

# The Fed and Monetary Policy

## Economics & You



One important requirement of money is that it be worth about the same amount from one year to the next. In Chapter 15, you will learn that money must have stability in value to function as it should. To learn more about how the Federal Reserve System controls the money supply, view the Chapter 22 video lesson:

### The Federal Reserve System and Monetary Policy



**Chapter Overview** Visit the *Economics: Principles and Practices* Web site at [epp.glencoe.com](http://epp.glencoe.com) and click on *Chapter 15—Chapter Overviews* to preview chapter information.

◀ **CLICK HERE**

The Federal Reserve System controls the supply of money in the economy.

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# The Federal Reserve System

## Study Guide

### Main Idea

The Federal Reserve works to strengthen and stabilize the nation's monetary system.

### Reading Strategy

**Graphic Organizer** As you read this section, complete a graphic organizer similar to the one below by listing the components that make up the Federal Reserve System.



### Key Terms

member bank, bank holding company, Regulation Z, currency, coins

### Objectives

After studying this section, you will be able to:

1. **Describe** the structure of the Federal Reserve System.
2. **Explain** the major regulatory responsibilities of the Fed.

### Applying Economic Concepts

**Truth-in-Lending Laws** Have you or your parents ever bought anything on credit? Read to find out how the Fed influences the type of information you receive from the lender.

## Cover Story

### Design by Sculptor of Vietnam Women's Memorial Selected for Coin

A rendering of Sacagawea by the New Mexico sculptor who created the Vietnam Women's Memorial will appear in millions of Americans' pockets starting in 2000.

After sorting through more than 90,000 comments delivered via the Internet, U.S. Mint officials [selected a design by] Glenna Goodacre of Santa Fe. . . . It will depict the Shoshone teenager who accompanied explorers Meriwether Lewis and William Clark to the Pacific Ocean in 1805. . . . Just 16 when she accompanied the explorers, Sacagawea acted as an interpreter and go-between with tribes along the way. . . .

Officials weren't sure Americans would accept the nontraditional look, . . . but Internet responses overwhelmingly favor the mother and child theme and the realistic portrayal.


—CNNInteractive, December 17, 1998



Rendering of Sacagawea used for the coin

**O**n December 23, 1913, Congress created the Federal Reserve System, or “Fed,” as the central bank of the United States. Today, the Fed provides financial services to the government, regulates financial institutions, maintains the payments system, enforces consumer protection laws, and conducts monetary policy. Even the new Sacagawea dollar coin featured in the cover story is warehoused and distributed by the Fed. Because everyone uses money, and because interest rates affect the overall level of economic activity, the Fed's activities affect us all.

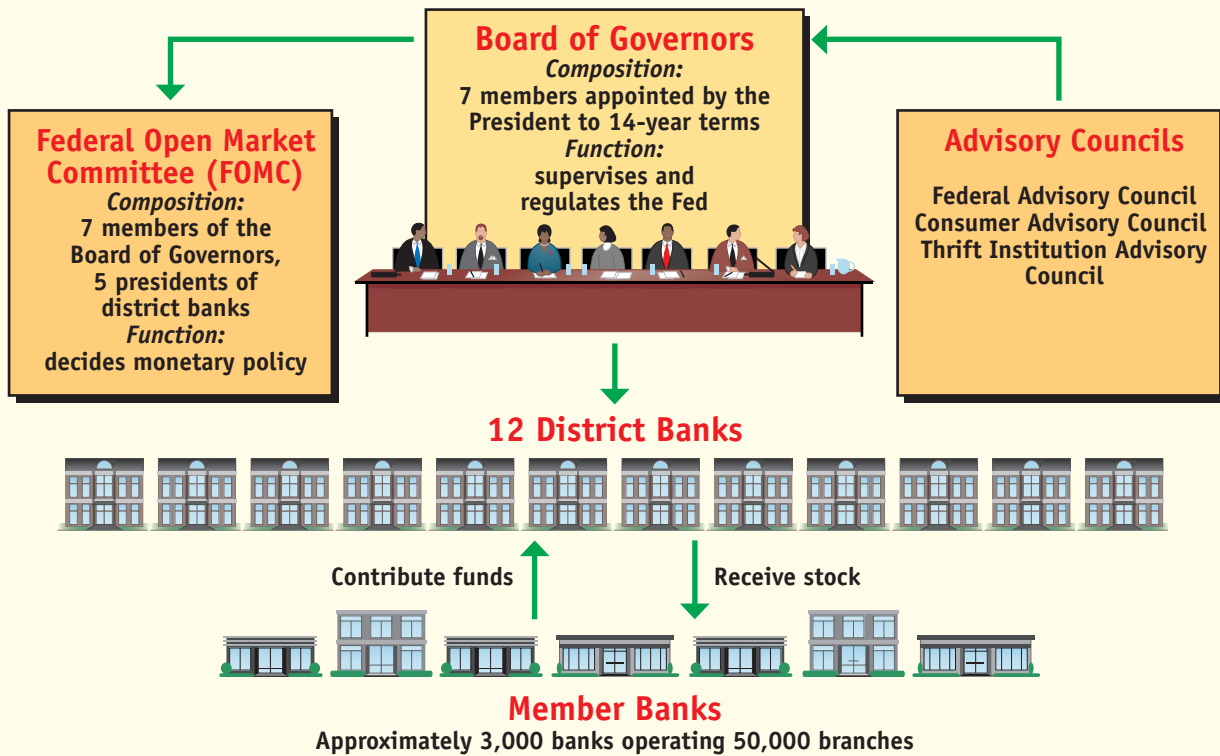
## Structure of the Fed

 **Figure 15.1** outlines the main organizational structure of the Federal Reserve System. The Fed's main components have remained practically unchanged since the Great Depression of the 1930s.

## Private Ownership

One of the unique features of the Fed is that it is privately owned by its **member banks**—commercial banks that are members of, and hold

## Structure of the Federal Reserve System



**Using Charts** The Board of Governors supervises the Federal Reserve System. The FOMC has primary responsibility for monetary policy. The member banks contribute a small amount of funds and receive stock ownership shares in return. Three advisory councils also provide direct advice to the Board on a regular basis. **What functions does the Board of Governors perform?**

stock in, the Fed. When the Fed was established in 1913, it was organized as a corporation that issued shares of stock, just like any other corporation. Individual banks may or may not belong to the Fed. National banks—those chartered by the national government—*must* belong. Those chartered by state governments have the choice to belong or not.

When privately owned banks joined the Fed, they were required to purchase some of its shares. This made them part owners of the Fed, just as someone might own shares in IBM, Ford Motor, or Microsoft. Only member banks can own shares.

Private individuals can only own shares indirectly by owning shares of stock in a Fed-member bank. Today, Fed membership consists of all national banks and some state banks.

### Board of Governors

In 1935 Congress established a seven-member Board of Governors for the Federal Reserve System. Each member is appointed by the president and approved by the Senate to serve a 14-year term of office. These appointments are staggered, so that one

appointment becomes vacant every two years. As a result, there are always experienced people on the board.

The Board is primarily a regulatory and supervisory agency. It sets general policies for Federal Reserve and member banks to follow, regulates certain operations of state-chartered member banks, and conducts some aspects of monetary policy. It also makes a report each year to Congress and puts out a monthly bulletin that reports on national and international monetary matters.

## Federal Reserve District Banks

When the Fed was established in 1913, it was intended to operate as a system of 12 independent and equally powerful banks. Each reserve bank was responsible for a district, and Federal Reserve notes even carried the name of the district bank on the seal to the left of the portrait. Restructuring minimized, and later eliminated, the Fed's regional nature. The new Fed seal does not incorporate any mention of the district banks.

Today, the 12 Federal Reserve district banks and 25 additional branch banks are strategically located so that they can be near the commercial banks they serve. While each of the 12 banks has its own president and board of directors, the Reserve banks are supervised by the Federal Reserve Board in Washington, D.C. The Federal Reserve banks carry out the same functions for banks and thrift institutions as those institutions carry out for people. The district banks accept the deposits of and make loans to banks and thrift institutions, just as banks perform these functions for the public.

## Federal Open Market Committee

The Federal Open Market Committee (FOMC) makes decisions about the growth of the money supply and the level of interest rates. It has 12 voting members: seven members from the Board of

Governors, the president of the New York district Fed, and four district Federal Reserve bank presidents who serve one-year rotating terms. The remaining seven Reserve bank presidents participate in the committee on a non-voting basis.

The committee meets eight times a year in Washington, D.C., to review the country's economy and to make decisions about the cost and availability of credit. Most decisions are made in private but are announced almost immediately. The FOMC is the Fed's primary monetary policy-making body.

## Advisory Committees

The Fed has three advisory committees that advise the Board of Governors directly. The first is the Federal Advisory Council, which consists of representatives from each of the 12 district banks. It provides advice to the Federal Reserve on matters concerning the overall health of the economy.

The second committee is the Consumer Advisory Council. The council's 30 members meet with the Board three times a year on consumer credit laws.




**Responsibilities** The Board of Governors supervises the entire Federal Reserve System. **What are the duties of the Board of Governors?**

Members include educators, consumer legal specialists, and representatives from consumer and financial industry groups.

The third advisory group is the Thrift Institutions Advisory Council. On the council are representatives from savings and loan associations, savings banks, and credit unions. It meets with the Board three times a year to advise on matters pertaining to the thrift industry.

## Regulatory Responsibilities

 The Federal Reserve System has a broad range of responsibilities ranging from member bank supervision to enforcing consumer legislation.

## State Member Banks

All depository institutions—including commercial banks, savings banks, savings institutions, and credit unions—must maintain reserves against their customers' deposits. The Fed is responsible for monitoring the reserves of its state-chartered member banks, while other federal agencies monitor the reserves of nonmember banks and other depository institutions.

While reserves were originally a matter of prudent banking practice, they fulfill two key roles

today. First, the banks use reserves to clear checks. Second, the Fed uses reserves to control the size of the money supply.

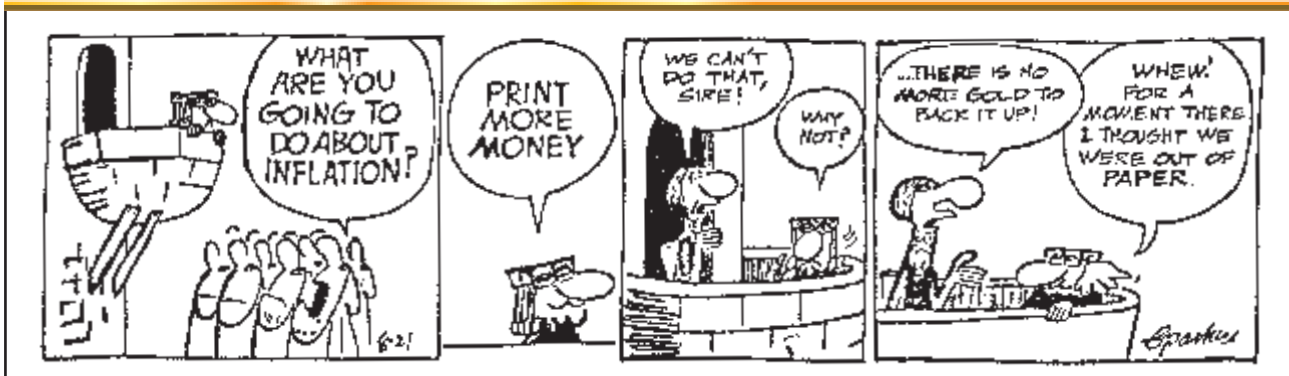
## Bank Holding Companies

The Fed also has broad legislative authority over **bank holding companies**—corporations that own one or more banks. Holding companies, unlike banks, do not accept deposits or make loans. When individuals buy stock in a bank today, they generally purchase the stock of the holding company, which in turn owns one or more individual banks.

This arrangement may seem unusual, but it can be traced to the many restrictions placed on banks after many of them failed during the Great Depression. At the time, bankers tried to sidestep the restrictions by setting up holding companies that would not be subject to banking laws because they were not banks in the traditional sense. Later, Congress gave the Fed the power to regulate the activities of the holding companies so that they could not evade restrictions.

Today about 5,900 holding companies control approximately 6,300 commercial banks. In many cases, the holding company structure has resulted in even more regulation and supervision. For example, the FDIC may inspect and regulate three nonmember state banks that a single holding company owns, while the Fed regulates the holding company itself.

## Financial Services



**Managed Money** Because nations no longer back their money with gold, they rely on central banks, like the Fed, to manage the amount of money in circulation. *What financial services does the Fed provide to the government?*

## International Operations

Foreign banks have a large presence in the economy. Banks from about 55 different countries operate about 250 branches and agencies in the United States. In addition, foreign banks own shares of many large United States banks. In all, foreign banks control about 20 percent of all banking assets in the United States.

The Fed has broad authority to supervise and regulate these foreign banks. Branches and agencies of these banks are examined annually, and the Fed even has the power to terminate the domestic operations of foreign banks.


In addition, the Fed authorizes and supervises the international operations of United States member banks and holding companies. Currently, Fed member banks operate about 800 branches in foreign countries.

## Member Bank Mergers

A merger of two or more banks requires the approval of the appropriate federal banking authority. If the surviving bank is a state member bank, the Fed must approve the merger.

Other banking authorities approve other mergers. If two national banks merge, the Comptroller of the Currency, a Treasury Department official, must approve the merger. If two nonmember state banks merge, the FDIC must approve the merger.

## Other Federal Reserve Services

 The Federal Reserve has other responsibilities as well. These include clearing checks, enforcing consumer legislation, maintaining currency and coins, and providing financial services to the government.

One major service the Fed performs is that of clearing checks, a process that makes extensive use of the reserves in the banking system. In general, the deposits that member banks keep with the Fed are shifted from one bank to another, depending on the way checks are written on the member banks.

**Figure 15.2** illustrates the check-clearing process. The person in the example writes a \$5 check. As the check is processed through the banking system,

## Bank Mergers



“For credit-card information, press one; for a current statement, press two; for the bank’s present owner, press three.”

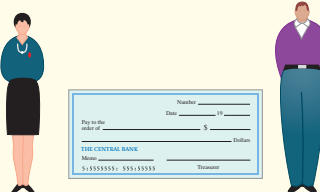
**The Fed’s Role** Mergers are a fact of economic life. *What is the Federal Reserve’s role in bank mergers?*

funds are moved from one member bank’s account to another until the check returns to the issuer. The money is then removed from the issuer’s checking account.

The Fed clears millions of checks at any given time by using the latest high-speed check-sorting equipment available. In some cases banks gather information from a check when it is deposited, and then transfer the information to computer files. These files are sent to the Fed, which uses the information to adjust member banks’ accounts. In this way, the member bank’s balance can be adjusted without the check having to go through the entire system.

The Fed is also responsible for some consumer legislation, primarily the federal Truth in Lending Act that requires sellers to make complete and accurate disclosures to people who buy on credit. Under **Regulation Z**, the Fed has the authority to

## Clearing a Check



Anna	
DDA <del>\$100</del>	
95	

The check is returned to Anna.

**Bank X**



Bank X then returns Anna's check to her at the end of the month, along with any others she wrote during the same period. When Anna gets the canceled checks, she balances her checkbook to make sure her records agree with the bank's.

Nathan	
DDA <del>\$100</del>	
105	

Nathan deposits the check.

**Bank Y**

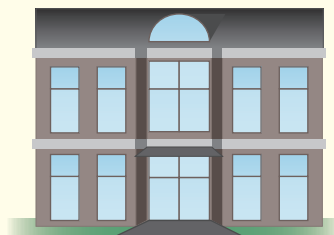


Nathan, who banks at Bank Y, now has the check. If he decides to cash it, he will have \$5 in currency in addition to his DDA of \$100. If he decides to make a deposit, his DDA will rise to \$105. Either way, Bank Y ends up with the check written by Anna.

Bank X learns of Anna's check only when it arrives from the Fed. The bank then makes up for the loss of the \$5 in its MBR account by reducing Anna's DDA by \$5.

Bank X	
MBR <del>\$10</del>	Anna's DDA <del>\$100</del>
5	95

Bank X has its MBR reduced, and receives Anna's check.



District Federal Reserve System Bank	
MBR Bank X <del>\$10</del>	
5	
MBR Bank Y <del>\$10</del>	
15	

Because the check is drawn on Bank X, Bank Y gets payment for it by sending the check to the district Federal Reserve Bank. The Fed then processes the check by transferring \$5 from Bank X's MBR account to Bank Y's MBR account. The Fed then sends Anna's check to Bank X.

Bank Y	
MBR <del>\$10</del>	Nathan's DDA <del>\$100</del>
15	105

Bank Y sends the check to the Fed district bank for payment.

## Did you know?

**Commercial Banks** Commercial banks are the largest financial institutions in the country and are the main sources for exchanging money. The first commercial bank in the United States was founded in 1781 in Philadelphia. Today, commercial banks hold about two-thirds of the nation's money deposits.

extend truth-in-lending disclosures to millions of individuals who purchase or borrow from corporations, retail stores, automobile dealers, banks, and lending institutions.

If you buy furniture or a car on credit, for example, you will discover that the seller must explain several items before you make the purchase. These items include the size of the down payment, the number and size of the monthly payments, and the total amount of interest over the life of the loan.

Today's **currency**, the paper component of the money supply, is made up of Federal Reserve notes—fiat paper money issued by Federal Reserve banks and printed at the Bureau of Engraving and Printing. This currency, issued in amounts of \$1, \$2, \$5, \$10, \$20, \$50, and \$100, is distributed to the Fed district banks for storage.

The Bureau of the Mint produces **coins**—metallic forms of money—such as pennies, nickels, dimes, quarters, and the new Sacagawea dollar coin. After the coins are minted, they are shipped to the Fed district banks for storage. When member banks need additional coins or currency, they contact the Fed to fulfill their needs.

When banks come across coins or currency that are mutilated or cannot be used for other reasons, they return it to the Fed for replacement. The Fed then destroys the old money so that it cannot be put back into circulation.

One of the Fed's important functions involves the financial services it provides to the federal government and its agencies. For example, the Fed conducts nationwide auctions of Treasury bills, bonds, and notes. It also issues, services, and redeems these securities on behalf of the Treasury. In the process, it maintains the equivalent of numerous demand deposit accounts for the Treasury and clears all checks drawn on those accounts. Other accounts are used to process the tens of millions of dollars of U.S. savings bonds that are sold and redeemed annually.

The Fed also maintains accounts for the IRS, which holds federal taxes paid by individuals and businesses. In fact, any check written to the United States Treasury is deposited in the Fed. Any federal agency check, such as a monthly Social Security payment, comes from accounts held at the Fed. In essence, the Fed serves as the federal government's bank.

## Section 1 Assessment

### Checking for Understanding

- 1. Main Idea** What is the purpose of the Federal Reserve?
- 2. Key Terms** Define member bank, bank holding company, Regulation Z, currency, coins.
- 3. Describe** the structure of the Fed.
- 4. List** eight areas in which the Fed has responsibility.

### Applying Economic Concepts

- 5. Truth-in-Lending Laws** Visit any local store that sells goods on credit—appliances, cars, or furniture, for example. Ask the owner or

manager about the type of information that the store is required to disclose when the sale is made. Obtain copies of the disclosure forms and share them with your classmates.

