Topic 9 - The Standard Capital Asset Pricing Model

Question #1 of 51

Which of the following is least likely considered a source of systematic risk for bonds?

- A) Default risk.
- B) Interest rate risk.
- C) Purchasing power risk.
- D) Market risk.

Question #2 of 51

Consider the expected returns and standard deviations for the following portfolios:

	Portfolio 1	Portfolio 2	Portfolio 3	Portfolio 4
Expected	10%	12%	11%	14%
Return				
Standard	14%	13%	12%	18%
Deviation				

Relative to the other portfolios, the portfolio that is not mean variance efficient is:

- A) Portfolio 4.
- B) Portfolio 2.
- C) Portfolio 1.
- D) Portfolio 3.

Question #3 of 51

A portfolio manager wants to purchase stocks with betas that are greater than the market beta. He has asked his analyst to evaluate two stocks, Stock X and Stock Y, and determine if their betas are greater than the market beta. The following information about Stocks X and Y is available to the analyst:

Stock XStock Y

Standard deviation of returns

0.15 0.16

Covariance between the return on the market and: 0.014 0.021

The return on the market is 0.12 and the standard deviation of returns on the market is 0.13.

Which of the stocks should the analyst recommend?

Test ID: 8291970

Recommend X Recommend Y

A) Yes Yes

B) Yes No

C) No No

D) No Yes

Question #4 of 51

The beta of stock D is -0.5. If the expected return of Stock D is 8%, and the risk-free rate of return is 5%, what is the expected return of the market?

- **A)** -1.0%.
- **B)** -4.0%.
- **C)** +3.0%.
- **D)** +3.5%.

Question #5 of 51

The market portfolio in the Capital Market Theory contains which types of investments?

- A) All stocks and bonds in existence.
- B) All risky assets in existence.
- C) All risky and risk-free assets in existence.
- D) All stocks in existence.

Question #6 of 51 Question ID: 438624

Gregg Goebel and Mason Erikson are studying for the Level I CFA examination. They have just started the section on Portfolio Management and Erikson is having difficulty with the equations for the covariance $(cov_{1,2})$ and the correlation coefficient $(r_{1,2})$ for two-stock portfolios. Goebel is confident with the material and creates the following quiz for Erikson. Using the information in the table below, he asks Erickson to fill in the question marks.

	Portfolio J	Portfolio K	Portfolio L
Number of Stocks	2	2	2
Covariance	?	$cov_{1,2} = 0.020$	$cov_{1,2} = 0.003$

Correlation coefficient	r _{1,2} = 0.750	?	?
Risk measure Stock 1	Std. Deviation ₁ = 0.08	Std. Deviation ₁ = 0.20	Std. Deviation ₁ = 0.18
Risk measure Stock 2	Std. Deviation ₂ = 0.18	Std. Deviation ₂ = 0.12	Variance ₂ = 0.09

Which of the following choices correctly gives the covariance for Portfolio J and the correlation coefficients for Portfolios K and L?

Portfolio J	Portfolio K	Portfolio L
A) 1.680	0.002	0.076
B) 1.680	0.833	0.056
C) 0.011	0.002	0.076
D) 0.011	0.833	0.056

Question #7 of 51 Question ID: 438598

Which of the following is an assumption of capital market theory? All investors:

- A) see the same risk/return distribution for a given stock.
- B) have multiple-period time horizons.
- C) select portfolios that lie above the efficient frontier to optimize the risk-return relationship.
- D) select portfolios that lie below the efficient frontier to optimize the risk-return relationship.

Question #8 of 51

Capital market theory is *least likely* to assume that:

- A) all investors have the same one-period time horizon.
- B) all investors desire to be the same location on the efficient frontier.
- C) it is possible to buy or sell fractional shares of an investment.
- D) investors can lend any amount of money at the risk-free rate.

Question #9 of 51 Question ID: 438597

Which of the following is NOT an assumption of capital market theory?

- A) Investors can lend at the risk-free rate, but borrow at a higher rate.
- B) The capital markets are in equilibrium.

- C) There are no taxes or transaction costs.
- D) Interest rates never change from period to period.

Question #10 of 51Question ID: 438592

If the standard deviation of the market's returns is 5.8%, the standard deviation of a stock's returns is 8.2%, and the covariance of the market's returns with the stock's returns is 0.003, what is the beta of the stock?

