Seminar 8

A. Multiple Choice Questions

A1. Which of the following statements about portfolio theory ***is least accurate***?
a. As the correlation between two assets increases, the benefits of diversification also increase.
b. The efficient frontier represents the set of portfolios that has the highest rate of return for every given level of risk or the lowest risk for every level of return.
c. The inputs required for Markowitz portfolio optimization are the expected return for each asset available for investment, the standard deviation for each asset, and the correlation between each pair of assets.

A2. Which of the following statements about risk is corrects?
a. The capital market line plots expected return against market risk.
b. The efficient frontier plots expected return against unsystematic risk.
c. The security market line plots expected return against systematic risk.

A3. A portfolio manager is constructing a new equity portfolio consisting of a large number of randomly chosen domestic stocks. As the number of stocks in the portfolio increases, what happens to the expected levels of systematic and unsystematic risk?

	Systematic Risk	Unsystematic Risk
a.	Increases	Remains the same
b.	Decreases	Increases
c.	Remains the same	Decreases

A4. The risk-free rate is 5% and the expected market return is 15%. A portfolio manager is estimating a return of 20% on a stock with a beta of 1.5. Based on the SML and the analyst's estimate, this stock is:
a. properly valued
b. overvalued
c. undervalued

A5. Which of the following statements regarding portfolio theory is ***least likely*** correct?
a. Adding riskier assets to a portfolio can decrease the portfolio's risk.
b. A security will plot on the CML if it is priced at its equilibrium level.
c. All securities and portfolios plot on the SML when their prices are in equilibrium.

A6. The following data pertains to a firm's common stock:

- The stock will pay no dividends for two years
- The dividend three years from now is expected to be $1
- Dividends are expected to grow at a 7% rate from that point onward

If an investor requires a 17% return on this investment, how much will the investor be willing to pay for this stock now?

a. $6.24
b. $7.31
c. $8.26

A7. A stock has the following data associated with it:

- A required rate of return of 14%
- A return on equity of 15%
- An earnings retention rate of 40%

The stock's price-to-earnings ratio should be:

a. 5.0
b. 6.7
c. 7.5

A8. Which of the following equations *is least accurate*?

a. $\beta_{Stock} = \rho_{Stock,market}\left(\frac{\sigma_{stock}}{\sigma_{market}}\right)$

b. $Tota\ risk = unsystematic\ risk + nondiversifiable\ risk$

c. $Two-stock\ portfolio\ standard\ deviation = w_1^2\sigma_1^2 + w_2^2\sigma_2^2 + 2w_1w_2\sigma_1\sigma_2\rho_{1,2}$

A9. Which of the following is *least likely* an implication of risk aversion for the investment process?

a. The capital market line (CML) is upward-sloping
b. The promised yield on AAA rated bonds is higher than on A rated bonds.
c. A positive relationship exists between expected return and expected risk.

A10. Which of the following possible portfolios is *least likely* to lie on the efficient frontier?

Portfolio	*Expected Return*	*Standard Deviation*
X	9%	12%
Y	11%	10%
Z	13%	15%

a. Portfolio X
b. Portfolio Y
c. Portfolio Z

A11. An investor gathers the following information about two stocks:

	Scenario 1	*Scenario 2*	*Scenario 3*
Probability	0.5	0.3	0.2
Rate of return on:			
Security 1	25%	10%	-25%
Security 2	1%	-5%	35%

If the investor plans to invest $60,000 in Security 1 and $40,000 in Security 2, the expected return on the two-asset portfolio is ***closest*** to:

a. 5.8%
b. 8.7%
c. 12.2%

A12. An analyst gathered the following data about three stocks:

Stock	*Beta*	*Estimated Return*
A	1.5	18.1%
B	1.1	15.7%
C	0.6	12.5%

If the risk-free rate is 8%, and the market risk premium is 7%, the analyst is *least likely* to recommend buying:

a. Stock A
b. Stock B
c. Stock C

A13. An analyst gathers the following information about three stocks.

	Stock X	*Stock Y*	*Stock Z*
Estimated Return	8.0%	18.0%	22.5%
Beta	0.6	1.2	1.8

The analyst estimates that the risk-free rate is 5%, and the return on the market portfolio is 12%. Based on the inputs and the capital asset pricing model (CAPM), the analyst is *least likely* to recommend buying:

a. Stock X
b. Stock Y
c. Stock Z

A14. When a risk-free asset is combined with a portfolio of risky assets, which of the following is *least accurate*?
a. The standard deviation of the return for the newly created portfolio is the standard deviation of the returns of the risky asset portfolio multiplied by its portfolio weight.
b. The expected return for the newly created portfolio is the weighted average of the return on the risk-free asset and the expected return on the risky asset portfolio.
c. The variance of the resulting portfolio is a weighted average of the returns variances of the risk-free asset and the portfolio of risky assets

A15. Given the following correlation matrix, a risk-averse investor would least prefer which of the following 2-stock portfolios (all else equal)?

Stock	*W*	*X*	*Y*	*Z*
W	+1			
X	-0.2	+1		
Y	+0.6	-0.1	+1	
Z	+0.8	-0.3	+0.5	+1

a. W and Y
b. X and Y
c. X and Z

B. Long Answer Questions

B1. Explain the differences in interpretation for the alpha in the Fama-French (1993) and Carhart (1997) models?