ANSWERS TO END-OF-CHAPTER PROBLEMS
WITHOUT ASTERISKS

CHAPTER 1

Why Study Money, Banking, and Financial Markets?

7. The basic activity of banks is to accept deposits and make loans.

9. The interest rate on three-month Treasury bills fluctuates more than the other interest rates and is lower on average. The interest rate on Baa corporate bonds is higher on average than the other interest rates.

11. Higher stock prices means that consumers’ wealth is higher and so they will be more likely to increase their spending.

13. It makes British goods more expensive relative to American goods. Thus American businesses will find it easier to sell their goods in the United States and abroad and the demand for their products will rise.

15. When the dollar increases in value, foreign goods become less expensive relative to American goods; thus you are more likely to buy French-made jeans than American-made jeans. The resulting drop in demand for American-made jeans because of the strong dollar hurts American jeans manufacturers. On the other hand, the American company that imports jeans into the United States now finds that the demand for its product has risen, so it is better off when the dollar is strong.
CHAPTER 2
An Overview of the Financial System

2. Yes, I should take out the loan, because I will be better off as a result of doing so. My interest payment will be $4,500 (90% of $5,000), but as a result, I will earn an additional $10,000, so I will be ahead of the game by $5,500. Since Larry’s loan-sharking business can make some people better off, as in this example, loan sharking may have social benefits. (One argument against legalizing loan sharking, however, is that it is frequently a violent activity.)

4. The principal debt instruments used were foreign bonds which were sold in Britain and denominated in pounds. The British gained because they were able to earn higher interest rates as a result of lending to Americans, while the Americans gained because they now had access to capital to start up profitable businesses such as railroads.

6. You would rather hold bonds, because bondholders are paid off before equity holders, who are the residual claimants.

10. They might not work hard enough while you are not looking or may steal or commit fraud.

12. True. If there are no information or transactions costs, people could make loans to each other at no cost and would thus have no need for financial intermediaries.

14. A ranking from most liquid to least liquid is (a), (b), (c), and (d). The ranking is similar for the most safe to the least safe.
CHAPTER 3

What is Money?

1. (b)

3. Cavemen did not need money. In their primitive economy, they did not specialize in producing one type of good and they had little need to trade with other cavemen.

5. Wine is more difficult to transport than gold and is also more perishable. Gold is thus a better store of value than wine and also leads to lower transactions cost. It is therefore a better candidate for use as money.

7. Not necessarily. Checks have the advantage in that they provide you with receipts, are easier to keep track of, and may make it harder for someone to steal money out of your account. These advantages of checks may explain why the movement toward a checkless society has been very gradual.

8. The ranking from most liquid to least liquid is: (a), (c), (e), (f), (b), and (d).

10. Because of the rapid inflation in Brazil, the domestic currency, the real, is a poor store of value. Thus many people would rather hold dollars, which are a better store of value, and use them in their daily shopping.

14. (a) M1, M2, and M3, (b) M2 and M3 for retail MMFs and M3 for institutional MMFs, (c) M3, (d) M2 and M3, (e) M3, (f) M1, M2, and M3.
CHAPTER 4

Understanding Interest Rates

2. No, because the present discounted value of these payments is necessarily less than $20 million as long as the interest rate is greater than zero.

4. The yield to maturity is less than 10 percent. Only if the interest rate was less than 10 percent would the present value of the payments add up to $4,000, which is more than the $3,000 present value in the previous problem.

6. $25\% = \frac{\$1,000 - \$800}{\$800} = \frac{\$200}{\$800} = .25.$

8. If the interest rate were 12 percent, the present discounted value of the payments on the government loan are necessarily less than the $1,000 loan amount because they do not start for two years. Thus the yield to maturity must be lower than 12 percent in order for the present discounted value of these payments to add up to $1,000.

10. The current yield will be a good approximation to the yield to maturity whenever the bond price is very close to par or when the maturity of the bond is over ten years.

12. You would rather be holding long-term bonds because their price would increase more than the price of the short-term bonds, giving them a higher return.