- A) 1.07.
- **B)** 0.89.
- **C)** 0.05.
- **D)** 1.12.

Question #11 of 51Question ID: 438585

A security's systematic risk is proportional to:

- A) the variance of its return.
- B) the standard deviation of its return.
- C) its diversifiable risk.
- **D)** the covariance of its return with the return on the market portfolio.

Question #12 of 51Question ID: 438605

The Capital Market Line (CML) shows that under certain assumptions, when a portfolio on the Markowitz efficient frontier is combined with an investment in a risk-free asset:

- **A)** the maximum attainable expected return results from a 100% allocation to the frontier portfolio and a 0% allocation to the risk-free asset.
- **B)** all portfolios on the Markowitz efficient frontier are dominated in terms of risk and return by a portfolio on the CML.
- C) there is a positive linear relationship between portfolio risk and expected return.
- **D)** a 100% allocation to the risk-free asset results in a portfolio with an expected return and standard deviation of zero.

Question #13 of 51Question ID: 438587

Which of the following statements about a stock's beta is **TRUE**? A beta greater than one is:

A) is riskier than the market, while a beta less than one is less risky than the market.

- B) overvalued, while a beta less than one is undervalued.
- C) risky, while a beta less than one is risk-free.
- D) undervalued, while a beta less than one is overvalued.

Question #14 of 51Question ID: 438576

Given the following data, what is the correlation coefficient between the two stocks and the Beta of stock A?

- standard deviation of returns of Stock A is 10.04%
- standard deviation of returns of Stock B is 2.05%
- standard deviation of the market is 3.01%
- covariance between the two stocks is 0.00109
- covariance between the market and stock A is 0.002

Correlation Coefficient	Beta (stock A)
A) 0.6556	0.06
B) 0.6556	2.20
C) 0.5296	0.06
D) 0.5296	2.20

Question #15 of 51Question ID: 438600

According to the capital asset pricing model, a negative risk premium:

- A) would only occur if the covariance of a security's return with the return on the market is positive.
- B) would only occur if the covariance of a security's return with the return on the market is negative.
- C) is an impossibility.
- D) would only occur if the covariance of a security's return with the return on the market is zero.

Question #16 of 51 Question ID: 438609

Portfolios that represent combinations of the risk-free asset and the market portfolio are plotted on the:

- A) utility curve.
- B) characteristic line.
- C) capital asset pricing line.
- D) capital market line.

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Question #17 of 51Question ID: 438578

Beta is least accurately described as:

- **A)** the covariance of a security's returns with the market return, divided by the variance of market returns.
- B) a standardized measure of the total risk of a security.
- C) a measure of the sensitivity of a security's return to the market return.
- D) the factor by which the market risk premium is multiplied in the Capital Asset Pricing Model.

Question #18 of 51Question ID: 438601

The assumption that returns are normally distributed means that investors:

- A) have the same horizon.
- B) do not need to consider transactions costs.
- C) are risk averse.
- **D)** only consider the mean and standard deviation of the returns.

Question #19 of 51Question ID: 438594

All of the following are assumptions of the capital asset pricing model EXCEPT:

- A) investors can borrow and lend at the same risk-free rate.
- B) the time horizons of investors are normally distributed.
- C) each investor seeks to maximize the expected utility of wealth at the end of his horizon.
- D) investors have the same expectations concerning returns.

Question #20 of 51Question ID: 438575

The expected rate of return is twice the 12% expected rate of return from the market. What is the beta if the risk-free rate is 6%?

- **A)** 5.
- **B)** 4.
- **C)** 3.
- **D)** 2.

Question #21 of 51Question ID: 438610

For an investor to move further up the Capital Market Line than the market portfolio, the investor must:

- A) diversify the portfolio even more.
- B) continue to invest only in common stocks.
- C) borrow and invest in the market portfolio.
- D) reduce the portfolio's risk below that of the market.

Question #22 of 51Question ID: 438599

Which of the following statements about asset pricing models is most accurate?

- A) Adding the risk-free asset to a portfolio will reduce return and total risk.
- **B)** It is difficult for the individual investor to achieve the benefits from diversification because significantly reducing risk requires the purchase of approximately 1,000 securities.
- **C)** According to the Capital Asset Pricing Model (CAPM), the expected rate of return of a portfolio with a beta of 1.0 is the market expected return.
- **D)** Assuming assets are not perfectly positively correlated, the systematic risk of a portfolio decreases as more assets are added.

