ANSWERS TO SELECTED QUESTIONS AND 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.
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.
10. The lower price for a firm's shares means that it can raise a smaller amount of funds, and so investment in facilities and equipment will fall.
12. It makes foreign goods more expensive, so British consumers will buy fewer foreign goods and more domestic goods.
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.

Chapter 2 An Overview of the Financial System

1. The share of IBM stock is an asset for its owner, because it entitles the owner to a share of the earnings and assets of IBM. The share is a liability for IBM, because it is a claim on its earnings and assets by the owner of the share.
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.
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.
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.
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.
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 to 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.
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?

2. Since 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.
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.
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.

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.
11. Not necessarily. Although the total amount of debt has predicted inflation and the business cycle better than M1, M2, or M3, 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. M3 is the largest measure.
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%.
3. $\$1{,}100/(1 + 0.10) + \$1{,}210/(1 + 0.10)^2 + \$1{,}331/(1 + 0.10)^3 = \$3{,}000$.
5. $\$2{,}000 = \$100/(1 + i) + \$100/(1 + i)^2 + \cdots + \$100/(1 + i)^{20} + \$1{,}000/(1 + i)^{20}$.
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 $i = \sqrt[5]{2} - 1 = 0.149 = 14.9\%$.
9. If the one-year bond did not have a coupon payment, its yield to maturity would be $(\$1{,}000 - \$800)/\$800 = \$200/\$800 = 0.25 = 25\%$. Since 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 20-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.
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 bond 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.
13. No. If interest rates rise sharply in the future, long-term bonds may suffer such a sharp fall in price that their return might be quite low; possibly even negative.
15. The economists are right. They reason that nominal interest rates were below expected rates of inflation in the late 1970s, making real interest rates negative. The expected inflation rate, however, fell much faster than nominal interest rates in the mid-1980s, so nominal interest rates were above the expected inflation rate and real rates became positive.

Chapter 5 The Behavior of Interest Rates

2. (a) More, because your wealth has increased; (b) more, because it has become more liquid; (c) less, because its expected return has fallen relative to Microsoft stock; (d) more, because it has become less risky relative to stocks; (e) less, because its expected return has fallen.
4. (a) More, because they have become more liquid; (b) more, because their expected return has risen relative to stocks; (c) less, because they have become less liquid relative to stocks; (d) less, because their expected return has fallen; (e) more, because they have become more liquid.
6. When the Fed sells bonds to the public, it increases the supply of bonds, thus shifting the supply curve B^s to the right. The result is that the intersection of the supply and demand curves B^s and B^d occurs at a lower price and a higher equilibrium interest rate, and the interest rate rises. With the liquidity preference framework, the decrease in the money supply shifts the money supply curve M^s to the left, and the equilibrium interest rate rises. The answer from the loanable funds framework is consistent with the answer from the liquidity preference framework.
8. When the price level rises, the quantity of money in real terms falls (holding the nominal supply of money constant); to restore their holdings of money in real terms to their former level, people will want to hold a greater nominal quantity of money. Thus the money demand curve M^d shifts to the right, and the interest rate rises.
11. Interest rates would rise. A sudden increase in people's expectations of future real estate prices raises the expected return on real estate relative to bonds, so the demand for bonds falls. The demand curve B^d shifts to the left, and the equilibrium interest rate rises.
13. In the loanable funds framework, the increased riskiness of bonds lowers the demand for bonds. The demand curve B^d shifts to the left, and the equilibrium interest rate rises. The same answer is found in the liquidity preference framework. The increased riskiness of bonds relative to money increases the demand for money. The money demand curve M^d shifts to the right, and the equilibrium interest rate rises.
15. Yes, interest rates will rise. The lower commission on stocks makes them more liquid than bonds, and the demand for bonds will fall. The demand curve B^d will therefore shift to the left, and the equilibrium interest rate will rise.
17. The interest rate on the AT&T bonds will rise. Because people now expect interest rates to rise, the expected return on long-term bonds such as the $8\frac{1}{8}$s of 2022 will fall, and the demand for these bonds will decline. The demand curve B^d will therefore shift to the left, the price falls, and the equilibrium interest rate will rise.
19. Interest rates will rise. When bond prices become volatile and bonds become riskier, the demand for bonds will fall.

The demand curve B^d will shift to the left, the price falls, and the equilibrium interest rate will rise.

Chapter 6 The Risk and Term Structure of Interest Rates

2. U.S. Treasury bills have lower default risk and more liquidity than negotiable CDs. Consequently, the demand for Treasury bills is higher, and they have a lower interest rate.
4. True. When bonds of different maturities are close substitutes, a rise in interest rates for one bond causes the interest rates for others to rise because the expected returns on bonds of different maturities cannot get too far out of line.
6. (a) The yield to maturity would be 5% for a one-year bond, 6% for a two-year bond, 6.33% for a three-year bond, 6.5% for a four-year bond, and 6.6% for a five-year bond. (b) The yield to maturity would be 5% for a one-year bond, 4.5% for a two-year bond, 4.33% for a three-year bond, 4.25% for a four-year bond, and 4.2% for a five-year bond. The upward-sloping yield curve in (a) would be even steeper if people preferred short-term bonds over long-term bonds, because long-term bonds would then have a positive liquidity premium. The downward-sloping yield curve in (b) would be less steep and might even have a slight positive upward slope if the long-term bonds have a positive liquidity premium.
8. The flat yield curve at shorter maturities suggests that short-term interest rates are expected to fall moderately in the near future, while the steep upward slope of the yield curve at longer maturities indicates that interest rates further into the future are expected to rise. Because interest rates and expected inflation move together, the yield curve suggests that the market expects inflation to fall moderately in the near future but to rise later on.
10. The reduction in income tax rates would make the tax-exempt privilege for municipal bonds less valuable, and they would be less desirable than taxable Treasury bonds. The resulting decline in the demand for municipal bonds and increase in demand for Treasury bonds would raise interest rates on municipal bonds while causing interest rates on Treasury bonds to fall.
12. Lower brokerage commissions for corporate bonds would make them more liquid and thus increase their demand, which would lower their risk premium.
14. You would raise your predictions of future interest rates, because the higher long-term rates imply that the average of the expected future short-term rates is higher.

