Chapter Nineteen Exercises

1. Carefully explain why someone who expects the price of gold to rise from from $1,000/ ounce now to $1,100 an ounce a year from now might prefer paying $1,050/ounce for a one-year gold futures contract to paying $1,000/ounce for gold today.

2. Many savings and loan associations have short-term deposits and long-term mortgages. Will their net worth (the market value of their assets minus the market value of their liabilities) decline if interest rates go up or go down? Explain which of the following actions are appropriate and which are inappropriate if they want to insulate their net worth from the effects of changes in interest rates:
    a. lengthen the maturity of their assets
    b. issue more variable rate mortgages
    c. buy 30-year zero-coupon bonds
    d. buy bond futures
    e. buy call options on Treasury bonds
    f. buy put options on Treasury bonds

3. In 1997 many pension funds grew increasingly nervous about their stock portfolios as price-earnings ratios approached all-time highs. Which of the following could they have purchased and which could they have sold to protect themselves from a collapse in stock prices:
    a. stock-index call options
    b. stock-index put options
    c. stock-index futures

4. In November 1984, Professor Stephen Figlewski was quoted in *The New York Times* as saying that stock index futures are so new and complex that the market is not yet dominated by arbitragers and other professionals, and is consequently not yet efficient.

    According to Professor Figlewski, a simple formula tells what the stock index future's price should be, if the market were efficient. Take whatever the index is, say 100, and add the interest rate that an investor would make on his money if it were invested in a money market fund or Treasury bills, say 10 percent. Then subtract the dividend rate, for example 4 percent. In this case the answer is 106, so if index futures were selling above or below that, then clearly the market is inefficient, Professor Figlewski said.

    Clearly explain the logic behind the professor's formula. If, in the above example, the index future were selling for less than 106, how could you make a safe profit larger than that available on Treasury bills?

5. Suppose that the term structure is flat. If a firm swaps a fixed-rate loan for a floating-rate loan, is this transaction an implicit bet that interest rates will rise or fall in the future?