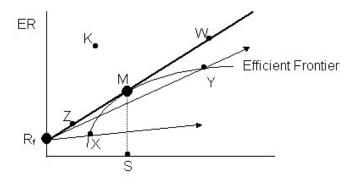
Question #23 of 51Question ID: 438602

Under the CAPM, which of the following can investors choose for their portfolios?

- I. The risk-free asset.
- II. The market portfolio.
- III. Assets that maximize return relative to asset-specific risk.
- IV. A portfolio (other than the market portfolio) on the efficient frontier of risky portfolios.
- A) II and III only.
- B) I, II and IV only.
- C) I and II only.
- D) I only.

Question #24 of 51Question ID: 438606

Consider the following graph of the risk-free asset R_f and the efficient frontier. The letters K, W, X Y, and Z represent risky portfolios. Portfolio M is the market portfolio. The lines R_fX and R_fY represent the combination of the risk-free asset and the risky portfolio.



Which of the following statements about the above graph is least accurate?

- A) Point S represents the standard deviation of returns on the market portfolio.
- **B)** Portfolio K is possible, but not the most efficient because it does not fall on the efficient frontier and is overvalued.
- C) Investors on the capital market line to the right of M are leveraged and hold more than 100% of portfolio
- **D)** Portfolios W and Z are perfectly positively correlated with each other.

Question #25 of 51Question ID: 438593

Which of the following statements about the security market line (SML) is *least* accurate?

- A) Securities that plot on the SML have no intrinsic value to the investor.
- B) Securities that plot above the SML are undervalued.
- C) The risk-free rate defines where the SML intersects the vertical axis.
- D) The market portfolio consists of all risky assets.

Question #26 of 51Question ID: 438615

The capital market line results from combining the efficient frontier with a risk-free asset. Given the availability of risky assets and a risk-free asset, the best combinations of risk and return are represented by:

- A) combinations of the market portfolio and minimum variance portfolio of risky assets.
- B) combinations of the minimum variance portfolio of risky assets and the risk-free asset.
- C) combinations of the market portfolio and risk-free borrowing or lending.
- **D)** the efficient frontier of risky assets.

Question #27 of 51Question ID: 438590

An analyst has developed the following data for two companies, PNS Manufacturing (PNS) and InCharge Travel (InCharge). PNS has an expected return of 15 percent and a standard deviation of 18 percent. InCharge has an expected return of 11 percent and a standard deviation of 17 percent. PNS's correlation with the market is 75 percent, while InCharge's correlation with the market

is 85 percent. If the market standard deviation is 22 percent, which of the following are the betas for PNS and InCharge?

Beta of PNS		Beta of InCharge
A)	0.66	0.61
B)	0.61	0.66
C)	0.92	1.10
D)	1.10	0.92

Question #28 of 51Question ID: 438613

The market portfolio in Capital Market Theory is determined by:

- A) a straight line drawn to any efficient portfolio.
- B) a line tangent to the efficient frontier, drawn from the risk-free rate of return.
- C) a line tangent to the efficient frontier, drawn from any point on the expected return axis.
- **D)** the intersection of the efficient frontier and the investor's highest utility curve.

Question #29 of 51Question ID: 438603

The slope of the capital market line (CML) is a measure of the level of:

- A) expected return over the level of inflation.
- B) excess return per unit of risk.
- C) inflation over the level of expected return.
- D) risk over the level of excess return.

Question #30 of 51Question ID: 438607

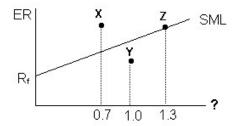
According to capital market theory, which of the following represents the risky portfolio that should be held by all investors who desire to hold risky assets?

- A) Any point on the efficient frontier and to the left of the point of tangency between the CML and the efficient frontier.
- B) The point of tangency between the capital market line (CML) and the efficient frontier.
- C) Any point on the efficient frontier and above the CML.
- **D)** Any point on the efficient frontier and to the right of the point of tangency between the CML and the efficient frontier.

Question #31 of 51Question ID: 438619

In the graph of the Security Market Line (SML) below (not drawn to scale):

- The letters X, Y, and Z represent risky asset portfolios.
- The SML crosses the y-axis at 5%.
- The market premium is 7.5%.
- Portfolio Y and Z have the same expected return (holding period return).



Using the graph and the list of assumptions, determine which of the following statements is most accurate.

- A) Portfolio X is overvalued.
- B) The expected return on Portfolio Y is 15%.
- C) The expected return on Portfolio Z is greater than the required return.
- D) The required return on Portfolio X is 10.25%.

Question #32 of 51Question ID: 438591

Given a beta of 1.10 and a risk-free rate of 5 percent, what is the expected rate of return assuming a 10 percent market return?

- **A)** 5.5%.
- **B)** 21.5%.
- **C)** 15.5%.
- **D)** 10.5%.

Question #33 of 51Question ID: 438623

An investor believes Stock M will rise from a current price of \$20 per share to a price of \$26 per share over the next year. The company is not expected to pay a dividend. The following information pertains:

- R_F = 8%
- ER_M = 16%
- Beta = 1.7

Should the investor purchase the stock?

- A) Yes, because it is overvalued.
- B) Yes, because it is undervalued.
- C) No, because it is undervalued.
- D) No, because it is overvalued.

Question #34 of 51Question ID: 438608

A portfolio to the right of the market portfolio on the capital market line (CML) is created by:

- A) fully diversifying.
- B) holding more than 100% of the risky asset.
- C) holding both the risk-free asset and the market portfolio.
- D) buying the risk-free asset.

Question #35 of 51Question ID: 438577

Which of the following statements regarding the Capital Asset Pricing Model is *least* accurate?

- A) Its accuracy depends upon the accuracy of the beta estimates.
- B) It relies on the existence of a risk-free asset.
- C) It is when the security market line (SML) and capital market line (CML) converge.
- D) It is useful for determining an appropriate discount rate.

Question #36 of 51 Question ID: 438574

Which of the following statements about risk is FALSE?

- A) The market portfolio consists only of systematic risk.
- B) Total risk = systematic risk unsystematic risk.
- C) Unsystematic risk is diversifiable risk.
- D) Systematic risk is undiversifiable risk.

Question #37 of 51Question ID: 438611

In the context of the CML, the market portfolio includes:

- A) risky stocks and bonds only.
- B) 12-18 stocks needed to provide maximum diversification.
- C) all existing risky assets.

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D) the risk-free asset.

Question #38 of 51Question ID: 438620

Luis Green is an investor who uses the security market line to determine whether securities are properly valued. He is evaluating the stocks of two companies, Mia Shoes and Video Systems. The stock of Mia Shoes is currently trading at \$15 per share, and the stock of Video Systems is currently trading at \$18 per share. Green expects the prices of both stocks to increase by \$2 in a year. Neither company pays dividends. Mia Shoes has a beta of 0.9 and Video Systems has a beta of (-0.30). If the market return is 15 percent and the risk-free rate is 8 percent, which trading strategy will Green employ?

Mia Shoes Video Systems

A)	Sell	Sell
B)	Buy	Sell
C)	Buy	Buy
D)	Sell	Buy

Questions #39-40 of 51

An analyst collected the following data for three possible investments.

Stock	Price Today	Forecasted Price*	Dividend	Beta
Alpha	25	31	2	1.6
Omega	105	110	1	1.2
Lambda	10	10.80	0	0.5
*Forecasted Price = expected price one year from today.				

The expected return on the market is 12% and the risk-free rate is 4%.

Question #39 of 51 Question ID: 438583

According to the security market line (SML), which of the three securities is correctly priced?

- A) None of the securities are correctly priced.
- B) Omega.
- C) Alpha.
- **D)** Lambda.

Question #40 of 51Question ID: 438584

Which of the three securities identified by Williams would plot on the capital market line(CML)?

A) Alpha.

- B) None of the securities would plot on the CML.
- C) Omega.
- D) Lambda.

Question #41 of 51Question ID: 438617

A stock is expected to earn a return of 10%, which is 6% greater than the risk-free rate. If the expected return on the market is 12% and the beta of the stock is 0.75, the stock *most likely*:

- A) is properly valued.
- B) will plot above the security market line.
- C) will plot below the security market line.
- D) is overvalued.

