

Schweser Printable Answers - Session Portfolio Management: Capital Market Theory and the Portfolio Management Process

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Question 1 - #10779

Gina Manley, CFA, is a pension fund manager for Brooke and Associates. She manages the pension fund accounts for several small and medium-sized firms.

Company owner Herb Brooke has tasked Manley with reviewing the firm's asset-allocation policy. In the past, Brooke and Associates included large-company international stocks and large-company domestic stocks as part of the same asset class because they have similar risk and return properties, even though they have a low (0.4) correlation with each other. Venture capital was included as part of the small-company stock asset class because it has a high correlation (above 0.7) with small-company stocks, even though the risk of venture capital investments is far greater than the risk of small company stocks.

As part of her portfolio management duties, Manley has recently taken over two pension accounts from other fund managers. The first account is the Crandall Company pension account. In reviewing the investment policy for Crandall, she finds a statement that "the fund shall not directly use equity futures, nor shall it hire any outside money manager that uses equity futures as part of its investment strategy in managing the fund's assets."

The second new account Manley has recently acquired is the Cooper Company pension fund. The fund currently has a 70 percent allocation in equities, including 10 percent in Cooper stock, with the rest in bonds. The plan is currently underfunded. Manley believes the fund's equity portfolio, including the Cooper stock, will provide an annualized return of 8 percent over the next five years. The fund's long-term, investment-grade bonds should provide a 4 percent return.

Manley is also working with a new client, Chapman Inc., to set up a new pension fund. Manley's discussions so far have been directly with the owner, David Chapman. Manley has laid out for Chapman the advantages and disadvantages of defined-benefit plans and defined-contribution plans. She tells Chapman about the following characteristics of defined-contribution plans:

- The employee makes regular contributions to the fund.
- Benefits are based on formulas relating to employee earnings or length of service.
- The employee bears all of the investment risk.
- The employer has no financial obligation beyond making contributions.

Chapman is comfortable with Brooke and Associates, likes Manley's work, and decides to set up a defined contribution plan. In the process of gathering data, Manley discovers the following information about Chapman Inc.:

- The company is five years old.
- Most of Chapman's employees graduated from college less than 10 years ago.
- Stock options represent a significant portion of most employees' compensation.
- The median annual salary of Chapman employees is \$65,000.

David Chapman and two of his vice presidents plan to retire within the next two years.

Part 1)

Which of the following is *least likely* to be an investment constraint for the Chapman pension fund?

- A) Liquidity.
- B) Taxes.
- C) Investment horizon.
- D) Regulations.

Your answer: A was incorrect. The correct answer was B) Taxes.

Given the tax-deferred status of pension funds, taxes are usually not an important issue. Liquidity constraints depend on the age of the work force, and must be given consideration. A pension fund's investment horizon also depends on the age of the work force and whether or not the firm is a going concern. While the work force is mostly young, the firm does have some older workers, and thus cannot ignore liquidity and time horizons. Pension funds are regulated under the Employee Retirement Income Security Act (ERISA), and as such are subject to strict rules.

Part 2)

Regarding the Cooper Company pension plan, Manley's *best* course of action is to:

- A) lower the fund's equity allocation, but not sell the Cooper stock, as such a large sale would drive the price down.
- B) increase the allocation to equities because risk diminishes over time.
- C) maintain the current equity allocation, and diversify the bond portfolio by purchasing some Treasury bills.
- D) lower the fund's equity allocation by selling the Cooper stock.

Your answer: A was incorrect. The correct answer was D) lower the fund's equity allocation by selling the Cooper stock.

Manley's fiduciary duty is to the beneficiaries of the plan, not the company. While holding the Cooper stock may benefit the shareholders, it is unlikely to benefit the employees. The company stock provides an undiversified position that is correlated with the employees' human capital and should be sold. An equity allocation of 70% would be considered high for most pension plans (the average is around 50%), so while diversifying the bond holdings may be a good move, maintaining the equity weighting is not. Some thought could be given to the fact that the plan is underfunded, and that the plan needs growth. In this situation, the plan also needs to protect the existing assets from too much risk so that the underfunding situation is not exacerbated. In this case, reducing the equity weight to an average level and increasing contributions would be the best course of action.

Part 3)

Which of the following is the *best* justification for Crandall Company's futures policy?

