

ISyE/Math 6783 Homework 4

Due **12:05pm**, Tuesday, March 15, 2016.

Problem Description.

1. Download data sets that are attached in this assignment:
m_sp500ret_3mtcm.txt and m_logret_10stocks.txt.
The first file contains monthly returns of the S&P500 and the rates of the 3-month U. S. Treasury bill from January 1994 to December 2006. The second file contains the monthly log returns of ten stocks.
2. Fit CAPM to the ten stocks. Give the 95% confidence interval of α (intercept term) and β (slope) by assuming that the random errors are normally distributed.
3. Use the bootstrap procedure to re-estimate α and β as well as their standard deviations and 99% confidence intervals.
4. In the above cases, discuss the result of hypothesis testing with $H_0 : \alpha = 0$.