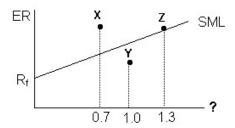
Question #42 of 51Question ID: 438596

Which is **NOT** an assumption of capital market theory?

- A) All investors have homogeneous expectations.
- B) Investments are not divisible.
- C) There is no inflation.
- **D)** There are no taxes or transaction costs.

Question #43 of 51Question ID: 438618

Consider the following graph of the Security Market Line (SML). The letters X, Y, and Z represent risky asset portfolios. The SML crosses the y-axis at the point 0.07. The expected market return equals 13.0%. *Note: The graph is NOT drawn to scale.*



Using the graph above and the information provided, which of the following statements is most accurate?

- A) The expected return (or holding period return) for Portfolio Z equals 14.8%.
- B) Portfolio X's required return is greater than the market expected return.
- C) The correct label for the x-axis is total risk.
- D) Portfolio Y is undervalued.

Question #44 of 51Question ID: 438621

Charlie Smith holds two portfolios, Portfolio X and Portfolio Y. They are both liquid, well-diversified portfolios with approximately equal market values. He expects Portfolio X to return 13% and Portfolio Y to return 14% over the upcoming year. Because of an unexpected need for cash, Smith is forced to sell at least one of the portfolios. He uses the security market line to determine whether his portfolios are undervalued or overvalued. Portfolio X's beta is 0.9 and Portfolio Y's beta is 1.1. The expected return on the market is 12% and the risk-free rate is 5%. Smith should sell:

- A) either portfolio X or Y because they are both properly valued.
- B) portfolio Y only.
- C) both portfolios X and Y because they are both overvalued.
- D) portfolio X only.

Question #45 of 51Question ID: 438604

Which of the following is the vertical axis intercept for the Capital Market Line (CML)?

- A) Risk-free rate.
- B) Expected return on the market.
- C) Expected return on the portfolio.
- D) Efficient frontier.

Question #46 of 51Question ID: 438616

The intercept and slope of the capital market line are:

- A) R_M and $[E(R_M) R_P] / \sigma_M$, respectively.
- **B)** R_M and $[E(R_P) R_F] / \sigma_P$, respectively.
- **C)** R_F and $[E(R_P) R_F] / \sigma_M$, respectively.
- **D)** R_F and $[E(R_M) R_F] / \sigma_M$, respectively.

Question #47 of 51Question ID: 438588

Total Quality Inc. has a beta of 1.15. If the expected return on the market is 12 percent, and the risk-free rate is 6 percent, what is the expected return for Total Quality?

- **A)** 12.90%.
- **B)** 14.00%.
- **C)** 10.15%.
- **D)** 11.69%.

Question #48 of 51Question ID: 438580

Jim Sheehan manages a diversified portfolio containing forty stocks. The portfolio beta is 1.05. Jim is considering adding the stock of ABC Inc. to the portfolio, and would fund the purchase with cash already in the portfolio. ABC Inc. has a beta of 1.20, and is currently not part of the portfolio. Which statement about the resulting portfolio is **TRUE**?

- A) Both systematic risk and unsystematic risk would be unchanged.
- B) Systematic risk would decrease, but the unsystematic risk would be unchanged.
- C) Both systematic risk and unsystematic risk would both increase.
- D) Systematic risk would increase, but the unsystematic risk would be unchanged.

Question #49 of 51Question ID: 438581

The expected rate of return is 1.5 times the 16% expected rate of return from the market. What is the beta if the risk free rate is 8%?

- **A)** 3.
- **B)** 5.
- **C)** 4.
- **D)** 2.

Question #50 of 51Question ID: 438612

All portfolios on the capital market line are:

- A) unrelated except that they all contain the risk-free asset.
- B) perfectly positively correlated.
- C) perfectly negatively correlated.
- D) distinct from each other.

Question #51 of 51Question ID: 438589

Which of the following statements about systematic and unsystematic risk is least accurate?

- **A)** The unsystematic risk for a specific firm is similar to the unsystematic risk for other firms in the same industry.
- B) Total risk equals market risk plus firm-specific risk.
- C) As compared to a less-diversified portfolio, a diversified portfolio has lower unsystematic risk.
- D) As an investor increases the number of stocks in a portfolio, the systematic risk will remain constant.