Chapter 7 The Stock Market, the Theory of Rational Expectations, and the Efficient Market Hypothesis

2. There are two cash flows from stock, periodic dividends and a future sales price. Dividends are frequently changed when firm earnings either rise or fall. The future sales price is also difficult to estimate, since it depends on the dividends that will be paid at some date even farther in the future. Bond cash flows also consist of two parts, periodic interest payments and a final maturity payment. These payments are established in writing at the time the bonds are issued and cannot be changed without the firm defaulting and being subject to bankruptcy. Stock prices tend to be more volatile, since their cash flows are more subject to change.
4. $P_0 = \dfrac{\$3 \times (1.07)}{.18 - .07} = \$29.18$
6. False. Expectations can be highly inaccurate and still be rational, because optimal forecasts are not necessarily accurate: A forecast is optimal if it is the best possible even if the forecast errors are large.
8. No, because he could improve the accuracy of his forecasts by predicting that tomorrow's interest rates will be identical to today's. His forecasts are therefore not optimal, and he does not have rational expectations.
10. No, you shouldn't buy stocks, because the rise in the money supply is publicly available information that will be already incorporated into stock prices. Hence you cannot expect to earn more than the equilibrium return on stocks by acting on the money supply information.
12. No, because this is publicly available information and is already reflected in stock prices. The optimal forecast of stock returns will equal the equilibrium return, so there is no benefit from selling your stocks.
14. No, if the person has no better information than the rest of the market. An expected price rise of 10% over the next month implies over a 100% annual return on IBM stock, which certainly exceeds its equilibrium return. This would mean that there is an unexploited profit opportunity in the market, which would have been eliminated in an efficient market. The only time that the person's expectations could be rational is if the person had information unavailable to the market that allowed him or her to beat the market.
16. False. The people with better information are exactly those who make the market more efficient by eliminating unexploited profit opportunities. These people can profit from their better information.
18. True, in principle. Foreign exchange rates are a random walk over a short interval such as a week, because changes in the exchange rate are unpredictable. If a change were predictable, large unexploited profit opportunities would exist in the foreign exchange market. If the foreign exchange market is efficient, these unexploited profit opportunities cannot exist and so the foreign exchange rate will approximately follow a random walk.
20. False. Although human fear may be the source of stock market crashes, that does not imply that there are unexploited profit opportunities in the market. Nothing in rational expectations theory rules out large changes in stock prices as a result of fears on the part of the investing public.

Chapter 8 An Economic Analysis of Financial Structure

2. Financial intermediaries develop expertise in such areas as computer technology so that they can inexpensively provide liquidity services such as checking accounts that lower transaction costs for depositors. Financial intermediaries can

also take advantage of economies of scale and engage in large transactions that have a lower cost per dollar per transaction.

4. Standard accounting principles make profit verification easier, thereby reducing adverse selection and moral hazard problems in financial markets and hence making them operate better. Standard accounting principles make it easier for investors to screen out good firms from bad firms, thereby reducing the adverse selection problem in financial markets. In addition, they make it harder for managers to understate profits, thereby reducing the principal–agent (moral hazard) problem.
6. Smaller firms that are not well known are the most likely to use bank financing. Since it is harder for investors to acquire information about these firms, it will be hard for the firms to sell securities in the financial markets. Banks that specialize in collecting information about smaller firms will then be the only outlet these firms have for financing their activities.
8. Yes. The person who is putting her life savings into her business has more to lose if she takes on too much risk or engages in personally beneficial activities that don't lead to higher profits. So she will act more in the interest of the lender, making it more likely that the loan will be paid off.
10. True. If the borrower turns out to be a bad credit risk and goes broke, the lender loses less, because the collateral can be sold to make up any losses on the loan. Thus adverse selection is not as severe a problem.
12. The separation of ownership and control creates a principal–agent problem. The managers (the agents) do not have as strong an incentive to maximize profits as the owners (the principals). Thus the managers might not work hard, might engage in wasteful spending on personal perks, or might pursue business strategies that enhance their personal power but do not increase profits.
14. A stock market crash reduces the net worth of firms and so increases the moral hazard problem. With less of an equity stake, owners have a greater incentive to take on risky projects and spend corporate funds on items that benefit them personally. A stock market crash, which increases the moral hazard problem, thus makes it less likely that lenders will be paid back. So lending and investment will decline, creating a financial crisis in which financial markets do not work well and the economy suffers.

Chapter 9 Banking and the Management of Financial Institutions

2. The rank from most to least liquid is (c), (b), (a), (d).
4. Reserves drop by $500. The T-account for the First National Bank is as follows:

FIRST NATIONAL BANK

Assets		Liabilities	
Reserves	−$500	Checkable deposits	−$500

6. The bank would rather have the balance sheet shown in this problem, because after it loses $50 million due to deposit outflow, the bank would still have excess reserves of $5 million: $50 million in reserves minus required reserves of $45 million (10% of the $450 million of deposits). Thus the bank would not have to alter its balance sheet further and would not incur any costs as a result of the deposit outflow. By contrast, with the balance sheet in Problem 5, the bank would have a shortfall of reserves of $20 million ($25 million in reserves minus the required reserves of $45 million). In this case, the bank will incur costs when it raises the necessary reserves through the methods described in the text.
8. No. When you turn a customer down, you may lose that customer's business forever, which is extremely costly. Instead, you might go out and borrow from other banks, corporations, or the Fed to obtain funds so that you can make the customer loans. Alternatively, you might sell negotiable CDs or some of your securities to acquire the necessary funds.
10. It can raise $1 million of capital by issuing new stock. It can cut its dividend payments by $1 million, thereby increasing its retained earnings by $1 million. It can decrease the amount of its assets so that the amount of its capital relative to its assets increases, thereby meeting the capital requirements.
12. Compensating balances can act as collateral. They also help establish long-term customer relationships, which make it easier for the bank to collect information about prospective borrowers, thus reducing the adverse selection problem. Compensating balances help the bank monitor the activities of a borrowing firm so that it can prevent the firm from taking on too much risk, thereby not acting in the interest of the bank.
14. The assets fall in value by $8 million (= $100 million × −2% × 4 years) while the liabilities fall in value by $10.8 million (= $90 million × −2% × 6 years). Since the liabilities fall in value by $2.8 million more than the assets do, the net worth of the bank rises by $2.8 million. The interest-rate risk can be reduced by shortening the maturity of the liabilities to a duration of four years or lengthening the maturity of the assets to a duration of six years. Alternatively, you could engage in an interest-rate swap, in which you swap the interest earned on your assets with the interest on another bank's assets that have a duration of six years.

