ECON 133 – Securities Markets – FALL 2010, UCSC

HOMEWORK # 3 (Due Friday Oct. 15, BEGINNIG OF CLASS)

Questions 1 -6 follow the scenario format of Professor Sharath Sury, Santa Clara University MBA Program.

You work at the top ranked, wildly popular investment firm, SLUG ASSET MANAGEMENT ("SAM"). Your boss has just promoted you to the role of client portfolio manager, with a commensurate salary of $165,000. So, you'd better do a good job.

You have received the following report from the firm's Chief Economist, Mr. Geek Nerdlinger. The report describes his forecast for the market in the coming year. The information is as follows:

Market Scenario	Probability of Occurrenc	Return in that Scenario
Bear Market	20%	-5%
Neutral Market	20%	10%
Bull Market	60%	20%

You also see in the WSJ (which you of course subscribe to) that T-bills are currently yielding 5% and that the bank's prime rate is 7%.

1. What are the expected returns and risks on the risky portfolio and the risk free portfolios?

2. Draw the diagram of the risk-return tradeoff between investing in the risky portfolio, the risk free portfolio and all points in between. What is the reward-to-variability ratio (slope)?

3. What would the expected return and risk be for a portfolio invested 25% in the risk free portfolio and 75% in the risky portfolio.

4. What would the expected return and risk be for a portfolio invested 125% in the risky portfolio?

5. Now, you have a client, Mr. Demanding, who says that he NEEDS a 12% rate of return. How do you structure a portfolio to generate that? How much risk must you assume? What does that mean that the range of returns might be?

6. Mr. & Mrs. Slowsky, who rarely come out of their shells, tell you "I WANT NO MORE THAN 8% RISK." How do you structure a portfolio for them, and what is the best return you can generate by assuming that level of risk?

7. **CH.6.CFA.3** Abigail Grace has a $900,000 fully diversified portfolio. She subsequently inherits ABC Company common stock worth $100,000. Her financial adviser provided her with the following estimates:

Risk and Return Characteristics:

	Expected Monthly Returns	Std. Dev. of Monthly Returns
Original Portfolio	0.67%	2.37%
ABC Company	1.25	2.95

The correlation coefficient of ABC stock returns with the original portfolio returns is 0.40.

a) The inheritance changes Grace's overall portfolio and she is deciding whether to keep the ABC stock.
   Assuming Grace keeps the ABC stock, calculate the:
   i) Expected return of her new portfolio which includes the ABC stock.
   ii) Covariance of ABC stock returns with the original portfolio returns.
   iii) Standard deviation of her new portfolio which includes the ABC stock.

b) If Grace sells the ABC stock, she will invest the proceeds in risk-free government securities yielding 0.42% monthly. Assuming Grace sells the ABC stock and replaces it with government securities, calculate the:

   i) Expected return of her new portfolio which includes the government securities.
   ii) Covariance of the government security returns with the original portfolio returns.
   iii) Standard deviation of her new portfolio which includes the government securities.

8. ***The Myth of the Rational Market*, Chapter 5 Question:** According to the theory advanced in William Sharpe's dissertation, what was the key to a security's returns?