### Critical Thinking

- 6. Synthesizing Information** One of the responsibilities of the Fed is to approve or disapprove mergers between state member banks. Explain how the mergers of two such banks would be classified according to the discussion of mergers in Chapter 3.



Practice and assess key social studies skills with the *Glencoe Skillbuilder Interactive Workbook, Level 2*.



# Profiles IN Economics

## Enormous Power: Alan Greenspan (1926–)

In some ways, Alan Greenspan is like many other people in government today—a longtime public servant, a respected administrator, and a fiscally conservative theorist with a Ph.D. in economics. What sets him apart, however, is that he is widely regarded as being the second most powerful person in America, after the president.

Greenspan is chairman of the Federal Reserve System’s Board of Governors. As such, his views on the economy are closely monitored by almost everyone in the business community.

### MOVING MARKETS

In late 1996, when stocks were setting record highs during a bull market, Greenspan asked publicly if prices weren’t being propelled by the “irrational exuberance” of investors. The reaction to his remarks was almost instantaneous: investors, fearing that the Fed chairman was about to implement restrictive monetary policies that would drive stock prices down, began to sell. Within hours, stock exchanges around the world lost 2 percent of their value, and the



Dow-Jones Industrial Average fell 145 points. Such is the power of Greenspan.

### FISCAL CONSERVATISM

Greenspan is a longtime conservative. Early in his career, he was even a staunch advocate of the gold standard, which he saw as a way to assure monetary stability and fiscal responsibility by government. In his career he has worked as an economic consultant to private industry and served on a number of corporate and industry boards. Greenspan served from 1974 to 1977 as chair of the president’s Council on Economic Advisors during the Ford administration. From 1981 to 1983, he chaired the National Commission on Social Security Reform, leading

to the reform of the nation’s Social Security system.

Greenspan joined the Fed in 1987 and was appointed chair of the Fed’s Board of Governors by Presidents Reagan, Bush, and Clinton. Greenspan continues to be a strong supporter of the free market and an opponent of government intervention in the economy. As the second most powerful person in America, people will continue to scrutinize his every statement.

### Examining the Profile

- 1. Synthesizing Information** Explain how Greenspan’s position as chairman of the Federal Reserve System’s Board of Governors makes him extremely influential.
- 2. Evaluating Information** Do you think Greenspan has too much power? Explain your answer.

# Monetary Policy

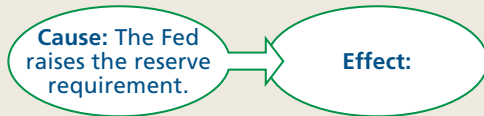
## Study Guide

### Main Idea

Federal Reserve actions intended to stabilize the economy make up what is called monetary policy.

### Reading Strategy

**Graphic Organizer** As you read the section, complete a graphic organizer similar to the one below.



### Key Terms

monetary policy, fractional reserve system, legal reserves, reserve requirement, excess reserves, liabilities, assets, balance sheet, net worth, liquidity, savings

account, time deposit, member bank reserve, easy money policy, tight money policy, open market operations, discount rate, margin requirement, moral suasion, selective credit controls

### Objectives

After studying this section, you will be able to:

1. **Describe** the use of fractional reserves.
2. **Understand** the tools used to conduct monetary policy.

### Applying Economic Concepts

**Fractional Bank Reserves** Did you know that most of our money supply exists in the form of intangible computer entries? Read to find out how the fractional reserve system works.

## Cover Story

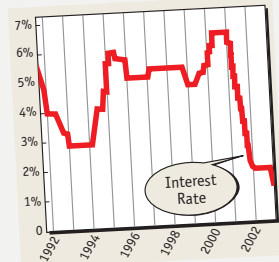
### Greenspan Argues Against Strict Rules for Fed

JACKSON HOLE—Fending off critics who say the nation's monetary policy has become too personalized, . . . Alan Greenspan, chairman of the Fed, [said] that the Fed should have broad discretion and not be hemmed in by formal rules.

In speaking out against formal rules for Fed decision-making, Mr. Greenspan said the world economy was so complex that policymakers could not assume that the economy would behave in [a predictable] way.

Critics have argued that Fed policy is too dependent on the instincts of the chairman and that it needs to be anchored in principles that can reliably guide policy after he has retired.

—The New York Times, August 29, 2003



Interest rate

One of the Federal Reserve System's most important responsibilities is that of monetary policy. **Monetary policy** is the expansion or contraction of the money supply in order to influence the cost and the availability of credit. The Fed, as you read in the cover story, does not hesitate to change interest rates whenever the economy's health is threatened.

Monetary policy is a structured process. In order to understand it better, it helps to understand the fractional reserve system that our banking system is based on.

## Fractional Bank Reserves



The United States has a **fractional reserve system**, which requires banks and other depository institutions to keep a fraction of their deposits in the form of legal reserves. **Legal reserves** consist of coins and currency that depository institutions hold in their vaults, plus deposits with Federal Reserve district banks. Under this system, banks are subject to a **reserve requirement**, a rule stating that a percentage of every deposit be set aside as legal reserves.

To illustrate, the banking system today operates with a 12 percent reserve requirement against demand deposit accounts. That means that whenever someone deposits \$100 to open a checking account, \$12 must be set aside as vault cash or kept as a deposit at the Fed. The other \$88 is called **excess reserves**—legal reserves in excess of the reserve requirement. The excess reserves are the funds the bank can lend to others who may want a loan.

## How Banks Operate

To understand how a bank operates, it helps to examine the bank’s liabilities and assets. Its **liabilities** are the debts and obligations to others. Its **assets** are the properties, possessions, and claims on others. Liabilities and assets generally are put together in the form of a **balance sheet**—a condensed statement showing all assets and liabilities at a given time. The balance sheet also reflects **net worth**—the excess of assets over liabilities, which is a measure of the value of a business.

## Organizing a Bank

Suppose someone obtains a charter to start the hypothetical State Bank of Highland Heights. The bank is organized as a corporation, and the owners supply \$20 so that the bank can obtain buildings and furniture before it opens for business. In return for this investment, the owners receive stock, which shows as net worth or equity. **Panel A** in **Figure 15.3** shows how the balance sheet of the bank might look as soon as it is organized.

The balance sheet shows the assets on the left and the liabilities and net worth on the right. To see why

net worth is placed on the right side of the balance sheet, rearrange the definition of net worth from

$$\begin{aligned} \text{Assets} - \text{Liabilities} &= \text{Net Worth} \\ \text{to} \\ \text{Assets} &= \text{Liabilities} + \text{Net Worth} \end{aligned}$$

The balance sheet in the figure is sometimes called a *T-account* because of its appearance, separating the assets from the liabilities and net worth the same way the equal sign does in the above equation. The T-account also works like an equal sign in that the entries on the left must always be equal to the entries on the right.

## Accepting Deposits

Suppose that now a customer walks in and opens a checking account with \$100 in currency. This transaction, shown in **Panel B** of **Figure 15.3**, is reflected on the balance sheet in two ways.

First, to indicate that the money is owed to the depositor, the \$100 checking account (or demand deposit) is carried as a liability. Second, to indicate that the cash is the property of the bank, it also appears as an asset on the balance sheet. Actually, the \$100 appears in two places on the asset side—\$90 appears as cash, and \$10 appears as required reserves. The size of the reserve is determined by the reserve requirement, which is assumed to be 10 percent in this example. If the requirement was 15 percent, \$15 would be set aside.

## Making Loans

Now that the bank has some cash on hand, it can make loans. Specifically, it is free to loan out \$90 of excess reserves, the cash and currency not needed to fulfill the reserve requirement.

If another person enters the bank and borrows an amount equal to the excess reserves, the \$90 is moved from the cash line to the loans, or accounts receivable, line in the balance sheet. These changes appear in **Panel C**. Note that there is no change in total assets, only in their distribution—a change from a noninterest-earning asset (cash) to an interest-earning one (a consumer loan).

If the bank charged 12 percent interest on the new loan, it would earn 12 percent of \$90, or

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\$10.80 each year. This income, along with income earned on other loans, would then be used to pay its officers and employees; its utility bills, taxes, other business expenses; and its stock dividends.

## Reaching Maturity

In time, the bank would grow and prosper, diversifying its assets and liabilities in the process. Most of the bank's deposits would eventually return to the community in the form of loans, and some of those loans would return to the bank in the form of new deposits.

The bank might even use some of its excess reserves to buy federal, state, or local bonds and other securities. The bonds and securities are helpful for two reasons. They earn interest and, therefore, are more attractive than cash. They also have a high degree of **liquidity**—the potential to be converted into cash in a very short time. Liquidity adds to the bank's ability to serve its customers. When the demand for loans increases, the bank can sell its bonds and then lend the cash to customers.

The bank also might try to attract additional funds by introducing different kinds of products. One product is a certificate of deposit, a receipt showing that an investor has made an interest-bearing loan to a bank. Most banks also offer **savings accounts** and **time deposits**, interest-bearing deposits that cannot be withdrawn by check. The two accounts are similar, except that prior notice must be given to withdraw time deposits, while no prior notice is needed to withdraw savings.

Unless costs are extremely high, the bank should be able to make a

## Balance Sheet Entries for a Hypothetical Commercial Bank

**A** When a bank is organized as a corporation, the owners contribute cash used to buy buildings and furniture. In return, the owners receive stock.

Assets		Liabilities + NW	
Required Reserves:		Demand Deposits:	
Cash:		Net Worth or Equity:	\$20
Loans:			
Bonds:			
Buildings and Furniture:	\$20		
	<b>\$20</b>		<b>\$20</b>

**B** When a customer opens an account, some of the deposit is set aside as a reserve, while the excess can be loaned out. Note that Net Worth (NW) remains unchanged.

Assets		Liabilities + NW	
Required Reserves:	\$10	Demand Deposits:	\$100
Cash:	\$90	Net Worth or Equity:	\$20
Loans:			
Bonds:			
Buildings and Furniture:	\$20		
	<b>\$120</b>		<b>\$120</b>


**C** When another person wants to borrow money, the bank can lend all cash in excess of its required reserves.

Assets		Liabilities + NW	
Required Reserves:	\$10	Demand Deposits:	\$100
Cash:		Net Worth or Equity:	\$20
Securities:			
Loans:	\$90		
Bonds:			
Buildings and Furniture:	\$20		
	<b>\$120</b>		<b>\$120</b>

**Using Charts** The T-accounts for the hypothetical bank trace the receipt of deposits through the loan-generating process. **If the reserve requirement was 20 percent, how much could the bank loan?**

profit if it can maintain a 2- to 3-percent spread between the rate it charges on its loans and the rate it pays for borrowed funds in the form of CDs, savings accounts, and time deposits. If a bank pays 6 percent interest on money it receives, for example, it must loan money at a minimum of 8 or 9 percent to make enough income to pay expenses.

## Fractional Reserves and Monetary Expansion

 The fractional reserve system allows the money supply to grow to several times the size of the reserves the banking system keeps. **Figure 15.4** uses a reserve requirement of 20 percent to show how this can happen.

## Loans and Monetary Growth

In the figure, a depositor named Fred opens a demand deposit account (DDA) on Monday by depositing \$1,000 cash in a bank. By law, \$200 of Fred's deposit must be set aside as a reserve in the form of vault cash or in a **member bank reserve (MBR)**—a deposit a member bank keeps at the Fed to satisfy reserve requirements. The remaining \$800 of excess reserves represents the bank's lending power.

On Tuesday, the bank lends its excess reserves of \$800 to Bill. Bill can take the loan either in cash or in the form of a DDA with the bank. If he decides to take the DDA, the money never leaves the bank. Instead, it is treated as a new deposit, and 20 percent, or \$160, is set aside as a reserve. The remaining \$640 are excess reserves that can be lent to someone else.

On Wednesday, Maria enters the bank and borrows \$640. She, too, can take the loan in cash or a DDA. If she elects to do the latter, the bank has a new \$640 deposit, 20 percent of which must be set aside as a required reserve, leaving \$512 of excess reserves.

By Wednesday, Fred has a \$1,000 DDA, Bill has an \$800 DDA, and Maria has either \$640 in cash or a \$640 DDA. This amounts to \$2,440 in the hands of the nonbank public by the end of the business day—a process that began on Monday with the \$1,000 deposit. As long as the bank continues to have excess reserves, the lending process can continue.

## Reserves and the Money Supply

Because each new loan is smaller than the one before, the money supply will stop growing at some point. A mathematical relationship exists between the dollar amount of reserves, the reserve requirement, and the size of the money supply. For example, if the total dollar amount of

### Banks as Businesses



**Services to Customers** Banks provide a source of loans for individuals and businesses that need to borrow money. Banks also provide safety and interest income for their depositors' money. *What are time deposits?*

reserves equals 20 percent of the money supply, we could write:

$$\begin{aligned} \text{Total Reserves} &= .20 (\text{Money Supply}) \\ \text{or,} \\ \$1,000 \div .20 &= \text{Money Supply} \\ \text{Therefore, } \$5,000 &= \text{Money Supply} \end{aligned}$$

This shows that \$1,000 of total reserves, given a 20 percent reserve requirement, will result in a money supply of \$5,000. This amount is the final outcome of the example in **Figure 15.4**, after Fred made his initial deposit.

After the money supply has reached its full size, further changes in the amount of total reserves can still affect it. Using the symbol  $\Delta$ , meaning *change in*, we see that:


$$\begin{aligned} \Delta \text{ Reserves} &= .20 (\Delta \text{ Money Supply}) \\ \text{or,} \\ \Delta \text{ Reserves} \div .20 &= \Delta \text{ Money Supply} \end{aligned}$$

Someone, for example, might withdraw \$5 from the bank and keep it permanently in a wallet. The money supply would then change by:

$$\begin{aligned} \Delta \text{ Reserves} \div .20 &= \Delta \text{ Money Supply} \\ \text{or,} \\ -\$5 \div .20 &= -\$25 \end{aligned}$$

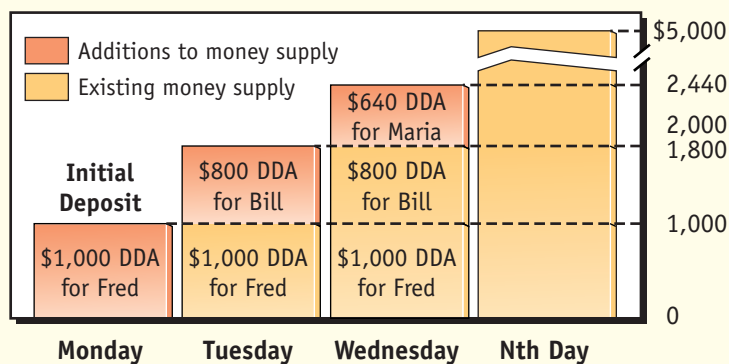
In other words, the money supply would shrink by \$25, from \$5,000 to \$4,975.

## Tools of Monetary Policy

 The Fed has three major and two minor tools it can use to conduct monetary policy. Each tool affects the amount of excess reserves in the system, which in turn affects the monetary expansion process described above. The outcome of monetary policy is to influence the cost and availability of credit. The direction of change depends on the objectives of the Federal Reserve System.

Under an **easy money policy**, the Fed allows the money supply to grow and interest rates to fall, which normally stimulates the economy. When interest rates are low, people tend to buy on credit.

### Fractional Reserves and the Money Supply



**Using Charts** With a 20 percent reserve requirement, a \$1,000 cash deposit will result in a fivefold expansion of the money supply. To compute the eventual size of the money supply, use the formula below.

$$\begin{aligned} \text{Total Reserves} + \text{Reserve Requirement} &= \text{Money Supply} \\ \text{or } \$1,000 + .20 &= \$5,000 \end{aligned}$$

**If the initial reserves were \$2,000, how large could the money supply get?**

This encourages sales at stores and production at factories. Businesses also tend to borrow and then invest in new plants and equipment when money is cheap. Under a **tight money policy**, the Fed restricts the growth of the money supply, which drives interest rates up. When interest rates are high, consumers and businesses borrow and spend less, which slows economic growth.

## Reserve Requirement

The first tool of monetary policy is the reserve requirement. Within limits that Congress sets, the Fed can change this requirement for all checking, time, or savings accounts in the country.

This tool gives the Fed considerable control over the money supply. For instance, suppose the Fed lowers the reserve requirement in the previous

example from 20 to 10 percent. More money could be loaned to Bill, Maria, and others, and the money supply could reach \$10,000. If the Fed raises the reserve requirement to 40 percent, however, less money would be loaned, and the money supply would be smaller. The effects of different reserve requirements are shown in **Figure 15.5**.

Historically, the Fed has been reluctant to use the reserve requirement as a policy tool, in part because other monetary policy tools work better. Even so, the reserve requirement can be a very powerful tool should the Fed decide to use it. **Figure 15.6** summarizes the impact of a change in the reserve requirement on the money supply in the manner just described, along with the impact of the other monetary tools described below.

## Open Market Operations

The second and most popular tool of monetary policy is **open market operations**—the buying and

selling of government securities in financial markets. Open market operations are one of the methods the Federal Reserve can use to influence short-term interest rates. Open market operations involve the purchase or sale of government securities by the Federal Reserve. When the Fed purchases government securities, it increases the supply of money, putting downward pressure on interest rates. When the Fed sells government securities, it decreases the supply of money, putting upward pressure on interest rates. Open market operations affect the amount of excess reserves in the banking system and, therefore, the ability of banks to support new loans.

Suppose the Fed decides to increase the money supply. To do so, it buys government securities from a dealer who specializes in large-volume transactions of those securities. The Fed pays for the securities by writing a check drawn on itself. The dealer then deposits the check with his or her bank. The bank forwards the check to the Fed for payment. At this



## THE GLOBAL ECONOMY

### THE EURO: TODAY AND IN THE FUTURE

In 2002 European industry transferred to a single currency, the euro. Monetary union means that industries can build plants, sell products, and raise capital in other European markets without worrying about currency fluctuations.

Retooling was costly, however. Most multinational corporations invested millions of dollars. Some converted their entire operations to the *euro* system immediately. Other companies instituted the changes in phases. In step 1, for example, companies adapted their computers to bill customers and pay suppliers in euros. At the same time, they maintained dual accounting in euros and national currencies. Step 2 included converting transactions such

as budget allocations and payments between subsidiaries into euros. Step 3 included the changeover of human resource functions, including payroll and benefits and paying taxes in eurodollars.

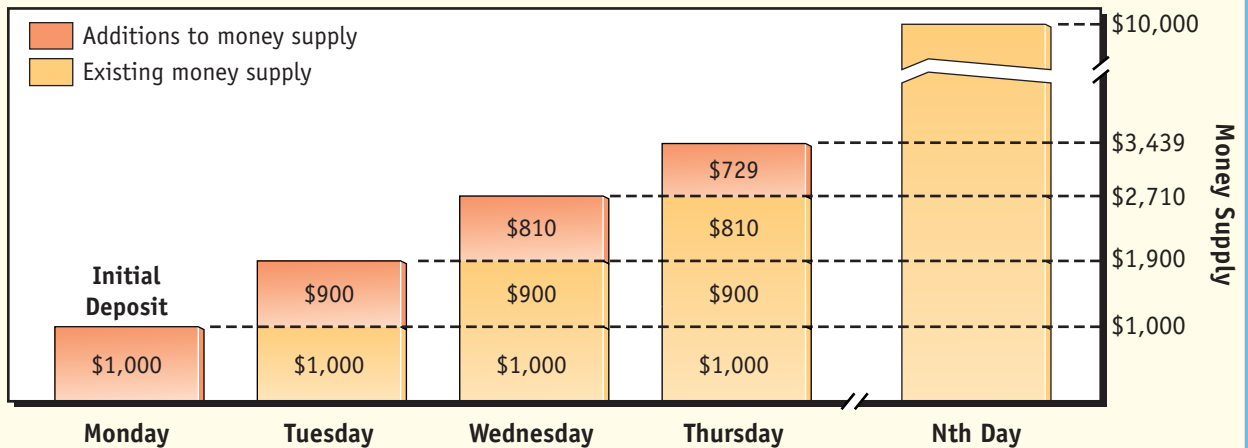
The changeover to the euro proved to be a technical success. European consumers adopted the new currency swiftly. However, according to some financial leaders, the ultimate test of the euro will be economic growth and lower unemployment. Using the single currency as an instrument to conquer inflation will not be enough.

#### Critical Thinking

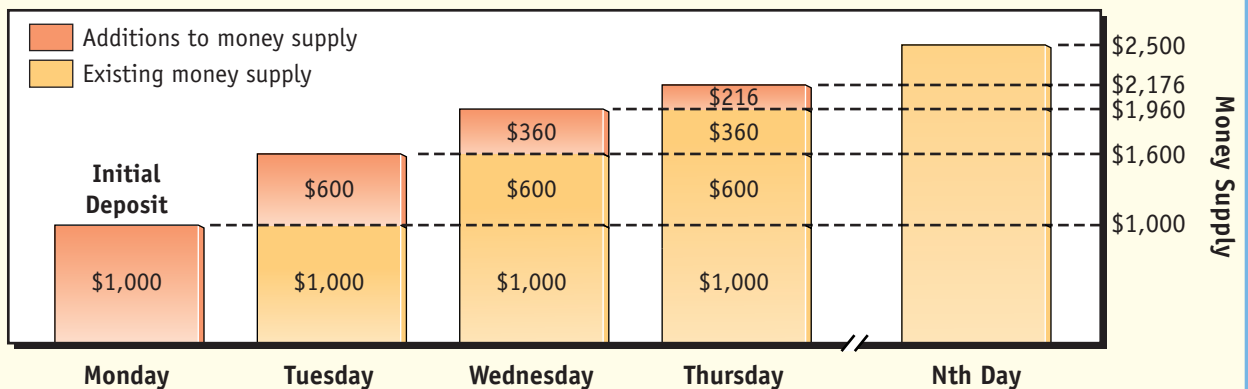
1. **Analyzing Information** What is the purpose of the euro?
2. **Sequencing Information** What steps were involved in the transition to the euro?
3. **Analyzing Information** According to some financial experts, what results will determine whether the euro is a success?

## The Reserve Requirement as a Tool of Monetary Policy

### A Monetary Expansion (10% Reserve Requirement)



### B Monetary Expansion (40% Reserve Requirement)



**Understanding Percentages** If the Fed wants to control the size of the money supply, it can change the reserve requirement. A low requirement, such as 10 percent, can be used to expand the money supply. A higher requirement, such as 40 percent, has the opposite effect.

Low reserve requirement:  
 $\$1,000 \div .10 = \$10,000$

High reserve requirement:  
 $\$1,000 \div .40 = \$2,500$

**What is the size of the money supply if the Fed sets the reserve requirement at 25 percent?**



## Tools of the Federal Reserve

### FOX TROT



**Changes in Interest** The most important job of the Federal Reserve System is to maintain a stable supply of money for the economy. The Fed uses several basic tools to carry out this responsibility. *How do changes in the discount rate affect other interest rates?*

point, the Fed “pays” the check by increasing the bank’s MBR with the Fed.

The result is that whenever the Fed writes a check, more reserves are pumped into the banking system. Because only some of these additional reserves are needed to back existing deposits, the excess reserves can be loaned out, thus increasing the money supply.

If the Fed wants to contract the money supply, it can sell billions of dollars of government securities back to dealers. Dealers pay for the securities with checks drawn on their own banks. The Fed then processes the checks by reducing the MBRs of dealers’ banks. With fewer reserves in the banking system, fewer loans are made and the money supply contracts—driving interest rates up.

The Federal Open Market Committee (FOMC) conducts open-market operations. Normally the FOMC decides if interest rates and monetary growth are too high, too low, or just right. After the committee votes to set targets, officials at the trading desk take over. The trading desk is the physical location at the Fed’s New York district bank where the buying and selling actually takes place. The officials at the desk buy and sell bonds daily to maintain the targets set by the FOMC. The desk is permanently located in New York to be close to the nation’s financial markets.

### Discount Rate

As a central bank, the Fed makes loans to other depository institutions. The **discount rate**—the interest the Fed charges on loans to financial institutions—is the third major tool of monetary policy.

Private individuals and businesses cannot borrow from the Fed. Banks can, and frequently do. If the discount rate goes up, fewer banks will want to borrow from the Fed. This will reduce the amount of money these banks have available to loan to their customers and will force interest rates up. Changes in the discount rate usually result in similar changes in other interest rates.

A bank might obtain a loan from the Fed for two reasons. First, it could have an unexpected drop in its MBRs, which would shrink its excess reserves. In this case, the bank could go to the Fed and arrange a short-term loan to cover the shortfall.

Second, a bank could be faced with seasonal demands for loans. A bank in an agricultural area, for example, might face a heavy demand for loans during the planting season. In that case, it would need additional MBRs to support the loans made in the spring.

Most institutions can borrow from the Federal Reserve, including member and nonmember banks, savings institutions, and even credit unions. The Fed, however, views borrowing as a

privilege rather than a right. As a result, the Fed may limit the number of times a borrower can borrow from the Fed.

## Margin Requirements

Before the Great Depression, people speculated wildly in the stock market. Easy credit in the form of **margin requirements**, minimum deposits left with a stockbroker to be used as down payments to buy other securities, made much of the speculation possible.

For example, with a margin requirement as low as 10 percent, a person only had to deposit \$100 with a stockbroker to purchase \$1,000 worth of stocks. The stockbroker would supply the remaining \$900. If the stock rose to \$1,300, it could be sold and the investor would net \$400 after repaying \$900 to the broker. If, however, the stock dropped to \$900, the broker would sell the stock to protect his or her own loan if the investor could not come up with additional money.

Because credit was easily obtained and because margins were so low, the margins were easy to forfeit when modest declines in stock prices occurred. In fact, many investors lost everything they had when stock prices crashed in 1929. Today, most margin requirements are set at 50 percent, meaning an investor has to put up at least half the money needed to buy eligible stocks and bonds. The Federal Reserve sets the margin requirement and also monitors activity on the stock market. It also publishes a list of stocks that are eligible for margin loans.

The Fed seldom uses margin requirements as an active tool of monetary policy. Instead, it uses them very selectively to dampen or stimulate spending on equities in the stock market.

## Other Tools

The Fed may also use two other methods to control the money supply. These are moral suasion and selective credit controls.

### Summary of Monetary Policy Tools

Tool	Fed Action	Effect on Excess Reserves	Money Supply
Reserve Requirement	Lower	Frees excess reserves because fewer are needed to back existing deposits in the system.	Expands
	Raise	More reserves are required to back existing deposits. Excess reserves contract.	Contracts
Open Market Operations	Buy bonds	Checks written by the Fed add to excess reserves in the system.	Expands
	Sell bonds	Checks written by buyers are subtracted from reserves. Excess reserves in the system contract.	Contracts
Discount Rate	Lower	Additional reserves can be obtained at lower cost. Excess reserves expand.	Expands
	Raise	Additional reserves through borrowing are now more expensive. Excess reserves are not added.	Contracts

**Using Charts** The key to monetary policy is to see how the excess reserves in the system are affected. **What happens to the money supply when the Fed lowers the reserve requirement? When it raises the reserve requirement?**

## Tools of the Federal Reserve



**Margin Requirements** Depositors besiege a merchant bank in Passaic, New Jersey, following the Wall Street crash in 1929. During the 1920s, the common practice of buying on margin attracted thousands of people to pour their savings into stocks. *What are margin requirements?*

**Moral suasion** is the use of persuasion such as announcements, press releases, articles in newspapers and magazines, and testimony before Congress. Moral suasion works because bankers often try to anticipate changes in monetary policy.

Suppose that the chairperson of the Fed is called before Congress to give his or her view on the state of the economy. Assume also that the chair states that interest rates seem somewhat low, and that it might be good for the economy if they were raised. These statements might lead bankers to expect a tighter money policy in the next few weeks. As a result, they might be less willing to loan their excess reserves, and they might even raise their interest rates by a small amount. In the end, the money supply might contract just slightly, even if the Fed did no more than offer its views.

A second method is **selective credit controls**—credit rules pertaining to loans for specific commodities or purposes. These controls took the form of minimum down payments on cars and other consumer goods during World War II and the Korean War. Selective credit controls during those periods were imposed to free factories to produce war materials.

## Section 2 Assessment

### Checking for Understanding

- 1. Main Idea** What is the purpose of monetary policy?
- 2. Key Terms** Define monetary policy, fractional reserve system, legal reserves, reserve requirement, excess reserves, liabilities, assets, balance sheet, net worth, liquidity, savings account, time deposit, member bank reserve, easy money policy, tight money policy, open market operations, discount rate, margin requirement, moral suasion, selective credit controls.
- 3. Explain** how fractional reserves are used.
- 4. Describe** the relationship between the reserve requirement, reserves, and the size of the money supply.
- 5. Describe** the three major tools of monetary policy.