Chapter 10 Banking Industry: Structure and Competition

2. (a) Office of the Comptroller of the Currency; (b) the Federal Reserve; (c) state banking authorities and the FDIC; (d) the Federal Reserve.
4. New technologies such as electronic banking facilities are frequently shared by several banks, so these facilities are not classified as branches. Thus they can be used by banks to escape limitations on offering services in other states and, in effect, to escape limitations from restrictions on branching.
6. Because restrictions on branching are stricter for commercial banks than for savings and loans. Thus small commercial

banks have greater protection from competition and are more likely to survive than small savings and loans.

8. International banking has been encouraged by giving special tax treatment and relaxed branching regulations to Edge Act corporations and to international banking facilities (IBFs); this was done to make American banks more competitive with foreign banks. The hope is that it will create more banking jobs in the United States.
10. No, because the Saudi-owned bank is subject to the same regulations as the American-owned bank.
12. The rise in inflation and the resulting higher interest rates on alternatives to checkable deposits meant that banks had a big shrinkage in this low-cost way of raising funds. The innovation of money market mutual funds also meant that the banks lost checking account business. The abolishment of Regulation Q and the appearance of NOW accounts did help decrease disintermediation, but raised the cost of funds for American banks, which now had to pay higher interest rates on checkable and other deposits. Foreign banks were also able to tap a large pool of domestic savings, thereby lowering their cost of funds relative to American banks.
14. The growth of the commercial paper market and the development of the junk bond market meant that corporations were now able to issue securities rather than borrow from banks, thus eroding the competitive advantage of banks on the lending side. Securitization has enabled other financial institutions to originate loans, again taking away some of the banks' loan business.

Chapter 11 Economic Analysis of Banking Regulation

2. There would be adverse selection, because people who might want to burn their property for some personal gain would actively try to obtain substantial fire insurance policies. Moral hazard could also be a problem, because a person with a fire insurance policy has less incentive to take measures to prevent a fire.
4. Regulations that restrict banks from holding risky assets directly decrease the moral hazard of risk taking by the bank. Requirements that force banks to have a large amount of capital also decrease the banks' incentives for risk taking, because banks now have more to lose if they fail. Such regulations will not completely eliminate the moral hazard problem, because bankers have incentives to hide their holdings of risky assets from the regulators and to overstate the amount of their capital.
6. The S&L crisis did not occur until the 1980s, because interest rates stayed low before then, so S&Ls were not subjected to losses from high interest rates. Also, the opportunities for risk taking were not available until the 1980s, when legislation and financial innovation made it easier for S&Ls to take on more risk, thereby greatly increasing the adverse selection and moral hazard problems.
8. FIRREA provided funds for the S&L bailout, created the Resolution Trust Corporation to manage the resolution of insolvent thrifts, eliminated the Federal Home Loan Bank Board and gave its regulatory role to the Office of Thrift Supervision, eliminated the FSLIC and turned its insurance role and regulatory responsibilities over to the FDIC, imposed restrictions on thrift activities similar to those in effect before 1982, increased the capital requirements to those adhered to by commercial banks, and increased the enforcement powers of thrift regulators.
10. If political candidates receive campaign funds from the government and are restricted in the amount they spend, they will have less need to satisfy lobbyists to win elections. As a result, they may have greater incentives to act in the interest of taxpayers (the principals), and so the political process might improve.
12. Eliminating or limiting the amount of deposit insurance would help reduce the moral hazard of excessive risk taking on the part of banks. It would, however, make bank failures and panics more likely, so it might not be a very good idea.
14. The economy would benefit from reduced moral hazard; that is, banks would not want to take on too much risk, because doing so would increase their deposit insurance premiums. The problem is, however, that it is difficult to monitor the degree of risk in bank assets because often only the bank making the loans knows how risky they are.

Chapter 12 Nonbank Finance

1. Because there would be more uncertainty about how much they would have to pay out in any given year, life insurance companies would tend to hold shorter-term assets that are more liquid.
3. Because benefits paid out are set to equal contributions to the plan and their earnings.
5. False. Government pension plans are often underfunded. Many pension plans for both federal and state employees are not fully funded.
7. Because the bigger the policy, the greater the moral hazard—the incentive for the policyholder to engage in activities that make the insurance payoff more likely. Because payoffs are costly, the insurance company will want to reduce moral hazard by limiting the amount of insurance.
9. Because interest rates on loans are typically lower at banks than at finance companies.
11. Because you do not have to pay a commission on a no-load fund, it is cheaper than a load fund, which does require a commission.
13. Government loan guarantees may be very costly, because like any insurance, they increase moral hazard. Because the banks and other institutions making the guaranteed loans do not suffer any losses if the loans default, these institutions have little incentive not to make bad loans. The resulting losses to the government can be substantial, as was true in past years.
15. No. Investment banking is a risky business, because if the investment bank cannot sell a security it is underwriting for the price it promised to pay the issuing firm, the investment bank can suffer substantial losses.

