Assignment 4

Due on 2020-10-14, 23:59 IST.

1. Consider a portfolio P of a risky asset $a$, with expected return $E(r_1) = 1.5\%$ and a risk-free asset with return $r_2 = 10\%$. If the weights assigned to the risky asset and the risk-free asset are 0.6 and 0.4, respectively, then the expected return (in percentage) of the portfolio $P$ equals:

2. Which of the following is true in case of the Capital Market Line (CML), with $E(r_2) = p_2 r_2$, $E(r_m) = p_2 r_m$:

3. A portfolio has the risk (as given by standard deviation of return) of $10\%$, with the expected return and risk (as given by standard deviation of return) of the market portfolio being $5\%$ and $8\%$, respectively. If the risk-free rate is $4\%$, then the expected return (in percentage) of the portfolio equals:

4. If a security (with return $r_2$) is under-priced, then which of the following holds?

5. Consider the following values: $r_2 = 3\%$, $E(r_m) = 8\%$, and $\beta = 0.5$. Then the value of $E(r_2)$ (in percentage) for the asset to be correctly priced, equals:

6. Consider a one-period asset pricing model where the values of $E(r_2)$ can be $0.1$ or $0.5$ (at times $\epsilon = 1$), each with probability $1/2$. Further, let $r_2 = 9\%$, $\beta = 0.5$, and $E(r_m) = 10\%$. Then, in the CAPM framework, $\beta(r_2)$ equals:

7. In the CAPM framework, the value of $\beta_2 = \beta_3$ equals:

8. Consider two risky assets $a_1$ and $a_2$, with the respective expected returns being $E(r_1) = 2\%$ and $E(r_2) = 3\%$, and the respective betas being $\beta_1 = 0.12$ and $\beta_2 = 0.18$. Let the risk-free rate be $4\%$. If $y_1$ and $y_2$ are the Treynor ratios of $a_1$ and $a_2$, respectively, then the value of $y_1 - y_2$ equals: