

Change Log for CFA 2019 Level I

Date	Lesson and Content Identifier	Change
02/21/2019	SS2. Quantitative Methods (1) / R9. Probability Concepts / Lesson 2 / Study Text	<p>Example 2.3</p> <p>Solution</p> <p>Asset weights:</p> $w_A = 250 / (250 + 750) = 0.25$ $w_B = 750 / (250 + 750) = 0.75$ <p>Expected return on the individual assets:</p> $E(R_A) = P(\text{Scenario}_1) \times R_{A1} + P(\text{Scenario}_2) \times R_{A2} + P(\text{Scenario}_3) \times R_{A3}$ $E(R_A) = (0.2)(0.45) + (0.35)(0.21) + (0.45)(0.04) = 0.1815$ $E(R_B) = P(\text{Scenario}_1) \times R_{B1} + P(\text{Scenario}_2) \times R_{B2} + P(\text{Scenario}_3) \times R_{B3}$ $E(R_B) = (0.2)(0.3) + (0.35)(0.5) + (0.45)(0.1) = 0.28$ <p>Variance of the individual assets:</p> $\text{Var}(R_A) = P(\text{Scenario}_1)\{(R_{A1} - E(R_A))\}^2 + P(\text{Scenario}_2)\{(R_{A2} - E(R_A))\}^2 + P(\text{Scenario}_3)\{(R_{A3} - E(R_A))\}^2$ $\text{Var}(R_A) = (0.2)(0.45 - 0.1815)^2 + (0.35)(0.21 - 0.1815)^2 + (0.45)(0.04 - 0.1815)^2$ $\text{Var}(R_A) = 0.0237$ $\text{Var}(R_B) = P(\text{Scenario}_1)\{(R_{B1} - E(R_B))\}^2 + P(\text{Scenario}_2)\{(R_{B2} - E(R_B))\}^2 + P(\text{Scenario}_3)\{(R_{B3} - E(R_B))\}^2$ $\text{Var}(R_B) = (0.2)(0.3 - 0.28)^2 + (0.35)(0.5 - 0.28)^2 + (0.45)(0.1 - 0.28)^2$ $\text{Var}(R_B) = 0.0316$ <p>Covariance of the asset returns:</p> $\text{Cov}(R_A, R_B) = P(\text{Scenario}_1)[R_{A1} - E(R_A)][R_{B1} - E(R_B)] + P(\text{Scenario}_2)[R_{A2} - E(R_A)][R_{B2} - E(R_B)] + P(\text{Scenario}_3)[R_{A3} - E(R_A)][R_{B3} - E(R_B)]$ $\text{Cov}(R_A, R_B) = (0.2)(0.45 - 0.1815)(0.3 - 0.28) + (0.35)(0.21 - 0.1815)(0.5 - 0.28) + (0.45)(0.04 - 0.1815)(0.1 - 0.28)$ $\text{Cov}(R_A, R_B) = 0.01473$