Chapter 13 Financial Derivatives

2. You would enter into a contract that specifies that you will sell the $25 million of 8s of 2015 at a price of 110 one year from now.
4. You have a loss of 6 points, or $6,000, per contract.
6. You would buy $100 million worth (1,000 contracts) of the call long-term bond option with a delivery date of one year in the future and with a strike price that corresponds to a yield of 8%. This means that you would have the option to buy the long bond with the 8% interest rate, thereby making sure that you can earn the 8%. The disadvantage of the options contract is that you have to pay a premium that you would not have to pay with a futures contract. The advantage of the options contract is that if the interest rate rises and the bond price falls during the next year, you do not have to exercise the option and so will be able to earn a higher rate than 8% when the funds come in next year, whereas with the futures contract, you have to take delivery of the bond and will only earn 8%.
8. You have a profit of 1 point ($1,000) when you exercise the contract, but you have paid a premium of $1,500 for the call option, so your net profit is −$500, a loss of $500.
10. Because for any given price at expiration, a lower strike price means a higher profit for a call option and a lower profit for a put option. A lower strike price makes a call option more desirable and raises its premium and makes a put option less desirable and lowers its premium.
12. It would swap interest on $42 million of fixed-rate assets for the interest on $42 million of variable-rate assets, thereby eliminating its income gap.
14. You would hedge the risk by buying 80 euro futures contracts that mature 3 months from now.

Chapter 14 Structure of Central Banks and the Federal Reserve System

1. Because of traditional American hostility to a central bank and centralized authority, the system of 12 regional banks was set up to diffuse power along regional lines.
3. Like the U.S. Constitution, the Federal Reserve System, originally established by the Federal Reserve Act, has many checks and balances and is a peculiarly American institution. The ability of the 12 regional banks to affect discount policy was viewed as a check on the centralized power of the Board of Governors, just as states' rights are a check on the centralized power of the federal government. The provision that there be three types of directors (A, B, and C) representing different groups (professional bankers, businesspeople, and the public) was again intended to prevent any group from dominating the Fed. The Fed's independence of the federal government and the setting up of the Federal Reserve banks as incorporated institutions were further intended to restrict government power over the banking industry.
5. The Board of Governors sets reserve requirements and the discount rate; the FOMC directs open market operations. In practice, however, the FOMC helps make decisions about reserve requirements and the discount rate.
7. The Board of Governors has clearly gained power at the expense of the regional Federal Reserve banks. This trend toward ever more centralized power is a general one in American government, but in the case of the Fed, it was a natural outgrowth of the Fed's having been given the responsibility for promoting a stable economy. This responsibility has required greater central direction of monetary policy, the role taken over the years by the Board of Governors and by the FOMC, which the board controls.
9. The threat that Congress will acquire greater control over the Fed's finances and budget.
11. False. Maximizing one's welfare does not rule out altruism. Operating in the public interest is clearly one objective of the Fed. The theory of bureaucratic behavior only points out that other objectives, such as maximizing power, also influence Fed decision making.
13. False. The Fed is still subject to political pressure, because Congress can pass legislation limiting the Fed's power. If the Fed is performing badly, Congress can therefore make the Fed accountable by passing legislation that the Fed does not like.
15. The argument for not releasing the FOMC directives immediately is that it keeps Congress off the Fed's back, thus enabling the Fed to pursue an independent monetary policy that is less subject to inflation and political business cycles. The argument for releasing the directive immediately is that it would make the Fed more accountable.

Chapter 15 Multiple Deposit Creation and the Money Supply Process

2. Reserves are unchanged, but the monetary base falls by $2 million, as indicated by the following T-accounts:

IRVING THE INVESTOR

Assets		Liabilities	
Currency	−$2 million		
Securities	+$2 million		

FEDERAL RESERVE SYSTEM

Assets		Liabilities	
Securities	−$2 million	Currency	−$2 million

3. Reserves increase by $50 million, but the monetary base increases by $100 million, as the T-accounts for the five banks and the Fed indicate:

FIVE BANKS

Assets		Liabilities	
Reserves	+$50 million	Discount loans	+$100 million
		Deposits	−$50 million

FEDERAL RESERVE SYSTEM

Assets		Liabilities	
Discount loans	+$100 million	Reserves	+$50 million
		Currency	+$50 million

5. The T-accounts are identical to those in the sections "Deposit Creation: The Single Bank" and "Deposit Creation: The Banking System" except that all the entries are multiplied by 10,000 (that is, $100 becomes $1 million). The net result is that checkable deposits rise by $10 million.
7. The $1 million Fed purchase of bonds increases reserves in the banking system by $1 million, and the total increase in checkable deposits is $10 million. The fact that banks buy securities rather than make loans with their excess reserves makes no difference in the multiple deposit creation process.
9. Reserves in the banking system fall by $1,000, and a multiple contraction occurs, reducing checkable deposits by $10,000.
11. The level of checkable deposits falls by $50 million. The T-account of the banking system in equilibrium is as follows:

BANKING SYSTEM

Assets		Liabilities	
Reserves	−$5 million	Checkable deposits	−$50 million
Securities	+$5 million		
Loans	−$50 million		

13. The $1 million holdings of excess reserves means that the bank has to reduce its holdings of loans or securities, thus starting the multiple contraction process. Because the required reserve ratio is 10%, checkable deposits must decline by $10 million.
15. The deposit of $100 in the bank increases its reserves by $100. This starts the process of multiple deposit expansion, leading to an increase in checkable deposits of $1,000.

Chapter 16 Determinants of the Money Supply

1. Uncertain. As the formula in Equation 4 indicates, if $r_D + e$ is greater than 1, the money multiplier can be less than 1. In practice, however, e is so small that $r_D + e$ is less than 1 and the money multiplier is greater than 1.
3. The money supply fell sharply because when c rose, there was a shift from one component of the money supply (checkable deposits) with more multiple expansion to another (currency) with less. Overall multiple deposit expansion fell, leading to a decline in the money supply.
5. There is a shift from one component of the money supply (checkable deposits) with less multiple expansion to another (traveler's checks) with more. Multiple expansion therefore increases, and the money supply increases.
7. Yes, because with no reserve requirements on time deposits, a shift from checkable deposits (with less multiple expansion) to time deposits (with more multiple expansion) increases the total amount of deposits and raises M2. However, if reserve requirements were equal for both types of deposits, they would both undergo the same amount of multiple expansion, and a shift from one to the other would have no effect on M2. Thus control of M2 would be better because random shifts from time deposits to checkable deposits or vice versa would not affect M2.
9. Both the Fed's purchase of $100 million of bonds (which raises the monetary base) and the lowering of r (which increases the amount of multiple expansion and raises the money multiplier) lead to a rise in the money supply.
11. The Fed's sale of $1 million of bonds shrinks the monetary base by $1 million, and the reduction of discount loans also lowers the monetary base by another $1 million. The resulting $2 million decline in the monetary base leads to a decline in the money supply.
13. A rise in expected inflation would increase interest rates (through the Fisher effect), which would in turn cause e to fall and the volume of discount loans to rise. The fall in e increases the amount of reserves available to support checkable deposits so that deposits and the money multiplier will rise. The rise in discount loans causes the monetary base to rise. The resulting increase in the money multiplier and the monetary base leads to an increase in the money supply.
15. The money supply would fall, because if the discount window were eliminated, banks would need to hold more excess reserves, making fewer reserves available to support deposits. Moreover, abolishing discounting would reduce

the volume of discount loans, which would also cause the monetary base and the money supply to fall.

