

ART THREE

Answers to End-of-Chapter Problems

Chapter 1

ANSWERS TO QUESTIONS

1. 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.
2. 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.
3. Higher stock prices mean that consumers' wealth is higher, and they will be more likely to increase their spending.
4. They channel funds from people who do not have a productive use for them to people who do, thereby resulting in higher economic efficiency.
5. The United States economy was hit by the worst financial crisis since the Great Depression. Defaults in subprime residential mortgages led to major losses in financial institutions, producing not only numerous bank failures, but also the demise of two of the largest investment banks in the United States. These factors led to the "Great Recession," which began late in 2007.
6. The basic activity of banks is to accept deposits and make loans.
7. Savings and loan associations, mutual savings banks, credit unions, insurance companies, mutual funds, pension funds, and finance companies.
8. Answers will vary.
9. In the period from 2007 to 2011, both inflation and interest rates have generally trended downward compared to before that period.
10. The data in Figures 3, 5, and 6 suggest that real output, the inflation rate, and interest rates would all fall.
11. Businesses would increase investment spending because the cost of financing this spending is now lower, and consumers would be more likely to purchase a house or a car because the cost of financing their purchase is lower.
12. 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.
13. Because the Federal Reserve affects interest rates, inflation, and business cycles, all of which have an important impact on the profitability of financial institutions.
14. The deficit as a percentage of GDP has expanded dramatically since 2007; in 2010 the deficit to GDP ratio was 10%, well above the historical average of around 2% since 1950.
15. It makes foreign goods more expensive, so British consumers will buy fewer foreign goods and more domestic goods.

16. 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.
17. Changes in foreign exchange rates change the value of assets held by financial institutions and thus lead to gains and losses on these assets. Also changes in foreign exchange rates affect the profits made by traders in foreign exchange who work for financial institutions.
18. 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. This was also true, to a lesser extent, in the early 2000s.
19. 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.
20. As the dollar becomes stronger (worth more) relative to a foreign currency, one dollar is equivalent to (can be exchanged for) more foreign currency. Thus for a given face value of bond holdings, a stronger dollar will yield more home currency to foreigners, so the asset will be worth more to foreign investors. Likewise, a weak dollar will lead to foreign bond holdings worth less to foreigners.

ANSWERS TO APPLIED PROBLEMS

21. The best day is 4/25. At a rate of \$1.6674/pound, you would have £119.95. The worst day is 4/7. At \$1.961/pound, you would have £101.99, or a difference of £17.96.

Chapter 2

ANSWERS TO QUESTIONS

1. Yes, I should take out the loan, because I will be better off as a result of doing so. My interest payment will be \$4500 (90% of \$5000), but as a result, I will earn an additional \$10,000, so I will be ahead of the game by \$5500. 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.)
2. 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.
3. 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.
4. You would rather hold bonds, because bondholders are paid off before equity holders, who are the residual claimants.
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. Treasury bills are short-term debt instruments issued by the United States government to cover immediate spending obligations, i.e., finance deficit spending. Certificates of deposit (CDs) are issued by banks and sold to depositors. Commercial paper is issued by corporations and large banks as a method of short-term funding in debt markets. Repos are issued primarily by banks, and funded by corporations and other banks through loans in which treasury bills serve as collateral, with an explicit agreement to pay off the debt (repurchase the treasuries) in the near future. Fed funds are overnight loans from one bank to another.
7. *Mortgages* are loans to households or firms to purchase housing, land, or other real structures, where the structure or land itself serves as collateral for the loans. *Mortgage-backed securities* are bond-like debt instruments which are backed by a bundle of individual mortgages, whose interest and principal payments are collectively paid to the holders of the security. In other words, when an individual takes out a mortgage, that loan is bundled with other individual mortgages to create a composite debt instrument, which is then sold to investors.
8. 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.
9. The international trade of mortgage-backed securities is generally beneficial in that the European banks that held the mortgages could earn a return on those holdings, while providing needed capital to U.S. financial markets to support borrowing for new home construction and other productive uses. In this sense, both European banks and U.S. borrowers should have benefitted. However, with the sharp decline in the U.S. housing market, default rates on mortgages rose sharply, and the value of the mortgage-backed securities held by European banks fell sharply. Even though the financial crisis

began primarily in the United States as a housing downturn, it significantly affected European markets; Europe would have been much less affected without such internationalization of financial markets.