14. People are more likely to buy houses because the real interest rate when purchasing a house has fallen from 3 percent ($= 5\% - 2\%$) to 1 percent ($= 10\% - 9\%$). The real cost of financing the house is thus lower, even though mortgage rates have risen. (If the tax deductibility of interest payments is allowed for, then it becomes even more likely that people will buy houses.)
CHAPTER 5

The Behavior of Interest Rates

1. (a) Less, because your wealth has declined; (b) more, because its relative expected return has risen; (c) less, because it has become less liquid relative to bonds; (d) less, because its expected return has fallen relative to gold; (e) more, because it has become less risky relative to bonds.

3. (a) More, because it has become more liquid; (b) less, because it has become more risky; (c) more, because its expected return has risen; (d) more, because its expected return has risen relative to the expected return on long-term bonds, which has declined.

5. The rise in the value of stocks would increase people’s wealth and therefore the demand for Rembrandts would rise.

7. In the loanable funds framework, when the economy booms, the demand for bonds increases: the public’s income and wealth rises while the supply of bonds also increases, because firms have more attractive investment opportunities. Both the supply and demand curves (B and D) shift to the right, but as is indicated in the text, the demand curve probably shifts less than the supply curve so the equilibrium interest rate rises. Similarly, when the economy enters a recession, both the supply and demand curves shift to the left, but the demand curve shifts less than the supply curve so that the interest rate falls. The conclusion is that interest rates rise during booms and fall during recessions: that is, interest rates are procyclical. The same answer is found with the liquidity preference framework. When the economy booms, the demand for money increases: people need more money to carry out an increased amount of transactions and also because their wealth has risen. The demand curve, M, thus shifts to the right, raising the equilibrium interest rate. When the economy enters a recession, the demand for money falls and the demand curve shifts to the left, lowering the equilibrium interest rate. Again, interest rates are seen to be procyclical.

10. Interest rates fall. The increased volatility of gold prices makes bonds relatively less risky relative to gold and causes the demand for bonds to increase. The demand curve, Bd, shifts to the right and the equilibrium interest rate falls.

12. Interest rates might rise. The large federal deficits require the Treasury to issue more bonds; thus the supply of bonds increases. The supply curve, Bs, shifts to the right and the equilibrium interest rate rises. Some economists believe that when the Treasury issues more bonds, the demand for bonds increases because the issue of bonds increases the public’s wealth. In this case, the demand curve, Bd, also shifts to the right, and it is no longer clear that the equilibrium interest rate will rise. Thus there is some ambiguity in the answer to this question.

14. The price level effect has its maximum impact by the end of the first year, and since the price level does not fall further, interest rates will not fall further as a result of a price level effect. On the other hand, expected inflation returns to zero in the second year, so that the expected inflation effect returns to zero. One factor producing lower interest rates thus disappears, so, in the second year, interest rates may rise somewhat from their low point at the end of the second year.

16. If the public believes the president’s program will be successful, interest rates will fall. The president’s announcement will lower expected inflation so that the expected return on goods decreases relative to bonds. The demand for bonds increases and the demand curve, Bd, shifts to the right. For a given nominal interest rate, the lower expected inflation means that the real interest rate has risen, raising the cost of borrowing so that the supply of bonds falls. The resulting leftward shift of the supply curve, Bs, and the rightward shift of the demand curve, Bd, causes the equilibrium interest rate to fall.
18. Interest rates will rise. The expected increase in stock prices raises the expected return on stocks relative to bonds and so the demand for bonds falls. The demand curve, $B^d$, shifts to the left and the equilibrium interest rate rises.

20. The slower rate of money growth will lead to a liquidity effect, which raises interest rates, while the lower price level, income, and inflation rates in the future will tend to lower interest rates. There are three possible scenarios for what will happen: (a) if the liquidity effect is larger than the other effects, then interest rates will rise; (b) if the liquidity effect is smaller than the other effects and expected inflation adjusts slowly, then interest rates will rise at first but will eventually fall below their initial level; and (c) if the liquidity effect is smaller than the expected inflation effect and there is rapid adjustment of expected inflation, then interest rates will immediately fall.
CHAPTER 6
The Risk and Term Structure of Interest Rates

1. The bond with a C rating should have a higher interest rate because it has a higher default risk, which reduces its demand and raises its interest rate relative to that on the Baa bond.

3. During business cycle booms, fewer corporations go bankrupt and there is less default risk on corporate bonds, which lowers their risk premium. Similarly, during recessions, default risk on corporate bonds increases and their risk premium increases. The risk premium on corporate bonds is thus anticyclical, rising during recessions and falling during booms.

