Assignment 3

This assignment is a bit of a change of pace. Question 1) is based on the reading "Using Macro economic Factors to Control Portfolio risk". Question 2) is based on Evaluation measures.

1) Read "Using Macro economic Factors to Control Portfolio risk". When they discuss the APT essentially, they are referring to a multi–factor model. Section III — the equations of the APT, just goes through the framework that they are using (what a factor model is). Section V gives a concrete example. Section VII gives some examples of how to use factor models.

To fix ideas: Suppose that you have a portfolio with $250,000 invested in Reebok and $750,000 invested in the S&P500.

   a) What is the Risk Exposure profile for your portfolio? (Useful data is on p12).
   b) What is the contribution of Business Cycle Risk to your portfolios expected return? (p9)
   c) What is the expected return on your portfolio if the 30–day T–Bill rate is 5% per year?
   d) Suppose that there was an unexpected inflation of 2.0% per year. How would be actual return on your portfolio be affected?

2) This question is based on a proposed new system for ranking the risk of funds. In an article in the WSJ, Feb. 10, 1997, Morgan Stanley's employee Leah Modigliani with her grandfather Franco Modigliani (the famous one) have proposed a new system:

To measure that risk-adjusted return, which will be expressed as a simple percentage figure, Morgan Stanley tweaks a fund's portfolio until the volatility exactly equals that of a bench market like Standard & Poor's 500 – stock index. To do so, they either increase or decrease exposure to stocks. Once that's done, the yield on the new hypothetical portfolio equals the risk–adjusted return.

For more details on the debate, see the Economist article.

   a) Briefly relate this measure to the Sharpe Index. Will this give different rankings — why or why not?
   b) Relate this measure to the Treynor Index. Will this give different rankings — why or why not?