Chapter 17 Tools of Monetary Policy

1. The snowstorm would cause float to increase, which would increase the monetary base. To counteract this effect, the manager will undertake a defensive open market sale.
3. As we saw in Chapter 15, when the Treasury's deposits at the Fed fall, the monetary base increases. To counteract this increase, the manager would undertake an open market sale.
5. It suggests that defensive open market operations are far more common than dynamic operations because repurchase agreements are used primarily to conduct defensive operations to counteract temporary changes in the monetary base.
7. A rise in checkable deposits leads to a rise in required reserves at any given interest rate and thus shifts the demand curve to the right. If the federal funds rate is initially below the discount rate, this then leads to a rise in the federal funds rate. If the federal funds rate is initially at the discount rate, then the federal funds rate will just remain at the discount rate.
9. This statement is incorrect. The FDIC would not be effective in eliminating bank panics without Fed discounting to troubled banks in order to keep bank failures from spreading.
11. Most likely not. If the federal funds rate target is initially below the discount rate and the decline in the discount rate still leaves it above the federal funds target, then the shift in the supply curve has no effect on the federal funds rate. Furthermore, the Fed usually moves the discount rate in line with changes in the federal funds rate target, so that changes in the discount rate provide no additional information about the direction of monetary policy.
13. False. As the analysis of the channel/corridor approach to setting interest rates demonstrates, central banks can still tightly control interest rates by putting in place standing facilities where the difference between the interest rate paid on reserves kept at the central bank and the interest rate charged in central bank loans to banks is kept small.
15. Open market operations are more flexible, reversible, and faster to implement than the other two tools. Discount policy is more flexible, reversible, and faster to implement than changing reserve requirements, but it is less effective than either of the other two tools.

Chapter 18 Conduct of Monetary Policy: Goals and Targets

1. Disagree. Some unemployment is beneficial to the economy because the availability of vacant jobs makes it more likely that a worker will find the right job and that the employer will find the right worker for the job.
3. True. In such a world, hitting a monetary target would mean that the Fed would also hit its interest target, or vice versa. Thus the Fed could pursue both a monetary target and an interest-rate target at the same time.
5. The Fed can control the interest rate on three-month Treasury bills by buying and selling them in the open market. When the bill rate rises above the target level, the Fed would buy bills, which would bid up their price and lower the interest rate to its target level. Similarly, when the bill rate falls below the target level, the Fed would sell bills to raise the interest rate to the target level. The resulting open market operations would of course affect the money supply and cause it to change. The Fed would be giving up control of the money supply to pursue its interest-rate target.
7. Disagree. Although *nominal* interest rates are measured more accurately and more quickly than the money supply, the interest-rate variable that is of more concern to policymakers is the *real* interest rate. Because the measurement of real interest rates requires estimates of expected inflation, it is not true that real interest rates are necessarily measured more accurately and more quickly than the money supply. Interest-rate targets are therefore not necessarily better than money supply targets.
9. Because the Fed did not lend to troubled banks during this period, massive bank failures occurred, leading to a decline in the money supply when depositors increased their holdings of currency relative to deposits and banks increased their excess reserves to protect themselves against runs. As the money supply model presented in Chapters 15–16 indicates, these decisions by banks and depositors led to a sharp contraction of the money supply.
11. When the economy enters a recession, interest rates usually fall. If the Fed is targeting interest rates, it tries to prevent a decline in interest rates by selling bonds, thereby lowering their prices and raising interest rates to the target level. The open market sale would then lead to a decline in the monetary base and in the money supply. Therefore, an interest-rate target can sometimes be problematic if it is left unchanged too long because it can lead to a slower rate of money supply growth during a recession, just when the Fed would want money growth to be higher.
13. A borrowed reserves target will produce smaller fluctuations in the federal funds rate. In contrast to what happens when there is a nonborrowed reserves target, when the federal funds rate rises with a borrowed reserves target, the Fed prevents the tendency of discount borrowings to rise by buying bonds to lower interest rates. The result is smaller fluctuations in the federal funds rate with a borrowed reserves target.
15. The Fed may prefer to control interest rates rather than the money supply because it wishes to avoid the conflict with Congress that occurs when interest rates rise. The Fed might also believe that interest rates are actually a better guide to future economic activity.

Chapter 19 The Foreign Exchange Market

2. False. Although a weak currency has the negative effect of making it more expensive to buy foreign goods or to travel abroad, it may help domestic industry. Domestic goods become cheaper relative to foreign goods, and the demand for domestically produced goods increases. The resulting

higher sales of domestic products may lead to higher employment, a beneficial effect on the economy.