5. If yield curves on average were flat, this would suggest that the risk premium on long-term relative to short-term bonds would equal zero and we would be more willing to accept the expectations hypothesis.

7. (a) The yield to maturity would be 5 percent for a one-year bond, 5.5 percent for a two-year bond, 6 percent for a three-year bond, 6 percent for a four-year bond, and 5.8 percent for a five-year bond; (b) the yield to maturity would be 5 percent for a one-year bond, 4.5 percent for a two-year bond, 4 percent for a three-year bond, 4 percent for a four-year bond, and 4.2 percent for a five-year bond. The upward- and then downward-sloping yield curve in (a) would tend to be even more upward sloping if people preferred short-term bonds over long-term bonds because long-term bonds would then have a positive risk premium. The downward- and then upward-sloping yield curve in (b) also would tend to be more upward sloping because of the positive risk premium for long-term bonds.

9. The steep upward-sloping yield curve at shorter maturities suggests that short-term interest rates are expected to rise moderately in the near future because the initial, steep upward slope indicates that the average of expected short-term interest rates in the near future are above the current short-term interest rate. The downward slope for longer maturities indicates that short-term interest rates are eventually expected to fall sharply. With a positive risk premium on long-term bonds, as in the preferred habitat theory, a downward slope of the yield curve occurs only if the average of expected short-term interest rates is declining, which occurs only if short-term interest rates far into the future are falling. Since interest rates and expected inflation move together, the yield curve suggests that the market expects inflation to rise moderately in the near future but fall later on.

11. The government guarantee will reduce the default risk on corporate bonds, making them more desirable relative to Treasury securities. The increased demand for corporate bonds and decreased demand for Treasury securities will lower interest rates on corporate bonds and raise them on Treasury bonds.

13. Abolishing the tax-exempt feature of municipal bonds would make them less desirable relative to Treasury bonds. The resulting decline in the demand for municipal bonds and increase in demand for Treasury bonds would raise the interest rates on municipal bonds, while the interest rates on Treasury bonds would fall.

15. The slope of the yield curve would fall because the drop in expected future short rates means that the average of expected future short rates falls so that the long rate falls.
1. The value of any investment is found by computing the value today of all cash flows the investment will generate over its life.

3. $1/(1+.15) + $20/(1+.15) = $18.26

5. A stock market bubble can occur if market participants either believe that dividends will have rapid growth or if they substantially lower the required return on their equity investments, thus lowering the denominator in the Gordon model and thereby causing stock prices to climb. By raising interest rates the central bank can cause the required rate of return on equity to rise, thereby keeping stock prices from climbing as much. Also raising interest rates may help slow the expected growth rate of the economy and hence of dividends, thus also keeping stock prices from climbing.

7. Although Joe’s expectations are typically quite accurate, they could still be improved by his taking account of a snowfall in his forecasts. Since his expectations could be improved, they are not optimal and hence are not rational expectations.

9. True, as an approximation. If large changes in a stock price could be predicted, then the optimal forecast of the stock return would not equal the equilibrium return for that stock. In this case, there would be unexploited profit opportunities in the market and expectations would not be rational. Very small changes in stock prices could be predictable, however, and the optimal forecast of returns would equal the equilibrium return. In this case, an unexploited profit opportunity would not exist.

11. The stock price will rise. Even though the company is suffering a loss, the price of the stock reflects an even larger expected loss. When the loss is less than expected, efficient markets theory then indicates that the stock price will rise.

13. Probably not. Although your broker has done well in the past, efficient markets theory suggests that she has probably been lucky. Unless you believe that your broker has better information than the rest of the market, efficient markets theory indicates that you cannot expect the broker to beat the market in the future.

15. False. All that is required for the market to be efficient so that prices reflect information on the monetary aggregates is that some market participants eliminate unexploited profit opportunities. Not everyone in a market has to be knowledgeable for the market to be efficient.

17. Because inflation is less than expected, expectations of future short-term interest rates would be lowered, and as we learned in Chapter 7, long-term interest rates would fall. The decline in long-term interest rates implies that long-term bond prices would rise.

19. No, because this expected change in the value of the dollar would imply that there is a huge unexploited profit opportunity (over a 100% expected return at an annual rate). Since rational expectations rules out unexploited profit opportunities, such a big expected change in the exchange rate could not exist.