- A) The use of futures is inconsistent with the Prudent Expert Rule of ERISA.
- B) Futures are used to manage short-term risks, and the fund should be concerned with long-term risks.
- C) Futures are used mainly for speculative purposes.
- D) The pension plan has 60% of its holdings in bonds and plans to continue that allocation.

Your answer: A was incorrect. The correct answer was B) Futures are used to manage short-term risks, and the fund should be concerned with long-term risks.

Most futures transactions are used to manage short-term risks and those transactions might not impact long-term risks. Futures are often used to hedge equity holdings, and nothing in the Prudent Expert Rule would prohibit their use under the proper circumstances. The fund's bond holdings are irrelevant, as long as there are equity holdings for which futures could be used to hedge risk.

Part 4)

Which of Chapman's statements regarding defined-contribution plans is **FALSE**?

- A) The employee makes regular contributions to the fund.
- B) The employee bears all of the investment risk.
- C) The employer has no financial obligation beyond making contributions to the plan.
- D) Benefits are based on formulas relating to employee earnings or length of service.

Your answer: A was incorrect. The correct answer was D) Benefits are based on formulas relating to employee earnings or length of service.

In a defined-contribution plan, the employee typically makes regular contributions to a fund that the company matches according to some formula, such as a percentage of current pay. The employee bears all of the investment risk in a defined contribution plan, and the employer has no financial obligation beyond making regular contributions on behalf of qualifying employees.

Part 5)

Regarding its asset classes, Brooke and Associates' *best* course of action is to:

- A) separate venture capital as a unique asset class, but leave international stocks in the large-company stock class.
- B) separate both venture capital and international stocks as unique asset classes.
- C) separate international stocks as a unique asset class, but leave venture capital in the small-company stock class.
- D) leave international stocks in the large-company stock class and venture capital in the small-company stock class.

Your answer: A was incorrect. The correct answer was B) separate both venture capital and international stocks as unique asset classes.

It is easier to optimize portfolios using asset classes with different risk characteristics and low correlation with other asset classes. None of the answers are wrong, but separating international stocks and venture capital into their own classes allows for the most precise optimization.

Part 6)

Which of the following represents the *most appropriate* asset allocation for Chapman's pension fund?

- A) 60% large-cap stocks, 30% small-cap stocks, 10% foreign stocks.
- B) 40% investment-grade bonds, 30% small-cap stocks, 20% large-cap stocks, 10% venture capital.
- C) 40% large-cap stocks, 30% high-yield bonds, 20% investment-grade bonds, 10% real estate.
- D) 30% large-cap stocks, 45% investment-grade bonds, 25% high-yield bonds.

Your answer: A was incorrect. The correct answer was B) 40% investment-grade bonds, 30% small-cap stocks, 20% large-cap stocks, 10% venture capital.

No matter how young the work force, an all-equity investment mix is inappropriate for a pension fund, which is always going to have at least a slight need for liquidity (particularly when the chairman and his lieutenants retire), and must be managed in such a way as to reduce risk. However, the youth of Chapman's work force suggests a 70% weighting in bonds is too conservative. The mix of large-cap stocks and investment-grade and high-yield bonds is attractive, but most of Chapman's employees are both young and well-paid, suggesting they have a high risk tolerance as well as low liquidity demands. The best option is the mix of investment-grade bonds, small-cap and large-cap stocks, and venture capital, the portfolio that probably offers the highest total return. There is nothing wrong with taking some risks in a pension plan, as long as those risks are well considered and suitable given the characteristics of the work force.

Question 2 - #10688

Ricardo Gonzalez, CFA, has worked for 25 years as a portfolio manager for Becker & Associates. As he nears retirement, he works exclusively with younger associates to share his knowledge of portfolio management. Currently, Gonzalez is working with Stu Blair, who recently graduated with a finance degree. Gonzalez is teaching Blair how risk affects a client's portfolio, how investors differ in their preferences toward risk, and how those preferences affect the advice Becker & Associates gives its clients.

To illustrate risk assessment to Blair, Gonzalez pulls up some data regarding client risk tolerance:

- Client A's indifference curve is tangent to the capital market line at a point to the right of where the CML touches the efficient frontier.
- Client B's portfolio consists of high-yield bonds and a mix of large and small-cap stocks from a variety of market sectors.
- Client B has recently increased the number of stocks in her portfolio in an effort to limit risk. She now holds 25 stocks, all of which are from her home country.

To illustrate another side of risk, Gonzalez pulls up some data for two stocks:

- King's Pools and Spas Inc., is a publicly traded manufacturer of luxury pools, spas, and sporting equipment.
- Midwest Electric and Gas is publicly traded and provides utility service to residential and business customers throughout the Midwest.
- The variance of returns for these companies is identical.

Gonzalez invites Blair to draw conclusions about risk from the client information, and from that for King's Pools and Spas and Midwest Electric and Gas.

Blair is also asked to make recommendations for the portfolio of Client C. His portfolio contains ten large-cap domestic stocks from cyclical industry sectors and two mutual funds containing a diversified mix of investment-grade U.S. bonds.

Part 1)

The positioning of Client A's indifference curve suggests his optimal portfolio is:

- A) about 100% invested in the market portfolio.
- B) less aggressive than Client B's portfolio.
- C) more than 100% invested in the market portfolio.
- D) about 50% invested in the market portfolio and about 50% invested in the risk-free asset.

Your answer: A was incorrect. The correct answer was C) more than 100% invested in the market portfolio.

Investors whose indifference curves touch the CML to the right of the market portfolio have above average tolerance for risk. They will be willing to borrow funds to invest more than 100% of their equity in the market portfolio.

Part 2)

Which of the following is **NOT** another name for unsystematic risk?

- A) Unique risk.
- B) Diversifiable risk.
- C) Firm-specific risk.
- D) Market risk.

Your answer: A was incorrect. The correct answer was D)

Market risk.

Unsystematic risk is company-specific and can be diversified away, and it is commonly referred to as diversifiable, unique, and firm-specific risk.

Part 3)

Which of the following pieces of advice given to Client B is likely to be the **BEST**?

- A) She should add more domestic stocks to her portfolio to increase diversification benefits.
- B) She should add some foreign stocks to improve the portfolio's risk-return trade-off.
- C) She should sell some of her current stocks to boost returns without lowering the standard deviation.
- D) If she believes her portfolio is too risky, she should sell some of the junk bonds.

Your answer: A was incorrect. The correct answer was B) She should add some foreign stocks to improve the portfolio's risk-return trade-off.

Academic studies have shown that as you increase the number of stocks in a portfolio, the portfolio's risk falls toward the market level of risk. Most available evidence suggests that it takes somewhere between 12 and 30 stocks to diversify away most of the unsystematic risk. Client B's 25 domestic stocks are within the range, so she has probably reached the limit of the benefits available via further diversification with domestic stocks. High-yield (junk) bonds are less risky than stocks, and the stock-bond mix offers a diversification benefit of its own. Since foreign stocks are likely to have a relatively low correlation with the assets currently held in her portfolio, she can probably improve her portfolio's risk-return trade-off by adding foreign stocks.

Part 4)

The stock market compensates investors for:

- A) unsystematic risk.
- B) both systematic and unsystematic risk.
- C) credit risk.
- D) systematic risk.

Your answer: A was incorrect. The correct answer was D) systematic risk.

Since unsystematic risk is risk that can easily be diversified away, the market does not reward investors for

assuming unsystematic risk. Systematic risk cannot be diversified away, and is thus reflected in stock prices. Credit risk affects bond investors, but has little effect on the stock market. Credit risk can, however, have a profound effect on individual equities, especially those of companies that are heavily leveraged.

Part 5)

Which of the following statements about King's Pools and Spas and Midwest Electric and Gas is *most likely* to be **TRUE**?

- A) Both stocks are equally risky because their variance of returns is the same.
- B) King's Pools and Spas, Inc., should offer shareholders a higher rate of return than Midwest Electric and Gas.
- C) Adding King's Pools and Spas to a portfolio consisting of Midwest Electric and Gas must increase the portfolio's risk.
- D) Both stocks have the same systematic risk, but King's Pools and Spas has more unsystematic risk.

Your answer: A was incorrect. The correct answer was B) King's Pools and Spas, Inc., should offer shareholders a higher rate of return than Midwest Electric and Gas.

King's Pools and Spas operates in cyclical industry would most likely have a higher level of market risk (systematic risk) than Midwest Electric and Gas. Thus, King's Pools and Spas should offer shareholders a higher rate of return than Midwest Electric and Gas. The similarity in variance of returns does not accurately reflect risk in the context of a portfolio. Adding King's Pools and Spas to a pool company to a portfolio that contains only shares of Midwest may increase portfolio risk, but it could also decrease portfolio risk. We can only be sure if we know how the returns of the two securities are correlated.

Part 6)

Blair wishes to substantially reduce Client C's systematic risk while maintaining equity market exposure. Which of the following portfolio additions is *most likely* to accomplish his goal?

- A) A mutual fund containing high-yield foreign bonds.
- B) A mutual fund containing large-cap foreign stocks.
- C) Covered call options on all of the portfolio's stocks.
- D) A dozen small-cap U.S. utility stocks.

Your answer: A was incorrect. The correct answer was D) A dozen small-cap U.S. utility stocks.

All of the portfolio additions could reduce risk in some way. However, systematic risk is measured by beta, and the only way to reduce the systematic risk of a portfolio is by moving into low-beta investments. Foreign stocks are likely to have higher than average betas. In addition, foreign bonds tend to be more volatile than U.S. securities to a U.S.-based investor. The utility stocks seem to offer the best overall solution to reducing systematic risk. This is because whether they are small-cap or large-cap, utilities tend to have low betas and less market sensitivity than other stocks.

Question 3 - #10708

Jim Williams, CFA, manages individual investors' portfolios for Clarence Farlow Associates. Clarence Farlow Jr., CEO of Clarence Farlow Associates, is looking for some new investment ideas. Farlow is obsessive about value, however, and never buys stocks that look expensive. He has assigned Williams to assess the investment merits of several securities. Specifically, Williams has 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
*Forecast Price = expected price one year from today.				

Williams plans to value the three securities using the security market line, and has assembled the following information for use in his valuation:

- Securities markets are in equilibrium.

- The prime interest rate is expected to rise by about 2% in the year ahead.
- Inflation is expected to be 1% over the upcoming year.
- The expected return on the market is 12% and the risk-free rate is 4%.
- The market portfolio's standard deviation is 40%.

Williams eventually decides to construct a portfolio consisting of 10 shares of Alpha, 2 shares of Omega, and 20 shares of Lambda.

Part 1)

Williams calculates the expected 12-month return for Alpha. The return is *closest* to:

- A) 38.4%.
- B) 24.0%.
- C) 32.0%.
- D) 25.8%.

Your answer: A was incorrect. The correct answer was C) 32.0%.

The expected return (ER) is calculated as: $(\text{ending price} - \text{beginning price} + \text{any dividends}) / \text{beginning price}$.
For alpha, the expected return = $(31 - 25 + 2) / 25 = 32\%$.

Part 2)

Which of the three securities identified by Williams would plot on the Capital Market Line (CML)?

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

Your answer: A was incorrect. The correct answer was D) None of the securities would plot on the CML.

Individual security returns do not plot on the CML. The CML illustrates the risk/reward relationship between combinations of the market portfolio and the riskless asset.

Part 3)

Based on valuation via the SML, which of the following statements is **TRUE**?

- A) Williams should buy Alpha but not Omega.
- B) Neither Alpha nor Lambda is correctly priced.
- C) Both Alpha and Omega are overpriced.
- D) None of the stocks is underpriced.

Your answer: A was incorrect. The correct answer was A) Williams should buy Alpha but not Omega.

SML valuation hinges on the relationship between the expected return (ER) and required return (RR).

$$\text{ER} = (\text{ending price} - \text{beginning price} + \text{dividends}) / \text{beginning price}.$$

$$\text{RR} = \text{RFR} + \beta (\text{RMkt} - \text{RFR}).$$

- For Alpha: $\text{ER} = (31 - 25 + 2) / 25 = 32\%$, $\text{RR} = 4 + 1.6 (12 - 4) = 16.8\%$.

Since $\text{ER} > \text{RR}$, stock is underpriced.

- For Omega: $\text{ER} = (110 - 105 + 1) / 105 = 5.7\%$, $\text{RR} = 4 + 1.2 (12 - 4) = 13.6\%$.

Since $\text{ER} < \text{RR}$, stock is overpriced.

- For Lambda: $\text{ER} = (10.8 - 10 + 0) / 10 = 8\%$, $\text{RR} = 4 + 0.5 (12 - 4) = 8\%$.

Since $\text{ER} = \text{RR}$, stock is correctly priced.

Part 4)

The covariance of Omega with the market portfolio is *closest* to:

- A) 0.576.
- B) 0.192.
- C) 0.480.
- D) 0.375.

Your answer: A was incorrect. The correct answer was B) 0.192.