### Applying Economic Concepts

- 6. Fractional Bank Reserves** Your local national bank is required to keep its reserves in the form of vault cash and member deposits with the Fed. Why do you suppose that other assets, such as common stocks or real estate, are not suitable reserves?

### Critical Thinking

- 7. Drawing Conclusions** At times, someone with a good credit rating may not be able to get a loan. When this happens, the potential customer may be told to try again in the near future. What does this tell you about the bank's reserves? How should the customer react to a situation like this?



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# BusinessWeek

## Newsclip

*Bank mergers are becoming more common. Supporters and nonsupporters of bank mergers debate whether these consolidations benefit customers.*

### Bank Mergers: Who Benefits?

Although the number of commercial banks in the U.S. fell from 13,123 in 1988 to 9,215 in 1997, there's still no end in sight to the banking industry's rapid consolidation. But is the merger wave beneficial to consumers?

Advocates claim that mergers produce efficiencies that lower costs and thus permit better service to customers. Skeptics worry that mergers allow banks to cut services because they now face less competition. A recent study by Katerina Simons and Joanna Stavins of the Federal Reserve Bank of Boston tends to support the latter view.

Drawing on nationwide data covering some 500 banks from 1985 to 1995, the two economists looked at how market concentration and mergers affected interest rates on customers' deposits. They found that merged banks actually tend to lower deposit rates in the wake of a merger (but only in the first year following the merger). More important, while rivals of newly merged

banks initially boost interest rates after the merger—presumably to gain customers—they subsequently lower rates even more. Thus, their depositors lose out over the long term.

Why don't the merged banks follow the lead of their unmerged competitors by lowering their interest rates over the long term? The authors speculate that service declines so much after a merger that merged banks have to pay slightly higher interest rates than their rivals to retain customers.

In any case, the study's overall conclusion is that banks tend to pay lower interest rates in markets that become more concentrated. And that, say the authors, is something that antitrust regulators need to look at more closely.

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Questions remain as to whether bank mergers benefit or hurt the customer.



#### Examining the Newsclip

- 1. Analyzing Information** Describe how advocates and skeptics view mergers between banks.
- 2. Understanding Cause and Effect** How are interest rates on customer deposits affected by bank mergers?

# Monetary Policy, Banking, and the Economy

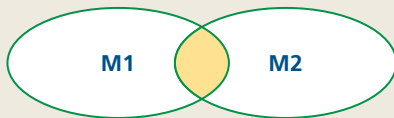
## Study Guide

### Main Idea

Changes in the money supply affect the interest rate, the availability of credit, and the price level.

### Reading Strategy

**Graphic Organizer** As you read the section, complete a graphic organizer similar to the one below by listing the components of M1 and M2.



### Key Terms

prime rate, quantity theory of money, monetizing the debt, real rate of interest, M1, M2

### Objectives

After studying this section, you will be able to:

1. **Explain** how monetary policy affects interest rates in the short run.
2. **Relate** monetary expansion to inflation in the long run.
3. **Identify** the two major definitions of money.
4. **Describe** how interest rates are affected by political pressure.

### Applying Economic Concepts

**Money** Where do you keep your money? On your person? In a savings or checking account? Read to find out why the answers to these questions make the definition of money more complicated than it seems.

## Cover Story

### Fed Sees an Improving US Economy

The US economy continued to show signs of improvement in July and August but labor conditions remained sluggish, according to a report by the Federal Reserve.

The Fed . . . struck a mostly upbeat tone that added to a recent string of economic data pointing to sustained recovery, with eleven of its twelve reporting districts reporting that activity levels rose during the summer months.

In addition, consumer activity “showed improvement in most districts” as did manufacturing. [The] economic effects of the mid-August blackout that blanketed much of the eastern US was “generally small.”




A “rosy” economy?

—Financial Times, September 3, 2003

**T**he impact of monetary policy on the economy is complex. In the short run, monetary policy affects interest rates and the availability of credit. In the long run, it affects inflation and economic growth, which—as we saw in the cover story—is one of the Fed’s major concerns. In addition, no one can be sure how long it will take for the effects of monetary policy to impact the economy.

### Short-Run Impact

 In the short run, an increase or a decrease in the money supply affects the interest rate, which is the price of credit. When the Fed expands the money supply, the cost of credit goes down. When the Fed contracts the money supply, the cost of credit goes up.


This short-run relationship between money and interest rates is shown in **Figure 15.7**. The demand curve for money has the usual shape, which shows that more money will be demanded

when the price of credit is low. The supply curve, however, does not have its usual shape. Instead, it is vertical, indicating that the supply of money is fixed at any given time.

Before the market is disturbed, the interest rate, as shown in **Panel A**, is at 10 percent. If the Fed expands the money supply to  $S'S'$ , the interest rate falls to 8 percent. A contraction of the money supply, as shown in **Panel B**, increases the rate from 10 to 12 percent.

Although the Fed tries to do what it thinks is best for the economy, people do not always agree with its decisions. In 1981, for example, the Fed was criticized for allowing interest rates to get too high. In that year, the **prime rate**—the best or lowest interest rate commercial bankers charge their customers—reached 21.5 percent. Critics felt that the economy would have been better off if the Fed had expanded the money supply, thus lowering interest rates. Supporters, however, understood that these policies were necessary to achieve long-run goals.

## Long-Run Impact

 In the long run, changes in the supply of money affect the general level of prices. This relationship, formally known as the **quantity theory of money**, has been demonstrated repeatedly in history.

## Historical Precedents

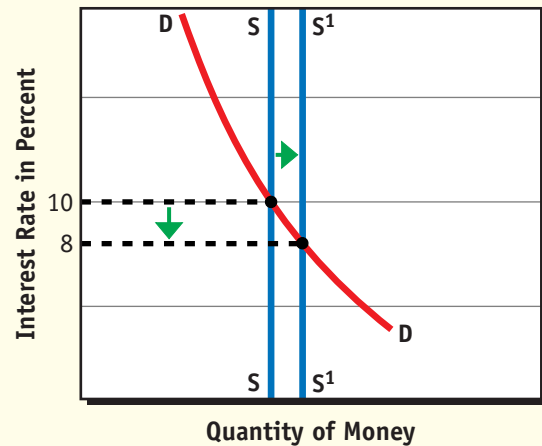
When the Spanish brought gold and silver back to Spain from the Americas in the 1700s, the increase in the money supply started inflation that lasted for 100 years. When the Continental Congress issued \$250 million of currency during the Revolutionary War, the economy suffered severe inflation. A similar thing happened during the Civil War when nearly \$500 million of greenbacks were printed.

## Monetizing the Debt

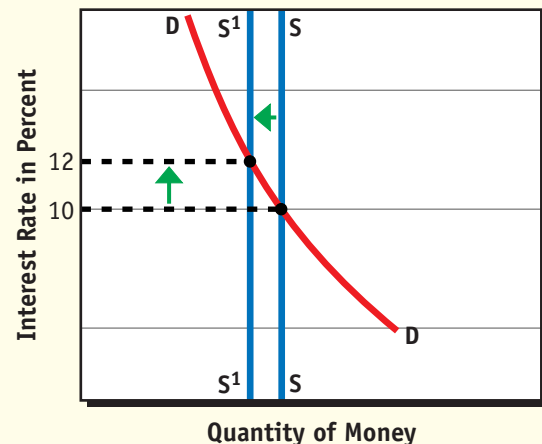
When the federal government financed the Vietnam War with deficit spending in the 1960s, interest rates started to rise. To keep the rates from going up too high, the Fed decided to **monetize the debt**—create enough extra money to offset the

## Short-Run Impact of Monetary Policy

**A** Monetary Expansion

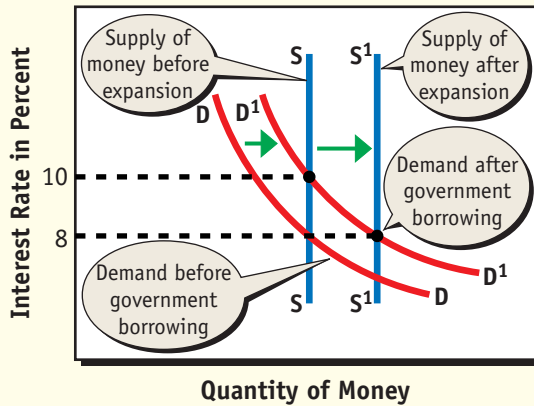


**B** Monetary Contraction



**Using Graphs** In the short run, monetary policy impacts interest rates, or the price of credit. When the money supply expands, the price of credit goes down. When the money supply contracts, the price of credit goes up. **Why is the supply curve of money,  $SS'$ , shown as a vertical line?**

## Monetizing the Debt



**Using Graphs** When the government borrows to cover a debt in the federal budget, interest rates tend to rise because of the increased demand for credit. This raises the possibility of crowding out. If the Fed expands the money supply just enough to offset the borrowing, interest rates may remain unchanged. **What are the long-run effects of monetizing the debt?**

deficit spending in order to keep interest rates from changing. The process of monetizing the debt is illustrated in **Figure 15.8**, where **DD** and **SS** represent the initial demand and supply of money.

Suppose that the government borrows \$25 billion, shifting the demand curve for money from **DD** to **D¹D¹**. If the Fed does not take any action, the interest rate would rise from 8 to 10 percent. If the Fed wants to keep the interest rate from rising, it could increase the money supply from **SS** to **S¹S¹** and push interest rates back down to their original level.

In the short run, then, the Fed can increase the money supply just enough to keep the interest rate from rising. This procedure is effective if done infrequently. Repeated short-run attempts to keep rates low, however, result in a long-term

expansion of the money supply, making inflation worse.

