DEPARTMENT OF FINANCE AND STATISTICS

Portfolio Management Time: 4 h

Exam on August 26th, 2010. Calculator allowed

The exam gives a maximum of 50 points (10 points for each question).

1. Explain the difference between geometric and arithmetic average returns using a numerical example. Which method would You use to make a forecast on future performance (or would You use both)? Then explain the difference between Time-weighted and Dollar-weighted returns (use a numerical example).

2. Are equity markets efficient? Give an overview of the evidence presented on this matter. What is personal belief regarding the informational efficiency of equity markets? Would You pick stocks actively or would You prefer a low-cost index fund if You had some money to invest?

3. Explain the Markowitz Portfolio Selection Model. Use Expected return - Standard deviation charts as support for Your written review of the model. Also explain how we can find the optimal risky portfolio if (i) there is no riskfree asset, (ii) the riskfree borrowing rate is higher than the riskfree lending rate.

4. A fund manager knows that her fund currently is well diversified and that it has a CAPM beta of 1.0. The risk-free rate is 8 percent and the CAPM risk premium is 6.2 percent. She has been learning about APT measures of risk and knows that there are (at least) two factors: changes in the industrial production index, δ_1, and unexpected inflation, δ_2. The APT equation is

E(Ri) = 0.08 + 0.05bi1 + 0.11bi2.

a) If her portfolio currently has a sensitivity to the first factor of b_{p1} = -0.5, what is its sensitivity to unexpected inflation?

b) If the fund manager rebalances her portfolio to keep the same expected return but to reduce the exposure to inflation to zero, what would the portfolio's sensitivity to the first factor be?

5. You have the following information on two securities in which you have invested:

Security	Expected Return	Standard Deviation	Beta	% Invested
A	15%	4.5%	1.20	35%
B	12%	3.8%	0.98	65%

a) Which stock is a better buy in a portfolio context? Which stock would you buy if you are considering them as individual assets?

b) Compute the expected return on the portfolio.

c) If the securities have a correlation of +0.60, compute the standard deviation of the portfolio.

d) Compute the beta of the portfolio.

GOOD LUCK !!!