4. It predicts that the value of the yen will fall 5% in terms of dollars.
6. Even though the Japanese price level rose relative to the American, the yen appreciated because the increase in Japanese productivity relative to American productivity made it possible for the Japanese to continue to sell their goods at a profit at a high value of the yen.
8. The pound depreciates but overshoots, declining by more in the short run than in the long run. Consider Britain the domestic country. The rise in the money supply leads to a higher domestic price level in the long run, which leads to a lower expected future exchange rate. The resulting expected depreciation of the pound raises the expected return on foreign deposits, shifting R^F to the right. The rise in the money supply lowers the interest rate on pound deposits in the short run, which shifts R^D to the left. The short-run outcome is a lower equilibrium exchange rate. However, in the long run, the domestic interest rate returns to its previous value, and R^D shifts back to its original position. The exchange rate rises to some extent, although it still remains below its initial position.
10. The dollar will depreciate. A rise in nominal interest rates but a decline in real interest rates implies a rise in expected inflation that produces an expected depreciation of the dollar that is larger than the increase in the domestic interest rate. As a result, the expected return on foreign deposits rises by more than the expected return on domestic deposits. R^F shifts rightward more than R^D, so the equilibrium exchange rate falls.
12. The dollar will depreciate. An increased demand for imports would lower the expected future exchange rate and result in an expected appreciation of the foreign currency. The higher resulting expected return on foreign deposits shifts the R^F schedule to the right, and the equilibrium exchange rate falls.
14. The contraction of the European money supply will increase European interest rates and raise the future value of the euro, both of which will shift R^F (with Europe as the foreign country) to the right. The result is a decline in the value of the dollar.

Chapter 20 The International Financial System

2. The purchase of dollars involves a sale of foreign assets, which means that international reserves fall and the monetary base falls. The resulting fall in the money supply causes interest rates to rise and R^D to shift to the right while it lowers the future price level, thereby raising the future expected exchange rate, causing R^F to shift to the left. The result is a rise in the exchange rate. However, in the long run, the R^D curve returns to its original position, and so there is overshooting.
4. Because other countries often intervene in the foreign exchange market when the United States has a deficit so that U.S. holdings of international reserves do not change. By contrast, when the Netherlands has a deficit, it must intervene in the foreign exchange market and buy euros, which results in a reduction of international reserves for the Netherlands and Euroland.
6. Two francs per dollar.
8. A large balance-of-payments surplus may require a country to finance the surplus by selling its currency in the foreign exchange market, thereby gaining international reserves. The result is that the central bank will have supplied more of its currency to the public, and the monetary base will rise. The resulting rise in the money supply can cause the price level to rise, leading to a higher inflation rate.
10. In order to finance the deficits, the central bank in these countries might intervene in the foreign exchange market and buy domestic currency, thereby implementing a contractionary monetary policy. The result is that they sell off international reserves and their monetary base falls, leading to a decline in the money supply.
12. When other countries buy U.S. dollars to keep their exchange rates from changing vis-à-vis the dollar because of the U.S. deficits, they gain international reserves and their monetary base increases. The outcome is that the money supply in these countries grows faster and leads to higher inflation throughout the world.
14. There are no direct effects on the money supply, because there is no central bank intervention in a pure flexible exchange rate regime; therefore, changes in international reserves that affect the monetary base do not occur. However, monetary policy can be affected by the foreign exchange market, because monetary authorities may want to manipulate exchange rates by changing the money supply and interest rates.

Chapter 21 Monetary Policy Strategy: The International Experience

4. First is that the exchange-rate target directly keeps inflation under control by tying the inflation rate for internationally traded goods to that found in the anchor country to which its currency is pegged. Second is that it provides an automatic rule for the conduct of monetary policy that helps mitigate the time-inconsistency problem. Third, it has the advantage of simplicity and clarity.
6. With a pegged exchange rate, speculators are sometimes presented with a one-way bet in which the only direction for a currency to go is down in value. In this case, selling the currency before the likely depreciation gives speculators an attractive profit opportunity with potentially high expected returns. As a result, they jump on board and attack the currency.
8. The long-term bond market can help reduce the time-consistency problem because politicians and central banks will realize that pursuing an overly expansionary policy will lead to an inflation scare in which inflation expectations surge, interest rates rise, and there is a sharp fall in long-term bond prices. Similarly, they will realize that overly expansionary

monetary policy will result in a sharp fall in the value of the currency. Avoiding these outcomes constrains policymakers and politicians so time-consistent monetary policy is less likely to occur.

10. A currency board has the advantage that the central bank no longer can print money to create inflation, and so it is a stronger commitment to a fixed exchange rate. The disadvantage is that it is still subject to a speculative attack, which can lead to a sharp contraction of the money supply. In addition, a currency board limits the ability of the central bank to play a lender-of-last-resort role.
12. Monetary targeting has the advantage that it enables a central bank to adjust its monetary policy to cope with domestic considerations. Furthermore, information on whether the central bank is achieving its target is known almost immediately.
14. Inflation-targeting central banks engage in extensive public information campaigns that include the distribution of glossy brochures, the publication of *Inflation Report*–type documents, making speeches to the public, and continual communication with the elected government.
16. Uncertain. If the relationship between monetary aggregates and the goal variable, say inflation, is unstable, then the signal provided by the monetary aggregates is not very useful and is not a good indicator of whether the stance of monetary policy is correct.
18. With a nominal GDP target, a decline in projected real output growth would automatically imply an increase in the central bank's inflation target. This increase would tend to be stabilizing because it would automatically lead to an easier monetary policy. Nominal GDP targeting does suffer from potential confusion about what nominal GDP is and from the political complications that arise because nominal GDP requires the announcement of a potential GDP growth path.
20. All allow a central bank to pursue an independent monetary policy that can focus on domestic considerations.

Chapter 22 The Demand for Money

1. Velocity is approximately 10 in 2001, 11 in 2002, and 12 in 2003. The rate of velocity growth is approximately 10% per year.
3. Nominal GDP declines by approximately 10%.
5. The price level quadruples.
7. The two largest declines are during the recession in 1920 and the Great Depression of 1929-33. These declines suggest that velocity is procyclical, i.e., it rises in business cycle upturns and falls in business cycle downturns. The data in Figure 1 indicates that it is not reasonable to assume that declines in the quantity of money cause declines in aggregate spending because when aggregate spending declines it could just reflect the fact that velocity declines at that time.
9. The demand for money will decrease. People would be more likely to expect interest rates to fall and therefore more likely to expect bond prices to rise. The increase in the expected return on bonds relative to money will then mean that people would demand less money.
11. Money balances should average one-half of Grant's monthly income, because he would hold no bonds, since holding them would entail additional brokerage costs but would not provide him with any interest income.
13. True. Because bonds are riskier than money, risk-averse people would be likely to want to hold both.
15. In Keynes's view, velocity is unpredictable because interest rates, which have large fluctuations, affect the demand for money and hence velocity. In addition, Keynes's analysis suggests that if people's expectations of the normal level of interest rates change, the demand for money changes. Keynes thought that these expectations moved unpredictably, meaning that money demand and velocity are also unpredictable. Friedman sees the demand for money as stable, and because he also believes that changes in interest rates have only small effects on the demand for money, his position is that the demand for money, and hence velocity, is predictable.

