

DEPARTMENT OF FINANCE, INSURANCE, & LAW
COLLEGE OF BUSINESS
ILLINOIS STATE UNIVERSITY
FIL 242 – Investments
Ahlgim

Group HW #4
 Due before Thanksgiving break
 (Friday, November 20th)

Let's practice some bond pricing questions. If you use Excel, send me a spreadsheet at kahlgim@ilstu.edu. If you don't use Excel, SHOW ALL WORK (what values are you entering for the five variables)!!!

1. Price the following bonds:

| Bond | Face value | Coupon | Yield | Maturity | Coupon Frequency |
|-------------|-------------------|---------------|--------------|-----------------|-------------------------|
| A | \$1,000 | 8% | 7% | 20 years | Semiannual |
| B | \$5,000 | 14% | 18% | 12 years | Semiannual |
| C | \$4,000 | 9% | 12% | 11 years | Quarterly |

2. Find the yields on the following bonds:

| Bond | Price | Face | Coupon | Maturity |
|-------------|--------------|-------------|---------------|-----------------|
| D | \$1,100 | \$1,000 | 4% | 8 years |
| E | \$4,400 | \$5,000 | 8.5% | 16 years |
| F | \$4,000 | \$10,000 | 0% | 10 years |

3. Suppose Ahlgim Corporation issued bonds on January 1, 2004. The bonds were sold at face value (\$1,000 each), had a 12% coupon, and a 30 year maturity.
- What was the yield on the issue date?
 - Suppose that five years later (on January 1, 2009), interest rates were 10%. What was the price of the bond on that date?
 - Suppose you want to buy the bond on April 1, 2009, when the yield is 15%. How much would the bond cost you? (HINT: This question is more difficult. The bond's price represents the value of future cash flows. You cannot use Excel's PV function to do this.)
4. Consider a 3-year bond paying a 10% coupon with a face value of \$1,000.
- Find the bond's price today if the yield is 8%.
 - Find the bond's price in 6 months if the yield is 7%.
 - Use your answers to a. and b. to find the bond's HPR over this 6-month period.
5. Suppose a callable bond has 25 years to maturity, but can be called in at par plus 8%. The yield-to-maturity on the bond is 9.8%, the face value is \$1,000, and the coupon rate is 12.2%. What is the yield-to-call on this bond?
- Assume the bond can be called in 5 years
 - Assume the bond can be called in 10 years