

**Fin 533 Homework**  
**Due Tuesday September 29**

**Note: An equation sheet for test 2 is now available.**

You manage a pension fund and are considering three mutual funds. The first is a stock fund with an expected return of 20% and standard deviation of returns of 30%; the second is a bond fund with an expected return of 12%, standard deviation of 15%; and the third is a T-bill money market fund that yields a rate of 8%. The correlation between the returns of the risky funds (stock fund and bond fund) is 0.10.

1. What are the investment proportions in the minimum-variance portfolio of the two risky funds, and what is the expected value and standard deviation of its rate of return?
2. What is the reward-to-variability of the best feasible CAL? (first, you must solve for the proportions of the stock and bond funds in the optimal risky portfolio and then calculate the portfolio's expected return and standard deviation).
3. You require that your portfolio yield an expected return of 14%, and that it be efficient, on the best feasible CAL.
  - a. What is the standard deviation of your portfolio?
  - b. What is the proportion invested in the T-bill fund and each of the two risky funds?