FINM2063 Introduction to Finance

Chapter 10 Exercises

1. The futures price of gold is $1,000. Futures contracts are for 100 ounces of gold, and the margin requirement is $5,000 a contract. The maintenance margin requirement is $1,500. You expect the price of gold to rise and enter into a contract to buy gold.
2. How much must you initially remit?
3. If the futures price of gold rises to $1,055, what is the profit and return on your position?
4. If the futures price of gold declines to $978, what is the loss on the position?
5. If the futures price declines to $948, what must you do?
6. If the futures price continues to decline to $932, how much do you have in your account?
7. You expect the stock market to increase, but instead of acquiring stock, you decide to acquire a stock index futures contract. That index is currently 58.8, and the contract has a value that is $500 times the amount of the index. The margin requirement is $2,500.
   1. When you make the contract, how much must you put up?
   2. What is the value of the contract based on the index?
   3. If the value of the index rises 1% to 59.39, what is the profit on the investment? What is the percentage earned on the funds you put up?
   4. If the value of the index declines 1% to 58.2, what percentage of your funds will you lose?
   5. What is the percentage you earn (or lose) if the index falls to 53.8?
8. You expect to receive a payment of 1 million British pounds after six months. The pound is currently worth $1.60 (£1 = $1.60), but the futures price is $1.56 (£1 = $1.56). You expect the price of the pound to decline (that is, the value of the dollar to rise). If this expectation is fulfilled, you will suffer a loss when the pounds are converted into dollars when you receive them six months in the future.
   1. Given the current exchange rate, what is the expected payment in dollars?
   2. Given the future exchange rate, how much would you receive in dollars?
   3. If, after six months, the pound is worth $1.40, what is your loss from the decline in the value of the pound?
   4. To avoid this potential loss, you enter a contract for the future delivery of pounds at the futures price of $1.56. What is the cost to you of this protection from the possible decline in the value of the pound?
   5. If, after entering the contract, the price of the pound falls to $1.40, what is the maximum amount that you lose? (Why is your answer different from your answer to part *c*?)
   6. If, after entering the contract, the price of the pound rises to $1.80, how much do you gain from your position?
   7. How would your answer to part *f* be different if you had not made the contract and the price of the pound had risen to $1.80?