Problem Set 2
Corporate Finance, Sections 001 and 002
Due Thursday, February 5th

Suggested problems:

RWJ Problems 5.5, 5.6, 5.8, 5.10
(use revised problems on http://finance.wharton.upenn.edu/~jwachter/fnce100)

Required problems:

1. Suppose you bought a five-year zero-coupon Treasury bond for $800 per $1000 face value.

   (a) What is the yield to maturity (annual compounding) on the bond?
   (b) Assume the yield to maturity on the three-year zero-coupon bond is the same as the yield to maturity on the five-year bond. What is the price of the three-year bond?

2. (a) Suppose that you have purchased a 3-year zero-coupon bond with face value of $1000 and a price of $850. If you hold the bond to maturity, what is your annual return?

   (b) Now suppose you have purchased a 3-year bond with face value of $1000, a 7% annual coupon, and a price of $975. Is the yield to maturity greater or less than the annual return you computed for the bond in part (a)?

3. Suppose you bought a five-year zero-coupon Treasury bond for $800 per $1000 face value. Answer the following questions:

   (a) What is the yield to maturity (annual compounding) on the bond?
   (b) Assume the yield to maturity on comparable bonds increases to 7% after you purchase the bond and remains there. Calculate your holding period return (annual return) if you sell the bond after one year.
   (c) Assuming yields to maturity on comparable bonds remain at 7%, calculate your holding period return if you sell the bond after two years.
   (d) Suppose after 3 years, the yield to maturity on comparable bonds declines to 3%. Calculate the holding period return if you sell the bond at that time.
   (e) If the yield remains at 3%, calculate your holding period after four years.
   (f) After five years.
   (g) What explains the relationship between holding period returns calculated in (b) through (f) and the yield to maturity in (a)?

   Over Please ...

4. For each of the bonds and reinvestment rates listed below calculate the amount of money accumulated at the end from a \$1000 initial investment. Assume annual compounding.

   (a) Invest \$1000 in a 5-year zero coupon bond with a yield to maturity of 9 percent.

   (b) Buy a 5-year 9% annual coupon bond at par (\$1000) and reinvest the annual coupons at 9%.

   (c) Same as (b) but reinvest the annual coupons at 12%.

   (d) Same as (b) but reinvest the annual coupons at 6%.

   (e) For (a) through (d) calculate the holding period return. What can you conclude about the relationship between yield to maturity and holding period return?