Beta = $\text{cov}_{i,M} / \text{market portfolio variance}$, so $\text{cov}_{i,M} = 1.2 \times (0.4)^2 = 0.192$.

Part 5)

Williams calculates the required return for Omega. The required return is *closest* to:

- A) 5.7%.
- B) 12.0%.
- C) 14.6%.
- D) 13.6%.

Your answer: A was incorrect. The correct answer was D) 13.6%.

The required return (RR) uses the equation of the SML: risk-free rate + Beta x (expected market rate - risk-free rate). For Omega, $RR = 4 + 1.2 \times (12 - 4) = 13.6\%$. The expected return of 5.7% need not be the same as the required return under CAPM.

Part 6)

The expected 12-month return of William's three stock portfolio is *closest* to:

- A) 16.36%.
- B) 15.24%.
- C) 13.03%.
- D) 13.12%.

Your answer: A was incorrect. The correct answer was A) 16.36%.

The expected return represents the weighted average return of the assets in the portfolio. First, we need to calculate the individual asset weightings:

- 10 shares of Alpha = \$250.
- 2 shares of Omega = \$210.
- 20 shares of Lambda = \$200.

The total portfolio is worth \$660.

- Alpha weighting is $250 / 660 = 37.88\%$.
- Omega weighting is $210 / 660 = 31.82\%$.
- Lambda weighting is $200 / 660 = 30.30\%$.

Expected returns are calculated as follows:

(Forecast price - current price + dividends) / current price.

Expected returns are 32% for Alpha, 5.7% for Omega, and 8% for Lambda.

The portfolio return is the weighted average return of the three stocks:

$(37.88\% \times 32\%) + (31.82\% \times 5.7\%) + 30.30\% \times 8\% = 16.36\%$.

Question 4 - #10711

Janet Bellows, a portfolio manager, is attempting to explain asset valuation to a junior colleague, Bill Clay. Bellows explanation focuses on the capital asset pricing model (CAPM). Of particular interest is her discussion of the security market line (SML), and its use in security selection.

Bellows begins with a short review of the capital asset pricing model, including a discussion about its assumptions regarding transaction costs, taxes, holding periods, return requirements, and borrowing and lending at the risk-free rate.

Bellows then illustrates the SML, and explains how changes in the expected market return and the risk-free rate affect the line. In an effort to learn whether Clay understands the concepts she has explained to him, Bellows decides to test Clay's knowledge of valuation using the CAPM.

Bellows provides the following information for Clay:

- The risk-free rate is 7 percent.
- The market risk premium during the previous year was 5.5 percent.
- The standard deviation of market returns is 35 percent.
- This year, the market risk premium is estimated to be 7 percent.
- Stock A has a beta of 1.30 and is expected to generate a 15.5 percent return.
- The covariance of Stock B with the market is 0.18.
- The standard deviation of Stock B's returns is 41 percent.

Using this information, Clay must calculate expected stock returns and betas. Bellows especially wants to know Stock A's required return, and whether or not the stock is a good buy.

Bellows then proposes a hypothetical situation to Clay: The stock market is expected to return 12.5 percent next year. Clay questions that return estimate in the context of the data listed above, and Bellows responds with four possible explanations for the estimate:

- The estimated risk premium is incorrect.
- Interest rates are likely to fall 1.5 percent over the next year.
- Given the data above, the return estimate is correct.
- The market beta is expected to rise over the next year.

Then Bellows provides Clay with the following information about Ohio Manufacturing, Texas Energy, and Montana Mining:

<i>Stock</i>	<i>Ohio</i>	<i>Texas</i>	<i>Montana</i>
Beta	0.50	XX%	1.50
Required Return	10.5%	11.0%	XX%
Expected Return	12.0%	10.0%	15.0%
Expected S&P 500 return	14.0%		

Clay has been tasked with providing an investment recommendation on the three stocks.

Part 1)

Based on the stock and market data provided above, which of the following data regarding Stock A is **TRUE**?

	<u>Required 12-month return</u>	<u>Investment advice</u>
A)	16.1%	Buy.
B)	14.15%	Sell.
C)	14.15%	Buy.
D)	16.1%	Sell.

Your answer: A was incorrect. The correct answer was D)
16.1% Sell.

$$ER_{\text{stock}} = R_f + \beta_{\text{stock}} (ER_M - R_f) = 7\% + 1.3 (14\% - 7\%) = 16.1\%.$$

The market risk premium for the upcoming year should be used in the calculation. Stock A's required return is higher than its expected return, and as such the stock plots below the security market line. Stock A should be sold, not bought.

Part 2)

The beta of Stock B is *closest* to:

- A) 1.47.
- B) 0.51.

- C) 1.07.
- D) 0.44.

Your answer: A was incorrect. The correct answer was A) 1.47.

$$\text{Beta} = (\text{covariance of stock B with the market}) / (\text{variance of the market portfolio})$$

$$= 0.18 / (0.35)^2 = 1.47.$$

Part 3)

Which of the following represents the *best* investment advice?

- A) Buy Montana because it is expected to return more than Texas, Ohio, and the market portfolio.
- B) Buy Texas and Ohio because their betas are lower than that of Montana.
- C) Avoid Texas because its expected return is lower than its required return.
- D) Buy Montana and Texas because their required return is lower than their expected return.

Your answer: A was incorrect. The correct answer was C) Avoid Texas because its expected return is lower than its required return.

We can use the security market line (SML) to estimate the required return or beta on the various securities, and compare this with the expected returns.

The SML looks like this: $E(r) = R_f + \beta (RPM)$.

Since Montana's beta is 1.50: $7.0 + 1.50(7.0) = 17.5$ percent = the required return. Because Montana's expected return is 15.0 percent, and the required return is 17.5 percent, Montana should not be purchased. Note that this is true even though Montana's expected return is more than the other stocks and the market: it is not enough to compensate for the level of market risk assumed by holding the stock.

Texas' required return = $11.0 = 7.0 + \beta(7.0)$, so $\beta = 4/7 = 0.57$. However, its expected return is less than the required return, so regardless of the beta value, Texas should not be purchased.

Ohio's required return is given as 10.5, and the expected return is 12.0. Hence, Ohio is a buy.

Part 4)

Assuming the market return estimate of 12.5 percent is accurate, which of the following statements is the best explanation for the estimate?

- A) Interest rates are likely to fall 1.5 percent over the next year.
- B) Given the data above, the return estimate is correct.
- C) The market beta is expected to rise over the next year.
- D) The estimated risk premium is incorrect.

Your answer: A was incorrect. The correct answer was D) The estimated risk premium is incorrect.

The expected return on the market during the upcoming year is 14 percent (7 percent risk-free rate plus the expected 7 percent market risk premium). As such, the 12.5 percent estimate does not match the data. The most rational justification for a lower expected return is an error in the estimated risk premium. Falling interest rates may boost expected stock returns, but the current rate is the most relevant to the projected market return for the upcoming year. The market beta by definition is 1.0, and this does not change.

Part 5)

With regards to the capital asset pricing model, relaxing assumptions about:

- A) Taxes will reduce differences between the capital market lines of different investors.
- B) Holding periods makes beta more difficult to determine.
- C) Transaction costs will make investors more likely to sell, and less likely to hold.
- D) Borrowing and lending rates makes the market risk premium more difficult to determine.

Your answer: A was incorrect. The correct answer was B) Holding periods makes beta more difficult to determine.

Relaxing the assumption that all investors have the same time horizon allows different investors to have

different security market lines – the SML becomes a band, not a line. Beta is used to derive the SML, and conversely, beta can be derived using points on the SML. By allowing for different SML equations, it becomes impossible to determine an accurate beta for a given security. Taxes change investors' return expectations. Considering different marginal tax rates will result in a vast array of different after-tax requirements, leading to a vast array of CMLs and SMLs for different investors. The assumption of no transaction costs allows investors to make a profit even if a stock is just slightly off the SML. Add transaction costs into the mix, and investors will not sell stocks close to the SML unless the profit exceeds the transaction costs. As such, investors will be more likely to hold, rather than sell, because stocks that could be sold for a profit under the pure CAPM cannot be sold for a profit after transaction costs. The market risk premium is derived from the expected market return and the risk-free rate, neither of which are dependent on an investor's ability to lend and borrow at the risk-free rate.

Part 6)

If the market risk premium decreases by 1 percent, while the risk-free rate remains the same, the security market line:

- A) becomes steeper.
- B) becomes flatter.
- C) parallel-shifts upward.
- D) parallel-shifts downward.

Your answer: A was incorrect. The correct answer was B) becomes flatter.

Since the security market line runs from the risk-free rate (RFR) through the market return, holding the RFR constant and decreasing the market risk premium will cause the SML to become flatter.

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