## Taming Inflation

Much of the federal debt was monetized from the late 1960s until the late 1970s. During this period, the money supply grew at rates of 12 percent or more for several years in a row. As inflation worsened, the price of most goods and services—including interest rates—also went up. Attempts by the Fed to keep interest rates low by increasing the supply of money worked at first, but eventually the policy intensified inflation.

By 1980 the Fed realized that it had to choose between interest rates and inflation—and it chose to control inflation by restricting the growth of the money supply. When this happened, the prime rate rose and by 1981 reached 21.5 percent. Most people did not like the high interest rates at the time, but today they recognize that the tight money policies were necessary to bring down inflation.

Because inflation distorts our economic statistics, it is useful to consider the **real rate of interest**—the market rate of interest minus the rate of inflation. To illustrate, the 21.5 percent interest rate in 1981 was not as bad as it seemed when you consider that the inflation rate was 10.5 percent. Subtracting the


## STANDARD & POOR'S

## INFOBYTE

**The Prime Rate** The prime rate is a loan rate charged by banks to their best or “prime” customers. The rate is determined by general trends in interest rates. As rates decline, the prime rate will also move lower. However, it does not typically move on a day-by-day basis. Prime-rate changes are usually led by major money center banks. Normally, the prime rate will move in steps and then remain constant until a major rate change has been made. This usually happens when the Federal Reserve makes major changes in monetary policy.

inflation rate from the interest rate results in an 11.0 percent real rate of interest for that year.

## Other Monetary Policy Issues

 When the Fed conducts monetary policy, it has several other issues to consider. The first issue involves the timing and burden of monetary policy.

### Timing and Burden

Sometimes a tight money policy will show results in six months. At other times, the impact might not be felt for two years. The same happens when the Fed follows an easy money policy. Such variations in timing make it difficult to use monetary policy to fine-tune the economy.

A second problem is that monetary policy has an uneven impact on the economy. If the Fed follows a tight money policy to control inflation, interest rates go up. This increase hurts some industries like homebuilding and auto manufacturing more than others because of higher borrowing costs. If the Fed follows an easy monetary policy, interest rates may go down—thereby benefiting homebuilding and auto making more than other industries.

### Present vs. Future Allocation

The Fed also realizes that interest rates and inflation affect the allocation of scarce resources between present and future uses. When interest rates are low, people find it easier to finance the purchase of a car, house, or college education right away. When people spend more today, however, they end up saving less—and therefore they consume less in the future.

High interest rates have the opposite effect. When rates are high, some purchases are delayed until rates come down or until people have saved enough to buy the products they desire. As a result, people have more money to spend in the future, and so the use of some resources shifts from the present to the future.

Inflation also makes a difference in investment decisions. For example, if people expect prices to go up, they may try to make certain purchases right

away, before prices get even higher. Or, if they feel that prices are likely to remain stable or go down, they may put off some spending until later. Either way, expectations about inflation affect the allocation of resources between present and future uses.

## Defining Money

With so many financial institutions offering different ways for people to deposit or hold their money, the Fed has had to develop some new definitions to keep track of it.

**Figure 15.9** lists a number of components of the money supply, or ways that people have chosen to keep money. The Fed groups these together according to function and gives them names. The first is **M1**, which represents the transactional components of the money supply, or the components of the money supply that most closely match money's role as a medium of exchange. This definition of money includes traveler's checks, coins, currency, demand

## Careers

### Actuary

Actuaries design insurance and pension plans.

#### The Work

Actuaries gather and analyze statistics on death, sickness, injury, disability, unemployment, retirement, and property loss. This information is then used to establish how much the insured loss will be. Actuaries calculate premium rates, ensuring that the price of the insurance is high enough to cover any claims and expenses the company might have to pay.

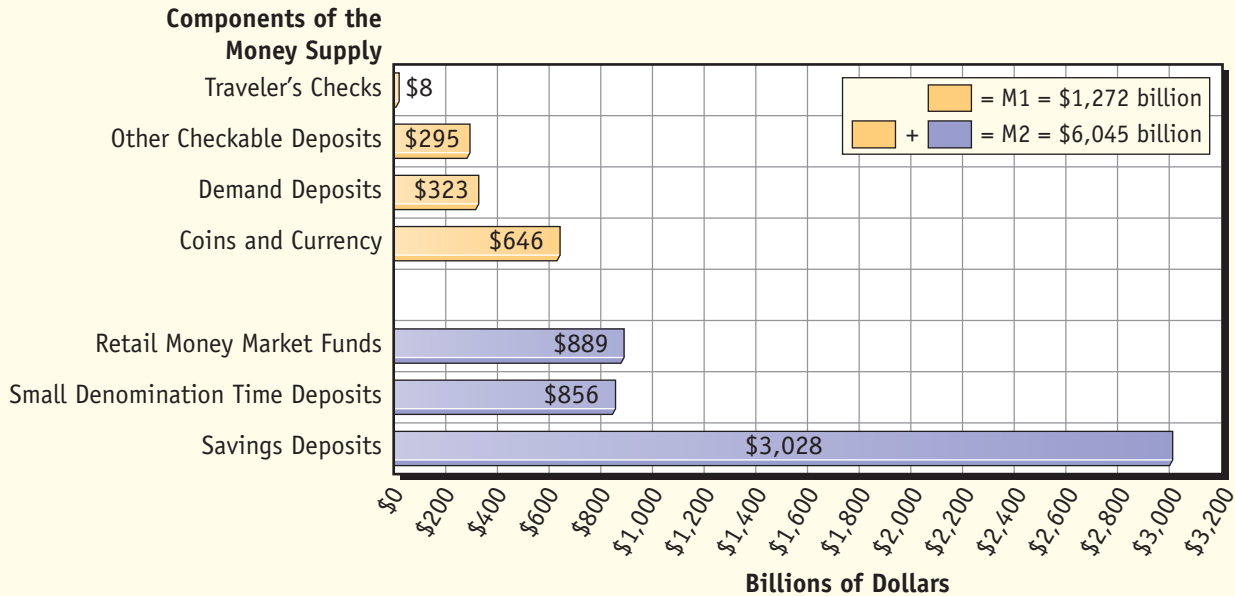
#### Qualifications

Actuaries must be knowledgeable in subjects that can affect insurance practices, including general economic, social, health, and legislation trends. Many actuaries hold a degree in mathematics or statistics and they must pass actuarial examinations.





## Major Components of the Money Supply




Source: The Federal Reserve System *Statistical Release H.6*, 2003

**Using Graphs** This figure shows the different components of the money supply that comprise M1 and the money supply components that have to be added to M1 to get M2. **What component makes up the largest part of the money supply?**

deposits, and other checkable deposits such as NOW accounts and credit union share drafts.

The simple M1 definition includes only items directly and immediately useable as a medium of exchange. A second and broader definition of money is M2. **M2** is a measure of money that includes those components most closely conforming to money's role as a store of value. M2 includes M1, small denomination time deposits, savings deposits, and money market funds.

## The Politics of Interest Rates

 Because the Fed is privately owned by its member banks, and because the members of the Board of Governors have 14-year terms of office, the Fed is widely regarded as being an independent

monetary authority. Even so, the Fed often comes under political pressure because it has the ability to move interest rates one way or the other.

The president or members of Congress up for reelection may call for low interest rates to stimulate the economy. Incumbent politicians know that their reelection chances are better if voters are happy—and voters normally prefer lower interest rates to higher ones.

The president and Congress can gain some influence over monetary policy by appointing new members to the Board of Governors as existing terms expire. After new appointments are made, however, the Board of Governors usually conducts monetary policy as it sees fit.

Sometimes, political leaders have tried to influence monetary policy by criticizing the Fed or by threatening to introduce legislation to make the

Fed less independent. Fortunately, no such laws have been passed.

The Fed is usually reluctant to accommodate demands for lower interest rates in the short term because of the long-run fear of inflation. Unlike many politicians, who frequently focus on interest rates and thereby take a short-term view of monetary policy, the Fed is more concerned about the long-run health of the economy.

People tend to use the interest rate, like the unemployment rate, as a measure of the overall health of the economy. In particular, they think the economy is healthy when interest rates are low, and unhealthy when rates are high. This makes it more difficult for the Fed to raise interest rates, especially during election years when incumbents want voters to think that they are doing a good job with the economy. As a result, the Fed is always conscious of its unique role in the economy and often goes to great lengths to avoid political confrontations that could threaten its independence.

## The Fed



**Political Pressure** While the president and Congress largely control taxation and spending, they have little control over the Fed. *How can the president and Congress influence monetary policy?*

## Section 3 Assessment

### Checking for Understanding

- 1. Main Idea** How do changes in the money supply affect the cost of credit?
- 2. Key Terms** Define prime rate, quantity theory of money, monetizing the debt, real rate of interest, M1, M2.
- 3. Describe** the short-run impact of monetary policy.
- 4. Explain** the long-run impact of monetary policy.
- 5. Describe** the two definitions of money.
- 6. Describe** the political nature of interest rates.

### Applying Economic Concepts

- 7. Money** Our money supply, as well as the different forms or ways to hold it, has changed

considerably over the years. Describe one or two ways you think United States money might change even more in the future.

### Critical Thinking

- 8. Making Generalizations** Historically, expansions in money supply have set off inflation. Something similar might have happened to you. Identify a period in your life when you had a little more money than usual. How did you spend the extra cash? Were prices as important to you then as they were at times when you did not have as much to spend? Why do prices tend to increase faster when more money is available?



Practice and assess key social studies skills with the *Glencoe Skillbuilder Interactive Workbook, Level 2*.

# CRITICAL THINKING

## Skill

### Making Generalizations

*Generalizations* are judgments that are usually true, based on the facts at hand. If you say, “We have a great soccer team,” you are making a generalization. If you also say that your team is undefeated, you are providing evidence to support your generalization.