Chapter 23 The Keynesian Framework and the *ISLM* Model

2. Companies cut production when their unplanned inventory investment is greater than zero, because they are then producing more than they can sell. If they continue at current production, profits will suffer because they are building up unwanted inventory, which is costly to store and finance.
4. The equilibrium level of output is 1,500. When planned investment spending falls by 100, the equilibrium level of output falls by 500 to 1,000.
6. Nothing. The $100 billion increase in planned investment spending is exactly offset by the $100 billion decline in autonomous consumer expenditure, and autonomous spending and aggregate output remain unchanged.
8. Equilibrium output of 2,000 occurs at the intersection of the 45° line $Y = Y^{ad}$ and the aggregate demand function $Y^{ad} = C + I + G = 500 + 0.75Y$. If government spending rises by 100, equilibrium output will rise by 400 to 2,400.
10. Taxes should be reduced by $400 billion because the increase in output for a $\$T$ decrease in taxes is $\$T$; that is, it equals the change in autonomous spending $mpc \times T$ times the multiplier $1/(1 - mpc) = (mpc \times T)\,[1/(1 - mpc)] = 0.5T\,[1/(1 - 0.5)] = 0.5T/0.5 = T$.
12. Rise. The fall in autonomous spending from an increase in taxes is always less than the change in taxes because the marginal propensity to consume is less than 1. By contrast, autonomous spending rises one-for-one with a change in autonomous consumer expenditure. So if taxes and autonomous consumer expenditure rise by the same amount, autonomous spending must rise, and aggregate output also rises.
14. When aggregate output falls, the demand for money falls, shifting the money demand curve to the left, which causes the equilibrium interest rate to fall. Because the equilibrium interest rate falls when aggregate output falls, there is a pos-

itive association between aggregate output and the equilibrium interest rate, and the *LM* curve slopes up.

Chapter 24 Monetary and Fiscal Policy in the *ISLM* Model

2. When investment spending collapsed, the aggregate demand function in the Keynesian cross diagram fell, leading to a lower level of equilibrium output for any given interest rate. The fall in equilibrium output for any given interest rate implies that the *IS* curve shifted to the left.
4. False. It can also be eliminated by a fall in aggregate output, which lowers the demand for money and brings it back into equality with the supply of money.
6. The *ISLM* model gives exactly this result. The tax cuts shifted the *IS* curve to the right, while tight money shifted the *LM* curve to the left. The interest rate at the intersection of the new *IS* and *LM* curves is necessarily higher than at the initial equilibrium, and aggregate output can be higher.
8. Because it suggests that an interest-rate target is better than a money supply target. The reason is that unstable money demand increases the volatility of the *LM* curve relative to the *IS* curve, and as demonstrated in the text, this makes it more likely that an interest-rate target is preferred to a money supply target.
10. The effect on the aggregate demand curve is uncertain. A rise in government spending would shift the *IS* curve to the right, raising equilibrium output for a given price level. But the reduction in the money supply would shift the *LM* curve to the left, lowering equilibrium output for a given price level. Depending on which of these two effects on equilibrium output is stronger, the aggregate demand curve could shift either to the right or to the left.
12. No effect. The *LM* curve would be vertical in this case, meaning that a rise in government spending and a rightward shift in the *IS* curve would not lead to higher aggregate output but rather only to a rise in the interest rate. For any given price level, therefore, equilibrium output would remain the same, and the aggregate demand curve would not shift.
14. The increase in net exports shifts the *IS* curve to the right, and the equilibrium level of interest rates and aggregate output will rise.

Chapter 25 Aggregate Demand and Supply Analysis

2. Because the position of the aggregate demand curve is fixed if nominal income ($P \times Y$) is fixed, Friedman's statement implies that the position of the aggregate demand curve is completely determined by the quantity of money. This is built into the monetarist aggregate demand curve because it shifts only when the money supply changes.
4. The Keynesian aggregate demand curve shifts because a change in "animal spirits" causes consumer expenditure or planned investment spending to change, which then causes the quantity of aggregate output demanded to change at any given price level. In the monetarist view, by contrast, a change in "animal spirits" has little effect on velocity, and aggregate spending ($P \times Y$) remains unchanged; hence the aggregate demand curve does not shift.
6. True. Given fixed production costs, firms can earn higher profits by producing more when prices are higher. Profit-maximizing behavior on the part of firms thus leads them to increase production when prices are higher.
8. The aggregate supply curve would shift to the right because production costs would fall.
10. The collapse in investment spending during the Great Depression reduced the quantity of output demanded at any given price level and shifted the aggregate demand curve to the left. In an aggregate demand and supply diagram, the equilibrium price level and aggregate output would then fall, which explains the decline in aggregate output and the price level that occurred during the Great Depression.
12. Both the increase in the money supply and the income tax cut will increase the quantity of output demanded at any given price level and so will shift the aggregate demand curve to the right. The intersection of the aggregate demand and aggregate supply curve will be at a higher level of both output and price level in the short run. However, in the long run, the aggregate supply curve will shift leftward, leaving output at the natural rate level, but the price level will be even higher.
14. Because goods would cost more, the national sales tax would raise production costs, and the aggregate supply curve would shift to the left. The intersection of the aggregate supply curve with the aggregate demand curve would then be at a higher level of prices and a lower level of aggregate output; aggregate output would fall, and the price level would rise.

