

Homework Assignment # 8 (max. points = 20)
Due at the beginning of class on Thursday April 10, 2008

Please show your work - enough to show that you understand how to do the problem. Circle your final answer. Full credit can only be given only if the answer and work leading to the answer are correct.

1. Find the price of these bonds, all redeemable at par, and order them from lowest price to greatest price. These bonds make semiannual payments.
 - (a) A 10-year 100, 5% bond yielding 7.2%
 - (b) A 10-year 100, 5.5% bond yielding 7.7%
 - (c) A 12-year 100, 5% bond yielding 7.2%
 - (d) A 12-year 100, 5.5% bond yielding 7.7%
2. For each of the bonds in problem 1, find the price-plus-accrued and quoted price of these bonds after 3.25 years if the market yield for each bond dropped to 6% compounded semiannually.
3. Consider a 10-year zero-coupon bond with a face value of \$1,000. Assume the effective annual interest rate is initially 8%. To what would the interest rate have to instantaneously increase in order for this bond to decrease in value by 25%?
4. Consider a three-year bond, with a \$1,000 face value and a 9% coupon rate paid semi-annually, which was bought to yield 7% convertible semi-annually. Find the amount of amortization of premium during the bonds third half-year (i.e., between the second and third coupon payments).
5. A 30-year 6% semi-annual coupon bond with a face value of \$1,000 has a price of \$925. Find this bonds annual yield to maturity.
6. A 10-year 7% annual coupon bond has a face value of \$1,000. When you originally purchased this bond, the effective annual interest rate was 8%. Suppose that five years after purchase, the effective annual interest rate is 5%. What is the difference between the book and market values of the bond five years after purchase?
7. A 15-year 10% annual coupon bond has a face value of \$1,000. When you originally purchased this bond, the effective annual interest rate was 9%. Determine the proportion of the original bond premium which will have been amortized during the first five years after purchase.
8. A 15-year 8% bond has semi-annual coupons and a face amount of 100. It is quoted at a purchase price of 80. Find the yield rate.
9. Suppose the bond from question 8 was issued January 10, 2001 and was sold to a new investor for a *quoted* price of 105 on June 17, 2005. Find the yield rate for the new investor.

10. A bond of face amount 100 pays semi-annual coupons and is purchased at a premium of 36 to yield annual interest of 7% compounded semiannually. The amount of amortization of premium in the 5th coupon is 1.00. What is the term of the bond?