

Chapter 10 - Practice Questions

1. Suppose you held a well-diversified portfolio with a very large number of securities, and that the single index model holds. If the σ of your portfolio was 0.20 and σ_M was 0.16, the β of the portfolio would be approximately _____.
- A) 0.64
 - B) 0.80
 - C) 1.25
 - D) 1.56
 - E) none of the above

2. The index model has been estimated for stock A with the following results:

$$R_A = 0.01 + 0.8R_M + e_A$$

$$\sigma_M = 0.20 \quad \sigma(e_A) = 0.10$$

The standard deviation of the return for stock A is _____.

- A) 0.0356
 - B) 0.1886
 - C) 0.1600
 - D) 0.6400
 - E) none of the above
3. Security returns
- A) are based on both macro events and firm-specific events.
 - B) are based on firm-specific events only.
 - C) are usually positively correlated with each other.
 - D) A and B.
 - E) A and C.
4. The single-index model
- A) greatly reduces the number of required calculations, relative to those required by the Markowitz model.
 - B) enhances the understanding of systematic versus nonsystematic risk.
 - C) greatly increases the number of required calculations, relative to those required by the Markowitz model.
 - D) A and B.
 - E) B and C.

5. In the single-index model represented by the equation $r_i = E(r_i) + \beta_i F + e_i$, the term e_i represents
- A) the impact of unanticipated macroeconomic events on security i's return.
 - B) the impact of unanticipated firm-specific events on security i's return.
 - C) the impact of anticipated macroeconomic events on security i's return.
 - D) the impact of anticipated firm-specific events on security i's return.
 - E) the impact of changes in the market on security i's return.
6. The Security Characteristic Line (SCL) associated with the single-index model is a plot of
- A) the security's returns on the vertical axis and the market index's returns on the horizontal axis.
 - B) the market index's returns on the vertical axis and the security's returns on the horizontal axis.
 - C) the security's excess returns on the vertical axis and the market index's excess returns on the horizontal axis.
 - D) the market index's excess returns on the vertical axis and the security's excess returns on the horizontal axis.
 - E) the security's returns on the vertical axis and Beta on the horizontal axis.
7. Consider the single-index model. The alpha of a stock is 0%. The return on the market index is 14%. The risk-free rate of return is 4%. The stock earns a return that exceeds the risk-free rate by 15% and there are no firm-specific events affecting the stock performance. The β of the stock is _____.
- A) 0.93
 - B) 0.53
 - C) 1.07
 - D) 1.36
 - E) 1.50

Answer Key

1. C
2. B
3. E
4. D
5. B
6. C
7. E