جامعة الملك سعود
King Saud University

TEST101

Fall 2023

Midterm

January 1, 2023

(10 Points)

Instructions:

1. You have 60 minutes to complete the test
2. For numerical questions, select the option that is the closest to your computation
3. Please read all questions carefully and make sure you understand the facts before you begin answering
4. For multiple choice and true & false questions, choose only one answer per question. Questions having more than one choice will be discarded during grading
5. The university's policy regarding academic dishonesty will be strictly enforced. You are bound by King Saud University's Honor Code
6. Good luck!

I have read and understood all the instructions

Name: _____

University ID: _____

A. [5 points] The following section contains declared statements, evaluate each statement whether it is true or false. Each evaluation attempt is worth 1.0 point.

1. Example for a MC question
   ◯ True ◯ False

2. Example for a MC question
   ◯ True ◯ False

3. Example for a MC question
   ◯ True ◯ False

4. Example for a TF question
   ◯ True ◯ False

5. Example for a TF question
   ◯ True ◯ False

B. [5 points] The following questions are multiple choice questions. Please choose the correct or the closest choice. Each question is worth 1.0 point.

1. You manage a portfolio that has the following information:

Stock	Weight	Alpha	Beta
Taiba	10%	1.25%	0.8
Rajhi	90%	0.5%	1.6

The current t-bill rate is 2%, and the market risk premium is 4%. Using the index model, the expected return on this portfolio is:

A. 12.24%
B. 6.69%
C. 3.79%
D. 9.02%

2. Most of the initial public offerings (IPOs) of equity securities are bought by _____.

A. individual investors
B. institutional investors
C. day traders
D. the firm's current shareholders

3. Most of the initial public offerings (IPOs) of equity securities are bought by _____.

A. individual investors
B. institutional investors
C. day traders
D. the firm's current shareholders

4. Example of MC question using characters such as: $ 100,000

A. $34,345
B. $25,456
C. $44,444
D. $1,200

5. Example of MC question using characters such as: $ 100,000

A. $34,345
B. $25,456
C. $44,444
D. $1,200

Formulas

$$E(R_i) = R_f + \beta_i \left[E(R_M) - R_f\right], \quad HPR = \frac{P_1 - P_0 + Div}{P_0}, \quad \text{Arithmetic Average} = \frac{r_1 + r_2 + \ldots + r_n}{n}$$

$$\text{Geometric Average} = \left[(1 + r_1) \times (1 + r_2) \times \ldots \times (1 + r_n)\right]^{1/n} - 1$$

$$\text{Dollar Weighted Return} = -1 + \frac{CF_1}{1 + IRR} + \frac{CF_2}{(1 + IRR)^2} + \ldots + \frac{CF_n}{(1 + IRR)^n}$$

$$\text{APR} = \text{Per-period return} \times \text{ No. Periods per year}, \quad EAR = \left[1 + \frac{APR}{n}\right]^n - 1$$

$$APR = \left[(EAR + 1)^{1/n} - 1\right] \times n, \quad EAR = e^{APR} - 1, \quad APR = \ln(EAR + 1), \quad 1 + r_{Real} = \frac{1 + r_{Nom}}{1 + i}$$

$$A = \frac{E(R_p) - R_f}{\sigma_p^2}, \quad Sharpe = \frac{E(R_i) - R_f}{\sigma_i}, \quad \sigma_P^2 = (w_A\sigma_A)^2 + (w_B\sigma_B)^2 + 2(w_A\sigma_A)(w_B\sigma_B)\rho_{AB}$$

$$\rho_{x,y} = \frac{Cov(x, y)}{\sigma_x \sigma y}, \quad E(R_C) = y \times E(R_p) + (1 - y) \times R_f, \quad \sigma_C = y \times \sigma_p, \quad y = \frac{E(R_p) - R_f}{A\sigma_p^2}$$

$$E(R_p) = \sum_{i=1}^{n} w_i \cdot E(R_i), \quad E(R_i) - R_f = \alpha_i + \beta_i[E(R_M) - R_f], \quad \sigma_i^2 = \beta_i^2\sigma_M^2 + \sigma_{e,i}^2$$

$$E(R_i) = R_f + \sum_{j=1}^{n} \beta_j \cdot Risk\ Premium_j, \quad \text{R-Squared} = \frac{\beta_i^2\sigma_M^2}{\beta_i^2\sigma_M^2 + \sigma_{e,i}^2}, \quad \sigma_{e_p}^2 = \sum_{i=1}^{n} w_i^2\sigma_{e_i}^2$$

$$\alpha_p = \sum_{i=1}^{n} w_i \cdot \alpha_i, \quad \beta_p = \sum_{i=1}^{n} w_i \cdot \beta_i$$

Question:	1	2	Total
Points:	5	5	10
Score:			