Chapter 17 Questions: Financial Markets.

1. Consider a one year bond with a coupon rate of 4 percent, and a maturity value of $10,000. What is the effective yield on this bond if the selling price today is:
   a. $9,500
   b. $10,000
   c. $10,200.

2. Consider a 5 year zero coupon bond with a maturity value of $10,000. What is the effective yield on this bond if the selling price today is:
   a. $9,000.
   b. $9,500.

Your answers to (1) and (2) should reveal that, as the price of a bond rises, its yield falls.

3. Suppose that you buy a one year bond from a corporation with a maturity value of $1000 and a coupon rate of 5 percent. You pay $950 for the bond. You estimate that there is a 5 percent chance that the company will default on the bond.
   a. What is the yield on this bond if it is held to maturity and there is no default?
   b. What is the expected yield on this bond (use the expected value formula)?
   c. If the government issued a bond with a 5 percent coupon rate and you estimate that there is 0 percent chance that the government will default on the bond, what yield would the government bond have to offer to have the same expected yield as that on the corporate bond mentioned above? What price would this government bond sell for?

Your answers to 3a-c should demonstrate that (i) default risk reduces the expected yield on bonds; and (ii) to compete with risk free bonds, companies that have some default risk must offer a “risk premium”.

4. If you thought that the price of wheat was going to fall dramatically in the near future, would this make you more likely to buy or sell a futures contract? put option? call option? Why?

5. Suppose one year bond rates are 6 percent this year, and it is expected that one year bond rates will be 7 percent next year, and 8 percent the year after that.
   a. What should 2 year bond rates be this year?
   b. What should 3 year bond rates be this year?
   c. Draw the yield curve for 1, 2 and 3 year bonds given this set of expectations.
   d. Suppose that there is new information that leads you to believe that bond rates will be 5 percent next year and 4 percent the year after that. Draw the new yield curve.

Your answers to 5a-d should demonstrate that if interest rates are expected to rise over time, the yield curve will slope upwards. If they are expected to fall over time, the yield curve will slope downwards. Thus, the slope of the yield curve reflects the financial market’s expectations regarding the movement of interest rates in the future.

Other questions:
6. How does “diversification” reduce risk? Why should you look for assets with “negatively correlated” returns to get the greatest reduction in risk?
7. What determines the “fundamental value” of a stock?
8. What is a capital gain or loss?
Answers to 1-5.
1a. 9.5%; b. 4.0%; c. 2.0%
2a. 2.1%; b. 1.0%
3a. 10.5%
   b. 5%
c. 5 percent yield and a price of $1000.
4. If the price of wheat was going to fall, you should be more likely to sell a futures contract, sell a call, and buy a put. If the price of wheat was expected to rise, you should do the reverse.
5a. 6.5%; b. 7.0%.