ECON 133 – Securities Markets – FALL 2010, UCSC

Practice Questions for Midterm 1

You work at the top ranked, wildly popular investment firm, SLUG ASSET MANAGEMENT ("SAM"). You already have 4 clients!!

The forecast for the market in the coming year is as follows:

Market Scenario	Probability of Occurrence	Stock Market Return	Bond Market Return
Bull Market	40%	20%	5%
Neutral Market	30%	10%	7%
Bear Market	30%	-5%	4%

You also see in the WSJ (which you of course subscribe to) that T-bills are currently yielding 3% and that the bank's prime rate is 5%. [1] Use this information to answer questions 1 – 5.

1. You are asked to provide the summary of expected returns to both stocks and bonds across all the scenarios and the risk to that estimate is in terms of standard deviations. What is your response?

2. Client #1 has stated that his current portfolio, which totals $5 million, is currently comprised of $1.5 million in risk free T-bills, $2,275,000 in stocks, and $1,225,000 in bonds. What is the client's total portfolio expected return and risk for the next year?

3. Client #2 has a $10 million portfolio, but with the same investment percentages as Client #1. Client #2 is particularly speculative and wants to know what would happen if he left his risky portfolio allocations unchanged, but rather borrowed an additional 25% in order to leverage the portfolio. What would the expected risk and return metrics look like for Client #2?

4. Client #3, who has a risky portfolio comprised of 60% in stocks and 40% in bonds, wants to know how best to combine this portfolio with risk free securities to achieve a portfolio with a total expected risk of no more than 5%. How would you construct such a portfolio? What would the portfolio's expected return be?

[1] Questions 1 -5 follow the scenario format of Professor S. Sury, Santa Clara University MBA Program.

5. Finally, Client #4 is rather feisty and tells you that he wants you to construct a portfolio with the highest expected return but that also has an approximate 84% confidence of being positive in any given year. He is willing to diversify into the risk-free portfolio but also wants to maintain the relative percentage in the risky portfolio unchanged. Currently he has 45% of his risky portfolio in stocks and 55% of his risky portfolio in bonds. How would you construct such a portfolio? **(Hint: Think how 68-95-99 rule applies in this case).**

6. Berkshire Hathaway Inc. (BRK-A)'s beta is found to be 0.65. Suppose expected market return is 15% and risk-free rate is 5%.

a) What is the expected return to buying a share of BRK-A?

b) If BRK-A now sells at $100,000 per share, what is the expected per share price in one year?

c) Explain why the following state is not true: BRK-A should not be included in your portfolio because its beta is lower than 1.

7. Based on current dividend yields and expected capital gains, the expected rates of return on portfolios A and B are 11% and 14% respectively. The beta of A is 0.8 while that of B is 1.5. The T-Bill rate is currently 6%, while the expected rate of return of the S&P 500 Index is 12%. The standard deviation of portfolio A is 10% annually, while that of B is 31%, and that of the index is 20%.

a) If you currently hold a market index portfolio, would you choose to add either of these portfolios to your holdings? Explain.

b) If instead you could invest only in T-bills and one these portfolios, which one would you choose? Explain.