

# **PART THREE**

  

## **Answers to End-of-Chapter Problems**



# Chapter 1

## Why Study Money, Banking, and Financial Markets?

2. The data in Figures 1, 2, 3, and 4 suggest that real output, the inflation rate, and interest rates would all fall.
4. You might be more likely to buy a house or a car because the cost of financing them would fall, or you might be less likely to save because you earn less on your savings.
6. No. It is true that people who borrow to purchase a house or a car are worse off because it costs them more to finance their purchase; however, savers benefit because they can earn higher interest rates on their savings.
7. The basic activity of banks is to accept deposits and make loans.
8. They channel funds from people who do not have a productive use for them to people who do, thereby resulting in higher economic efficiency.
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.
10. The lower price for a firm's shares means that it can raise a smaller amount of funds, so investment in facilities and equipment will fall.
11. Higher stock prices means that consumers' wealth is higher, and they will be more likely to increase their spending.
12. It makes foreign goods more expensive, so British consumers will buy fewer foreign goods and more domestic goods.
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.
14. In the mid- to late 1970s and in the late 1980s and early 1990s, the value of the dollar was low, making travel abroad relatively more expensive; thus it was a good time to vacation in the United States and see the Grand Canyon. With the rise in the dollar's value in the early 1980s, travel abroad became relatively cheaper, making it a good time to visit the Tower of London.
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

1. The share of Microsoft stock is an asset for its owner, because it entitles the owner to a share of the earnings and assets of Microsoft. The share is a liability for Microsoft, because it is a claim on its earnings and assets by the owner of the share.
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.)
3. Yes, because the absence of financial markets means that funds cannot be channeled to people who have the most productive use for them. Entrepreneurs then cannot acquire funds to set up businesses that would help the economy grow rapidly.
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.
5. This statement is false. Prices in secondary markets determine the prices that firms issuing securities receive in primary markets. In addition, secondary markets make securities more liquid and thus easier to sell in the primary markets. Therefore, secondary markets are, if anything, more important than primary markets.
6. You would rather hold bonds, because bondholders are paid off before equity holders, who are the residual claimants.
7. Because you know your family member better than a stranger, you know more about the borrower's honesty, propensity for risk taking, and other traits. There is less asymmetric information than with a stranger and less likelihood of an adverse selection problem, with the result that you are more likely to lend to the family member.
9. Loan sharks can threaten their borrowers with bodily harm if borrowers take actions that might jeopardize their paying off the loan. Hence borrowers from a loan shark are less likely to increase moral hazard.
10. They might not work hard enough while you are not looking or may steal or commit fraud.
11. Yes, because even if you know that a borrower is taking actions that might jeopardize paying off the loan, you must still stop the borrower from doing so. Because that may be costly, you may not spend the time and effort to reduce moral hazard, and so the problem of moral hazard still exists.

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.
13. Because the costs of making the loan to your neighbor are high (legal fees, fees for a credit check, and so on), you will probably not be able earn 5% on the loan after your expenses even though it has a 10% interest rate. You are better off depositing your savings with a financial intermediary and earning 5% interest. In addition, you are likely to bear less risk by depositing your savings at the bank rather than lending them to your neighbor.
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.
15. Increased discussion of foreign financial markets in the U.S. press and the growth in markets for international financial instruments such as Eurodollars and Eurobonds.

## Chapter 3

### What Is Money?

1. (b)
2. Because the orchard owner likes only bananas but the banana grower doesn't like apples, the banana grower will not want apples in exchange for his bananas, and they will not trade. Similarly, the chocolatier will not be willing to trade with the banana grower because she does not like bananas. The orchard owner will not trade with the chocolatier because he doesn't like chocolate. Hence, in a barter economy, trade among these three people may well not take place, because in no case is there a double coincidence of wants. However, if money is introduced into the economy, the orchard owner can sell his apples to the chocolatier and then use the money to buy bananas from the banana grower. Similarly, the banana grower can use the money she receives from the orchard owner to buy chocolate from the chocolatier, and the chocolatier can use the money to buy apples from the orchard owner. The result is that the need for a double coincidence of wants is eliminated, and everyone is better off because all three producers are now able to eat what they like best.
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.
4. Because a check was so much easier to transport than gold, people would frequently rather be paid by check even if there was a possibility that the check might bounce. In other words, the lower transactions costs involved in handling checks made people more willing to accept them.
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.
6. Because money was losing value at a slower rate (the inflation rate was lower) in the 1950s than in the 1970s, it was then a better store of value, and you would have been willing to hold more of it.
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).
9. Money loses its value at an extremely rapid rate in hyperinflation, so you want to hold it for as short a time as possible. Thus money is like a hot potato that is quickly passed from one person to another.
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.

11. Not necessarily. Although the total amount of debt has predicted inflation and the business cycle better than M1 or M2, it may not be a better predictor in the future. Without some theoretical reason for believing that the total amount of debt will continue to predict well in the future, we may not want to define money as the total amount of debt.
13. M1 contains the most liquid assets. M2 is the largest measure.
14. (a) M1 and M2, (b) M2, (c) M2, (d) M1 and M2.
15. Revisions are not a serious problem for long-run movements of the money supply, because revisions for short-run (one-month) movements tend to cancel out. Revisions for long-run movements, such as one-year growth rates, are thus typically quite small.

## Chapter 4

### Understanding Interest Rates

1. Less. It would be worth  $1/(1 + 0.20) = \$0.83$  when the interest rate is 20%, rather than  $1/(1 + 0.10) = \$0.91$  when the interest rate is 10%.
2. No, because the present discounted value of these payments is necessarily less than \$10 million as long as the interest rate is greater than zero.
3.  $\$1,000/(1 + 0.10) + \$1,210/(1 + 0.10)^2 + \$1,331/(1 + 0.10)^3 = \$3,000$
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.
5.  $\$2,000 + \$100/(1 + i) + \$100/(1 + i)^2 + \dots + \$100/(1 + i)^{20} + \$1,000/(1 + i)^{20}$ .
6.  $25\% = (\$1,000 - \$800)/\$800 = \$200/\$800 = 0.25$ .
7. 14.9%, derived as follows: The present value of the \$2 million payment five years from now is  $\$2/(1 + i)^5$  million, which equals the \$1 million loan. Thus  $1 = 2/(1 + i)^5$ . Solving for  $i$ ,  $(1 + i)^5 = 2$ , so that  $i = \sqrt[5]{2} - 1 = 0.149 = 14.9\%$ .
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.
9. If the one-year bond did not have a coupon payment, its yield to maturity would be  $(\$1,000 - \$800)/\$800 - \$200/\$800 = 0.25 = 25\%$ . Because it does have a coupon payment, its yield to maturity must be greater than 25%. However, because the current yield is a good approximation of the yield to maturity for a twenty-year bond, we know that the yield to maturity on this bond is approximately 15%. Therefore, the one-year bond has a higher yield to maturity.
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.
11. You would rather own the Treasury bill, because it has a higher yield to maturity. As the example in the text indicates, the discount yield's understatement of the yield to maturity for a one-year bill is substantial, exceeding one percentage point. Thus the yield to maturity on the one-year bill would be greater than 9%, the yield to maturity on the one-year Treasury bond.
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.