Chapter 26 Transmission Mechanisms of Monetary Policy: The Evidence

4. Seeing which car is built better produces structural model evidence, because it explains why one car is better than the other (that is, how the car is built). Asking owners how often their cars undergo repairs produces reduced-form evidence, because it looks only at the correlation of reliability with the manufacturer of the car.
5. Not necessarily. If GM car owners change their oil more frequently than Ford owners, GM cars would have better repair records, even though they are not more reliable cars. In this case, it is a third factor, the frequency of oil changes, that leads to the better repair record for GM cars.
6. Not necessarily. Although the Ford engine might be built better than the GM engine, the rest of the GM car might be better made than the Ford. The result could be that the GM car is more reliable than the Ford.
8. If the Fed has interest-rate targets, a rise in output that raises interest rates might cause the Fed to buy bonds and bid up their price in order to drive interest rates back down to their target level (see Chapter 5). The result of these open market purchases would be that the increase in output would cause an increase in the monetary base and hence an increase in

the money supply. In addition, a rise in output and interest rates would cause free reserves to fall (because excess reserves would fall and the volume of discount loans would rise). If the Fed has a free reserves target, the increase in aggregate output will then cause the Fed to increase the money supply because it believes that money is tight.

10. Monetarists went on to refine their reduced-form models with more sophisticated statistical procedures, one outcome of which was the St. Louis model. Keynesians began to look for transmission mechanisms of monetary policy that they may have ignored.
12. False. Monetary policy can affect stock prices, which affect Tobin's *q,* thereby affecting investment spending. In addition, monetary policy can affect loan availability, which may also influence investment spending.
14. There are three mechanisms involving consumer expenditure. First, a rise in the money supply lowers interest rates and reduces the cost of financing purchases of consumer durables, and consumer durable expenditure rises. Second, a rise in the money supply causes stock prices and wealth to rise, leading to greater lifetime resources for consumers and causing them to increase their consumption. Third, a rise in the money supply that causes stock prices and the value of financial assets to rise also lowers people's probability of financial distress, and so they spend more on consumer durables.

Chapter 27 Money and Inflation

2. Because hyperinflations appear to be examples in which the increase in money supply growth is an exogenous event, the fact that hyperinflation occurs when money growth is high is powerful evidence that a high rate of money growth causes inflation.
4. False. Although workers' attempts to push up their wages can lead to inflation if the government has a high employment target, inflation is still a monetary phenomenon, because it cannot occur without accommodating monetary policy.
6. True. If financed with money creation, a temporary budget deficit can lead to a onetime rightward shift in the aggregate demand curve and hence to a onetime increase in the price level. However, once the budget deficit disappears, there is no longer any reason for the aggregate demand curve to shift. Thus a temporary deficit cannot lead to a continuing rightward shift of the aggregate demand curve and therefore cannot produce inflation, a continuing increase in the price level.
8. True. The monetarist objection to activist policy would no longer be as serious. The aggregate demand curve could be quickly moved to AD_2 in Figure 11, and the economy would move quickly to point 2 because the aggregate supply curve would not have as much time to shift. The scenario of a highly variable price level and output would not occur, making an activist policy more desirable.
10. True, if expectations about policy affect the wage-setting process. In this case, workers and firms are more likely to push up wages and prices because they know that if they do so and unemployment develops as a result, the government will pursue expansionary policies to eliminate the unemployment. Therefore, the cost of pushing up wages and prices is lower, and workers and firms will be more likely to do it.
12. True. If expectations about policy have no effect on the aggregate supply curve, a cost-push inflation is less likely to develop when policymakers pursue an activist accommodating policy. Furthermore, if expectations about policy do not matter, pursuing a nonaccommodating, nonactivist policy does not have the hidden benefit of making it less likely that workers will push up their wages and create unemployment. The case for an activist policy is therefore stronger.
14. The Fed's big stick is the ability to let unemployment develop as a result of a wage push by not trying to eliminate unemployment with expansionary monetary policy. The statement proposes that the Fed should pursue a nonaccommodating policy because this will prevent cost-push inflation and make it less likely that unemployment develops because of workers' attempts to push up their wages.

Chapter 28 Rational Expectations: Implications for Policy

2. A tax cut that is expected to last for ten years will have a larger effect on consumer expenditure than one that is expected to last only one year. The reason is that the longer the tax cut is expected to last, the greater its effect on expected average income and consumer expenditure.
4. True, if the anti-inflation policy is credible. As shown in Figure 6, if anti-inflation policy is believed (and hence expected), there is no output loss in the new classical model (the economy stays at point 1 in panel b), and there is a smaller output loss than would otherwise be the case in the new Keynesian model (the economy goes to point 2″ rather than point 2′ in panel c).
6. Uncertain. It is true that policymakers can reduce unemployment by pursuing a more expansionary policy than the public expects. However, the rational expectations assumption indicates that the public will attempt to anticipate policymakers' actions. Policymakers cannot be sure whether expansionary policy will be more or less expansionary than the public expects and hence cannot use policy to make a predictable impact on unemployment.
8. True, because the Lucas critique indicates that the effect of policy on the aggregate demand curve depends on the public's expectations about that policy. The outcome of a particular policy is therefore less certain in Lucas's view than if expectations about it do not matter, and it is harder to design a beneficial activist stabilization policy.
10. Yes, if budget deficits are expected to lead to an inflationary monetary policy and expectations about monetary policy affect the aggregate supply curve. In this case, a large budget deficit would cause the aggregate supply curve to shift more

to the left because expected inflation would be higher. The result is that the increase in the price level (the inflation rate) would be higher.

13. The aggregate supply curve would shift to the left less than the aggregate demand curve shifts to the right; hence at their intersection, aggregate output would rise and the price level would be higher than it would have been if money growth had been reduced to a rate of 2%.
14. Using the traditional model, the aggregate supply curve would continue to shift leftward at the same rate, and the smaller rightward shift of the aggregate demand curve because money supply growth has been reduced would mean a smaller increase in the price level and a reduction of aggregate output. In the new Keynesian model, the effect of this anti-inflation policy on aggregate output is uncertain. The aggregate supply curve would not shift leftward by as much as in the traditional model, because the anti-inflation policy is expected, but it would shift to the left by more than in the new classical model. Hence inflation falls, but aggregate output may rise or fall, depending on whether the aggregate supply curve shifts to the left more or less than the aggregate demand curve shifts to the right.