

Unit 6 - Week 4: Modern Portfolio Theory (Part 2)

Course outline

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Week 1: Introduction to Financial Markets and Instruments

Week 2: Time Value of Money and Riskfree Assets

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Week 4: Modern Portfolio Theory (Part 2)

- Lec 10: Minimum Variance Line (Continued), Market Portfolio
- Lec 11: Capital Market Line, Capital Asset Pricing Model
- Lec 12: Performance Analysis
- Quiz : Assignment 4
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Week 5: Fundamentals of Derivatives

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Week 11: Risk-Neutral Pricing in Continuous-Time (Part 1)

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Text Transcripts

Live Session

Assignment 4

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-08-28, 23:59 IST.

- 1) Consider two portfolios V_1 and V_2 lying on the minimum variance line (MVL), with the respective weights $\vec{w}_1 = \begin{bmatrix} 0.4 \\ 0.6 \end{bmatrix}$ and $\vec{w}_2 = \begin{bmatrix} 0.7 \\ 0.3 \end{bmatrix}$. A new portfolio V , created with 60% of wealth being invested in V_1 and 40% of wealth being invested in V_2 , has weight $\vec{\delta} = \begin{bmatrix} \delta_1 \\ \delta_2 \end{bmatrix}$. Then the value of δ_1 equals:

Hint

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 0.52

1 point

- 2) Consider two portfolios V_1 and V_2 lying on the minimum variance line (MVL), with the respective returns being $\mu_1 = 6\%$ and $\mu_2 = 8\%$. Let a new portfolio V be created out of the portfolios V_1 and V_2 such that the portfolio V lies on the MVL and has the expected return of 6.8%. In portfolio V , the percentage of wealth invested in V_2 equals:

Hint

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 40

1 point

- 3) In the CAPM framework, suppose that the market return and risk (as given by standard deviation of returns) are 9.75% and 15%, respectively. The riskfree rate is 6%. If you are willing to accept a risk of 20% on a managed portfolio, then the expected return (in percentage) on this portfolio equals:

Hint

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 11

1 point

- 4) In the CAPM framework, consider a portfolio V comprising of two portfolios V_1 and V_2 , with the respective weights being $w_1 = 0.3$ and $w_2 = 0.7$. The respective betas of the portfolios are $\beta_1 = 0.2$ and $\beta_2 = 0.15$. Then the beta of the portfolio V equals:

Hint

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 0.165

1 point

- 5) Consider a portfolio whose risk (as given by standard deviation of returns) is 20%. The expected return and risk (as given by standard deviation of returns) are 8% and 15%, respectively, with the riskfree rate being 5%. Then the excess return over the riskfree rate (in terms of percentage) for the portfolio equals:

Hint

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 4

1 point

- 6) State whether the following statement is TRUE or FALSE:
If $\mu_V > R + \beta_V (\mu_M - R)$, then the asset V is underpriced.

- TRUE
 FALSE

No, the answer is incorrect.
Score: 0
Accepted Answers:
TRUE

1 point

- 7) State whether the following statement is TRUE or FALSE:
The specific risk of a risky security cannot be diversified.

- TRUE
 FALSE

No, the answer is incorrect.
Score: 0
Accepted Answers:
FALSE

1 point

- 8) If the Treynor ratio of the market portfolio is T_M , with the expected market return being μ_M and the risk-free rate being R , then the value of $2 \times \frac{5T_M}{\mu_M - R}$ equals:

Hint

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 10

1 point

- 9) Consider two assets A_1 and A_2 , with the respective expected returns being $\mu_1 = 8\%$ and $\mu_2 = 10\%$, and the respective betas being $\beta_1 = 0.15$ and $\beta_2 = 0.20$. Let the riskfree rate be 4%. If T_1 and T_2 are the Treynor ratios of A_1 and A_2 , respectively, the value of $|T_1 - T_2|$ equals:

Hint

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Range) 0.025,0.040

1 point

- 10) Write the correct option (that is, write A or B or C) among the three options:
Consider two assets A_1 and A_2 , with the respective expected returns being μ_1 and μ_2 , and the respective risks (as given by standard deviation of returns) being σ_1 and σ_2 . Let S_1 and S_2 be the Sharpe ratios of A_1 and A_2 , respectively. If $S_1 < S_2$ and $\mu_1 > \mu_2 > R > 0$, then σ_1 is _____ σ_2 .

- (A) strictly less than
 (B) equal to
 (C) strictly greater than

No, the answer is incorrect.
Score: 0
Accepted Answers:
(C) strictly greater than

1 point