#### Learning the Skill

To make a valid generalization, you must first collect factual information relevant to the topic. Follow these steps:

- Identify the subject matter.
- Gather related facts and examples.
- Identify similarities among these facts.
- Use these similarities to form some general ideas about the subject.



The Fed has a strong say in how banks do business.

*order to fight inflation. In the early 1980s, Federal Reserve actions helped force interest rates to very high levels. These high interest rates contributed to the recession of 1981–82, but eventually helped to reduce the high rate of inflation.*

*Some politicians and economists feel the Fed has made many mistakes. Others feel that it has done a good job most of the time. It is clear at least that the Federal Reserve is an important power in our economic system.*

Based on the information presented above, identify whether each of the generalizations stated below is valid.

#### Practicing the Skill

Read the excerpt below, then complete the activity that follows.

*Federal Reserve actions that are intended to stabilize the economic system make up what is called monetary policy. The Fed uses open market operations most frequently to carry out monetary policy. For example, if the Fed wanted banks to have more money to lend, it would buy government securities. This would add more money to the expansion process and increase the ability of banks to make loans.*

*During its history, the Fed has had different objectives for its monetary policy. In World War II it tried to keep interest rates low to help the government pay for the war. In the mid-1960s it tried to reduce the amount of money banks had available in*

1. Raising interest rates is the Fed’s most important goal.
2. There is disagreement over the proper role of the Federal Reserve System.
3. Monetary policy is intended to help keep our economic system from going into a recession or from having inflation.
4. The largest part of spending in this country is done with checks.

#### Application Activity

For one week, read the editorials in your local newspaper. Then write a list of generalizations about the newspaper’s position on issues such as unemployment or the environment.



Practice and assess key social studies skills with the *Glencoe Skillbuilder Interactive Workbook, Level 2*.

# Chapter 15 Summary

## Section 1

### The Federal Reserve System

(pages 407–413)

- The Federal Reserve System was established as the nation's central bank in 1913.
- The Fed is unique in that it is owned by private **member banks** rather than by the government.
- Today, the Fed regulates financial institutions, maintains the payments system, enforces consumer protection laws, provides services to the government, and conducts monetary policy.
- The Fed supervises its state member banks, and it has broad authority over **bank holding companies**, the international operations of all commercial banks, some mergers, check clearing, consumer truth-in-lending laws, and the maintenance of the nation's **currency**.



## Section 2

### Monetary Policy (pages 415–424)

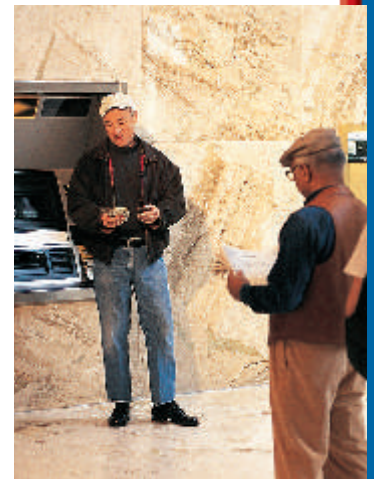
- Modern banks operate on a **fractional reserve system**. Under this system **excess reserves** can be loaned out to other customers.
- Commercial banks charge interest on their loans and use the income to pay expenses, keeping the remainder as profit.
- The size of the money supply is determined by the **reserve requirement** and the reserves in the system. An increase in the reserve requirement will shrink the money supply. A decrease in the requirement will expand the money supply.

- **Monetary policy** affects the size of the money supply, and therefore the level of interest rates.
- The tools of monetary policy include: a change in the reserve requirement; **open market operations**, which involves the buying and selling of government bonds; and a change in the **discount rate**.
- Two lesser tools include **moral suasion** and **selective credit controls** such as **margin requirements**.

## Section 3

### Monetary Policy, Banking, and the Economy (pages 426–431)

- Monetary policy affects interest rates in the short run and inflation in the long run—forcing the Fed into a trade-off between lower interest rates today and more inflation later on.
- The impact of monetary policy varies, sometimes affecting the economy sooner, and sometimes later. Monetary policy also affects some sectors of the economy differently than others.
- The interest rate affects the allocation of resources between present and future uses. Expectations of inflation also affect the allocation of resources between present and future uses.
- The interest rate is one of the most visible and politically sensitive prices in the economy. For political reasons, the Fed is often pressured to keep interest rates low, even at the expense of future inflation.



# Chapter 15 Assessment and Activities

## ECONOMICS Online



**Self-Check Quiz** Visit the *Economics: Principles and Practices* Web site at [epp.glencoe.com](http://epp.glencoe.com) and click on **Chapter 15—Self-Check Quizzes** to prepare for the chapter test.

**CLICK HERE**

## Identifying Key Terms

Write the key term that best completes the following sentences.

- |                           |                              |
|---------------------------|------------------------------|
| a. balance sheet          | j. M1                        |
| b. Board of Governors     | k. M2                        |
| c. certificate of deposit | l. monetary policy           |
| d. Regulation Z           | m. monetizing the debt       |
| e. easy money policy      | n. moral suasion             |
| f. excess reserves        | o. open market operations    |
| g. FOMC                   | p. selective credit controls |
| h. holding company        |                              |
| i. legal reserves         |                              |

1. The main governing body of the Fed is the \_\_\_\_\_.
2. A(n) \_\_\_\_\_ would expand the money supply and tend to lower interest rates.
3. \_\_\_\_\_ are the funds that banks use to satisfy the reserve requirement.
4. If a bank has \_\_\_\_\_, it is able to make additional loans to customers.
5. The most popular and effective tool of monetary policy is that of \_\_\_\_\_.
6. When the Fed increases the money supply to offset the effects of government borrowing, it is \_\_\_\_\_.
7. The transactional component of the money supply is \_\_\_\_\_.
8. One of the most important responsibilities of the Fed is \_\_\_\_\_.
9. The part of the Fed that buys and sells government bonds as part of monetary policy is the \_\_\_\_\_.

## Reviewing the Facts

### Section 1 (pages 407–413)

1. **Describe** the ownership of the Fed.
2. **Identify** the membership of the Board of Governors and the FOMC.
3. **Identify** the most important regulatory responsibilities of the Fed.

### Section 2 (pages 415–424)

4. **Explain** how banks operate under a fractional reserve system.
5. **Identify** the conditions that enable a bank to make new loans.
6. **Describe** the three major tools of monetary policy.

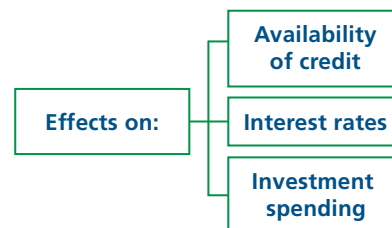
### Section 3 (pages 426–431)

7. **Identify** the major short-run impact of monetary policy.
8. **Explain** how the long-run impact of monetary policy differs from its short-run impact.
9. **Explain** how M1 differs from M2.
10. **Explain** why the level of interest rates is politically sensitive.

## Thinking Critically

1. **Understanding Cause and Effect** What are the effects of the Federal Reserve instituting an easy money policy? Complete a graphic organizer similar to the one below to answer the question.

### Easy Money Policy



## Chapter 15 Assessment and Activities

- 2. Drawing Conclusions** Defend or refute the following statement: The independence of the Federal Reserve System is essential to the health of the economy.

### Applying Economic Concepts

- 1. Money** Ask your parents how they keep their money (CDs, traveler's checks, savings accounts, time deposits, banks, etc.). How many categories mentioned in this chapter do they use?
- 2. Balance Sheet** Make a list of all your assets and all your liabilities. Then, prepare a balance sheet that shows your assets, liabilities, and net worth.

### Math Practice

Assume that total reserves in the banking system amount to \$1,000 and that the fractional reserve requirement is 15 percent. If all banks are fully loaned out, and if the Fed sells an additional \$100 of bonds to investors, how large will the money supply be?

### Thinking Like an Economist

If the Fed were to expand the money supply, it would face a trade-off between lower interest rates today and higher inflation later on. Explain how an economist would use cost-benefit analysis to examine the implications of these outcomes.

### Technology Skill

**Using a Database** For one week, analyze the currency that comes into your possession. In your journal, keep track of the features that appear on the front and back of each bill, noting the similarities and differences among the various currencies.

Create a database for foreign visitors that describes the specific features and purposes of each United States

bill and coin. Create fields such as the following: portrait, paper/coin, value, Federal Reserve Bank seal, and so on. Arrange the fields and text in an appealing way, including clip art, decorative fonts, and color. Use words that will easily be understood by someone with limited knowledge of the English language, or translate the database into another language if possible. Distribute a copy of your databank to your local visitor's center or Chamber of Commerce.

### Building Skills

**Making Generalizations** Read the following passage and answer the questions.

*Although there are effective checks and balances on powers held by the Congress and the president, there are few checks on the monetary power of the Federal Reserve System's Board of Governors. Under current law, the Board is free to act within broad limits established by Congress and the president.*

*Actions taken by the Fed are important to the success of government economic policy, yet there is no guarantee that members of the Board of Governors will cooperate with Congress and the president in implementing economic plans. Some political leaders have suggested that the powers of the Fed's Board of Governors should be limited, or that the Board should be made responsible to the president.*

*Supporters of controlling the Fed believe such a policy would assure the country of a unified economic policy. Some argue that it is wrong for people with so much power not to be elected by the people.*

Identify each generalization below as valid or invalid based on the information presented.

1. Politicians are too slow to act, and therefore monetary power should remain with the Federal Reserve System.
2. Some people criticize the Fed because it holds a great deal of power without having to answer to the voters.
3. The powers of the Fed should be limited.



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