PORTFOLIO MANAGEMENT CLASS 1

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 5	***Adapted***	HW Answer Book	118	1
Case Study 7	***Adapted***	HW Answer Book	120	3
Case Study 8	***Adapted***	HW Answer Book	120	4

CASE STUDY 5

You are an analyst studying two stocks, **P** and **Q**, based on the past 5 years of returns.

Year	P	Q
1	14	-12
2	12	25
3	9	3
4	12	32
5	8	11

Based on the table above, answer the following questions:

Question 1:

What is the average return for Stock P?

A. 8%
B. 9%
C. 11%
D. 7%

Question 2:

What is the average return for Stock Q?

A. 9.37%
B. 11.80%
C. 13.11%
D. 15.09%

Question 3:

What is the standard deviation of returns for Stock Q (rounded to two decimal places)?

A. 12.15%
B. 15.38%
C. 18.21%
D. 13.14%

Question 4:

Which stock would you recommend to a risk-averse investor and why?

A. Stock P, because it has higher returns.
B. Stock Q, because it has lower returns but higher volatility.
C. Stock P, because it has lower volatility and close to similar average returns as Stock Q.
D. Stock Q, because it has more variability in returns.

ANSWER:

Question 1:

C is correct

Average return for Stock P:

Average return= Sum of returns/Number of years = (14 + 12 + 9 + 12 + 8) /5 = 11%

Question 2:

B is correct.

Calculate the mean return ($\overline{X}$):

Mean return of Q= (−12+25+3+32+11)/5 =59/5 = 11.8%

Question 3:

B is correct.

Calculate deviations from the mean and square them:

$$\text{Variance of Q} = \frac{\sum (X_i - \bar{X})^2}{n}.$$

After computation: Variance =236.32.

Standard Deviation = $\sqrt{236.32} = 15.38\%$

Question 4:

C is correct

Recommendation for a risk-averse investor:

Stock P has lower volatility (lower standard deviation) compared to Stock Q, while both have close to similar average returns.

CASE STUDY 7

You are a stock analyst analyzing a pharmaceutical company. The profitability and stock performance depend on the regulatory decisions made by the Drug Control Authority. Currently, the stock is trading at **₹300**. The probabilities of different decisions and their effects on the market price are given below:

Decision	Probability	Share Price
Approval of new drug	0.25	₹360
Delayed approval	0.50	₹320
Rejection	0.25	₹270

Question 1:

Calculate the expected return of the stock.

A. 9.50%

B. 5.84%

C. 8.33%

D. 7.90%

Question 2:

Calculate the standard deviation of the stock's return (rounded to two decimal places).

A. 12.50%

B. 13.67%

C. 15.20%

D. 10.64%

ANSWER:

Question 1:

B is correct.

Explanation discussed in class.

Question 2:

D is correct.

Explanation discussed in class.

CASE STUDY 8

The following information about two stocks is given:

Stock	Return	Risk
Stock X	14%	10%
Stock Y	18%	14%

Answer the following questions based on the data provided:

Question 1:

Suppose there are two investors, one is highly risk-averse and the other is less risk-averse. Which investor will choose which stock?

A. Both investors will choose Stock X because it has lower risk.

B. The highly risk-averse investor will choose Stock X, and the less risk-averse investor will choose Stock Y.

C. Both investors will choose Stock Y because it has higher returns.

D. The choice depends only on the Sharpe ratio of the stocks.

Question 2:

If the level of risk aversion of the investor is not given, which stock will the investor choose based on the coefficient of variation?

A. Stock X, because its coefficient of variation is lower.

B. Stock Y, because its coefficient of variation is lower.

C. Both stocks are equally attractive based on the coefficient of variation.

D. The investor will not choose any stock based on the coefficient of variation.

Question 3:

If the risk-free rate is 5% and the level of risk aversion is not given, which stock will the investor choose based on the Sharpe ratio?

A. Stock X, because its Sharpe ratio is higher.

B. Stock Y, because its Sharpe ratio is higher.

C. Both stocks have the same Sharpe ratio.

D. Cannot be determined without additional information.

ANSWER:

Question 1:

B is correct.

Risk Preference:

- Highly risk-averse investors prefer stocks with lower risk, even if returns are lower.
- Less risk-averse investors prefer stocks with higher returns, even if risk is higher.

Question 2:

A is correct.

Coefficient of Variation Calculation:

$$\text{Coefficient of Variation (CV)} = \frac{\text{Risk (S.D.)}}{\text{Mean Return}} \times 100$$

- Stock X: $\frac{10}{14} \times 100 = 71.43\%$
- Stock Y: $\frac{14}{18} \times 100 = 77.78\%$
- Stock X has a lower coefficient of variation.

Question 3:

Sharpe Ratio Calculation:

$$\text{Sharpe Ratio} = \frac{R_x - R_f}{\sigma_x}$$

- Stock X: $\frac{14-5}{10} = 0.9$
- Stock Y: $\frac{18-5}{14} = 0.93$
- Stock Y has a slightly higher Sharpe ratio.