10. Financial intermediaries benefit by carrying risk at relatively low transaction costs. Since higher risk assets on average earn a higher return, financial intermediaries can earn a profit on a diversified portfolio of risky assets. Individual investors benefit by earning returns on a pooled collection of assets issued by financial intermediaries at lower risk. Risk to individual investors is lowered through the pooling of assets by the financial intermediary.
11. 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.
12. The issuance of subprime mortgages represents lenders loaning money to the pool of potential homeowners who are the highest credit risk and have the lowest net wealth and other financial resources. In other words, this group of borrowers most in need of mortgage credit was also the highest risk to lenders, a perfect example of adverse selection.
13. 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.
14. They might not work hard enough while you are not looking or may steal or commit fraud.
15. 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.
16. True. If there are no informational or transactions costs, people could make loans to each other at no cost and would thus have no need for financial intermediaries.
17. 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.
18. Potentially competing interests may lead an individual or firm to conceal information or disseminate misleading information. A substantial reduction in the quality of information in financial markets increases asymmetric information problems and prevents financial markets from channeling funds into the most productive investment opportunities. Consequently, the financial markets and the economy become less efficient. That is, false information as a result of a conflict of interest can lead to a more inefficient allocation of capital than just asymmetric information alone.
19. Financial firms that provide multiple types of financial services can be more efficient through economies of scope; that is, by lowering the cost of information production. However, this can be problematic since it can also lead to conflicts of interest, in which the financial firm provides false or misleading information to protect its own interests. This can lead to a worsening of the asymmetric information problem, making financial markets less efficient.

20. You would likely use a credit union if you are a member, since their primary business is consumer loans. In some cases it is possible to borrow directly from pension funds, but it can come with high borrowing costs and tax implications. Investment banks do not provide loans to the general public.
21. Most life insurance companies hold large amounts of corporate bonds and mortgage assets, thus poor corporate profits or a downturn in the housing market can significantly adversely impact the value of asset holdings of insurance companies.
22. During the financial panic, regulators were concerned that depositors worried their banks would fail, and that depositors (especially with accounts over \$100,000) would pull money from banks, leaving cash-starved banks with even less cash to satisfy customer demands and day-to-day operations. This could create a contagious bank panic in which otherwise healthy banks would fail. Raising the insurance limit would reassure depositors that their money was safe in banks and prevent a bank panic, helping to stabilize the financial system.

ANSWERS TO APPLIED PROBLEMS

23. (a) With Option 1, since deposits are insured it can be assumed a riskless investment. Thus, the expected total payoff would be $\$10,000 \times 1.02 = \$10,200$. With Option 2, a bond return of 5% implies a potential payoff of $\$10,000 \times 1.05 = \$10,500$, and there is a 90% chance that this outcome will occur, thus the expected payoff is $\$10,500 \times 0.9 = \9450 . Under Option 3, the expected payoff is $\$10,000 \times 1.08 \times 0.93 = \$10,044$. Option 4 is riskless, so the expected total payoff is $\$10,000$. Given these choices and the assumption that you don't care about risk, Option 1 is the best investment.
- (b) This option implies the very real possibility of either receiving nothing (if he actually leaves town), or \$10,800 (if he indeed pays as promised). If you don't pay Mike, you have an expected return of \$10,044 as shown above. If you paid your friend the \$100 and learned that Mike would leave without paying, then obviously you wouldn't loan Mike the money, and you would be left with \$9900. However, if you paid the friend \$100 and learned that Mike would pay, you would have \$10,700 ($= \$10,000 \times 1.08 - \100). After paying your friend Mike, but before knowing the true outcome, your expected return would be \$10,644 ($\$9900 \times 0.07 + \$10,700 \times 0.93$). Paying your friend the \$100 is definitely worth it because it increases your expected return and in addition dramatically reduces the downside risk that you make a bad loan, and increases the certainty of the payoff amount. That is, with asymmetric information (not paying your roommate), you have a range of payoffs of \$0 to \$10,800 versus \$9900 to \$10,700 without asymmetric information. Thus paying a small amount to improve risk assessment can be very beneficial, a task for which financial intermediaries are well suited.