

Problem Set

Financial Concepts II: Term Structure of Interest rates

October 12, 2007

1. The yield on a one-year pure discount bond is 5.11% and the rate on a two-year pure discount bond is 5.11%. What is the one-year forward rate one year ahead?

2. Suppose the current prices for one- and two-year annual coupon bonds are as in the following table:

	Coupon	Price
One-year bond	3%	98
Two-year bond	2%	97

2.a. What is the yield to maturity for each of the two bonds?\*

2.b. What are the implied zero coupon rates for one and two years?

2.c. Is each of these bonds selling at a premium, discount or par?

3. In March 2007, the average 3-month U.S. Treasury rate (bond equivalent) was 4.56% and the average 10-year U.S. Treasury rate was 5.07%. What could this be saying about market expectations for real growth and inflation? Why might things be different now, as compared with earlier periods from which statistical evidence has been drawn?

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\* Note: In case it is helpful, the quadratic formula to solve for  $x$  in the equation  $ax^2 + bx + c = 0$

is  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ .