient option.
- Securities V and Z offer the same return as U (10%) but at higher risk levels (6% and 7%, respectively), making them less attractive.
- Security X has a lower return (5%) with the same risk as U (5%), which is not preferable.
- Securities W and Y offer higher returns (15% and 11%, respectively), though at higher risk levels, making them good options for investors willing to take on more risk.

Question 2:

C is correct.

In a situation where the perfect positive correlation exists between two securities, their risk and return can be averaged with the proportion.

Assuming the perfect correlation exists between the securities U and W, average risk and return of U and W together for proportion 4 : 1 is calculated as follows:

$$\text{Risk} = (4 \times 5\% + 1 \times 13\%) \div 5 = 6.6\%$$

Question 3:

B is correct.

To calculate the return, use the weighted average formula:

$$\text{Return} = (4 \times 10\% + 1 \times 15\%) \div 5$$

$$\text{Return} = (40 + 15) \div 5 = 11\%$$

Question 4:**D is correct.**

Portfolio with 80% U and 20% W: Risk = 6.6%, Return = 11%.

Security Y: Risk = 6%, Return = 11%.

Since both options offer the same return, security Y is preferable as it has lower risk (6% compared to 6.6%).

CASE STUDY 2

Following information is available in respect of expected dividend, market price and market condition after one year.

Market condition	Probability	Market Price ₹	Dividend per share ₹
Good	0.25	115	9
Normal	0.50	107	5
Bad	0.25	97	3

The existing market price of an equity share is ₹ 106 (F.V. ₹ 1), which is cum 10% bonus debenture of ₹ 6 each, per share. M/s. X Finance Company Ltd. had offered the buy-back of debentures at face value.

Question 1:

What is the expected return (%) on the equity share based on the given probabilities, market conditions, and dividend information?

- A. 10%
- B. 11%
- C. 12%
- D. 13%

Question 2:

What is the standard deviation of the returns (%) for the equity share?

- A. 7.90%
- B. 8.49%
- C. 9.00%
- D. 8.85%

Question 3:

Should the investor accept the buyback offer of the debentures at face value?

- A. Yes, because the buyback is more beneficial than the expected return.
- B. Yes, because the creditworthiness of the company is poor.
- C. No, because the maturity period of the debentures is high.
- D. The decision regarding buy-back should be taken considering the maturity period and opportunity in the market. Normally, if the maturity period is low say up to 1 year better to wait otherwise to opt buy back option.

Answer:

Question 1:

C is correct.

The Expected Return of the equity share may be found as follows:

Market Condition	Probability	Total Return	Cost (*)	Net Return
Good	0.25	₹ 124	₹ 100	₹ 24
Normal	0.50	₹ 112	₹ 100	₹ 12
Bad	0.25	₹ 100	₹ 100	₹ 0

$$\text{Expected Return} = (24 \times 0.25) + (12 \times 0.50) + (0 \times 0.25) = 12 = \left(\frac{12}{100} \right) \times 100 = 12\%$$

(*) The present market price of the share is ₹106 cum bonus 10% debenture of ₹6 each; hence the net cost is 100.

Question 2:

B is correct.

The variability of return can be calculated in terms of standard deviation.

$$\begin{aligned} \text{VSD} &= 0.25 (24 - 12)^2 + 0.50 (12 - 12)^2 + 0.25 (0 - 12)^2 \\ &= 0.25 (12)^2 + 0.50 (0)^2 + 0.25 (-12)^2 \\ &= 36 + 0 + 36 \\ \text{SD} &= \sqrt{72} \\ \text{SD} &= 8.485 \text{ or say } 8.49 \end{aligned}$$

Question 3:

D is correct.

M/s X Finance company has offered the buyback of debenture at face value. There is reasonable 10% rate of interest compared to expected return 12% from the market. Considering the dividend rate and market price the creditworthiness of the company seems to be very good. The decision regarding buy-back should be taken considering the maturity period and opportunity in the market. Normally, if the maturity period is low say up to 1 year better to wait otherwise to opt buy back option.

CASE STUDY 3

The data given below relates to companies "Alpha and Beta".

	Alpha (₹)	Beta (₹)
Expected Dividend	5	9
Current Market price	30	120
Expected market price after one year under two scenarios		
Optimistic scenario	100	175
Pessimistic scenario	50	100

Question 1:

What is the expected return (E(R)) for Company Alpha?

- A. 83.33%
- B. 250%
- C. 200%
- D. 166.67%

Question 2:

What is the expected return (E(R)) for Company Beta?

- A. -9.17%
- B. 22.082%
- C. 53.33%
- D. 10%

Question 3:

What is the standard deviation (σ) of returns for Company Alpha?

- A. 50%
- B. 141.52%
- C. 83.33%
- D. 60%

Question 4:

What is the standard deviation (σ) of returns for Company Beta?

- A. 22.082%
- B. 31.25%
- C. 53.33%
- D. 40%

Question 5:

What is the coefficient of variation (C.V.) for Company Alpha?

- A. 50%
- B. 83.33%
- C. 141.52%
- D. 30%

Question 6:

What is the coefficient of variation (C.V.) for Company Beta?

- A. 50%
- B. 83.33%
- C. 141.52%
- D. 100%

Question 7:

Based on the coefficient of variation (C.V.), which company should the investor choose?

- A. Company Alpha
- B. Company Beta
- C. Indifferent
- D. Both Alpha and Beta

Answer:

Question 1:

D is correct.

Explanation: Done in class.

Question 2:

B is correct.

Explanation: Done in class.

Question 3:

C is correct.

Explanation: Done in class.

Question 4:

B is correct.

Explanation: Done in class.

Question 5:

A is correct.

Explanation: Done in class.

Question 6:

C is correct.

Explanation: Done in class.

Question 7:

A is correct.

The investor should choose the stock with a lower coefficient of variation (C.V.) because it indicates better risk-adjusted returns.

- For Company Alpha, the C.V. is 50%.
- For Company Beta, the C.V. is 141.52%.