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# 3 Financial Institutions

*"A banker is a fellow who lends his umbrella when the sun is shining and wants it back the minute it begins to rain."*

*—Mark Twain*

## World's First Internet Bank

In October 2005, Security First Network Bank (SFNB), the World's First Internet Bank™, celebrated its tenth year in operation. As the first FDIC-insured bank to offer products and services exclusively through the Web, the anniversary was a significant milestone for the online banking sector as well.

Launched October 18, 1995, SFNB opened its virtual doors with just two basic products—no-fee checking and an ATM card. The bank has grown dramatically since then and now provides a full suite of products and services, primarily through the Internet and telephone, to customers around the world. SFNB (now doing business as RBC Centura) is a significant component of Royal Bank of Canada's retail operations in the United States. Royal Bank of Canada acquired SFNB in 1998 and consolidated it with RBC Prism and RBC Builder Finance into RBC Centura in 2001.

The Web is rapidly becoming a place for financial service firms. Your home has become a bank branch. Many brokerage firms, such as E*Trade and Ameritrade, are also online. Because bricks and mortar are a large part of the assets of a typical bank, doing business with a minimum of these assets has its advantages. A bank is clearly better off if it can provide most of the essential services customers expect while investing a much smaller amount of money to provide those services.

*Source:* Security First Network Bank website, January 8, 2001, and RBC Centura's website (*www.rbccentura.com*) April 30, 2006.

# Campfire queen
# Cycling champion
# Sentimental geologist*

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## Chapter Overview

In the preceding chapter we discussed how the financial system makes it possible for deficit and surplus economic units to come together, exchanging funds for securities to their mutual benefit. In this chapter we will examine how financial institutions help channel available funds to those who need them. We will also see the important role the Federal Reserve plays in regulating the financial system, protecting both deficit and surplus economic units.

## Financial Intermediation

The financial system makes it possible for surplus and deficit economic units to come together, exchanging funds for securities, to their mutual benefit. When funds flow from surplus economic units to a financial institution to a deficit economic unit, the process is known as **intermediation**. The financial institution acts as an intermediary between the two economic units.

Surplus economic units can channel their funds into financial institutions by purchasing savings accounts, checking accounts, life insurance policies, casualty insurance policies, or claims on a pension fund. The financial institutions can then pool the funds received and use them to purchase claims issued by deficit economic units, such as Treasury, municipal, or corporate bonds; and common or preferred stock. (The institutions may purchase real assets too, such as real estate or gold.)

### Learning Objectives

After reading this chapter, you should be able to:

1. Explain financial intermediation and the role of financial institutions.
2. Define *commercial banks* and explain how reserve requirements influence their operations.
3. Describe how the Federal Reserve regulates financial institutions.
4. Explain how savings and loan associations differ from commercial banks.
5. Describe how credit unions operate.
6. Distinguish among finance companies, insurance companies, and pension funds.

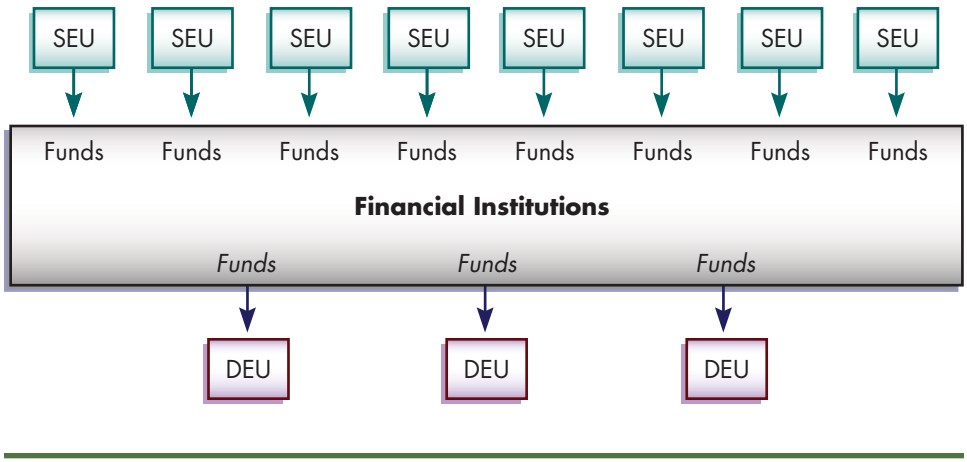


**Figure 3-1** Pooling
Figure 3-1 shows how small amounts of funds from many small surplus economic units (SEUs) can be pooled and channelled into the hands of a relatively small number of deficit economic units (DEUs). SEUs can also get the short-term securities they usually prefer, while DEUs can issue the long-term securities they usually prefer. The financial institution can also manage and absorb risk better than an SEU typically could. The financial institution provides both SEUs and DEUs what each needs.

At first glance it might seem that intermediation complicates things unnecessarily. Why do the surplus and deficit economic units need a middle person? The answer is that financial institutions can do things for both that they often can't do for themselves. Here are some examples of the services that financial institutions provide.

## Denomination Matching

Members of the household sector (net surplus economic units) often have only a small amount of funds available to invest in securities. Although, as a group, they are net suppliers of funds and have a large amount of funds available, this is often not the case for given individuals or families. Businesses and government entities (net deficit economic units) usually need large amounts of funds. Thus, it is often difficult for these surplus and deficit economic units to come together on their own to arrange a mutually beneficial exchange of funds for securities. The surplus economic units typically want to supply a small amount of funds, whereas the deficit economic units typically want to obtain a large amount of funds.

A financial institution can step in and save the day. A bank, savings and loan, or insurance company can take in small amounts of funds from many individuals, form a large pool of funds, and then use that large pool to purchase securities from individual businesses and governments. This pooling of funds is depicted in Figure 3-1.

## Maturity Matching

The typical surplus economic unit likes to make funds available to others for a short period of time. Most people, for example, would like to get their money back on short notice if the need were to arise. They would prefer to buy securities that have a short maturity. Most businesses and government entities, on the other hand, want to make use of funds for a long period of time. The new plants, roads, airports, and the like that businesses and governments buy and build are long-term projects that often require long-term financing. They would prefer to sell securities that have a long maturity.

Here's the problem: How can exchanges agreeable to both sides be arranged when the surplus economic units want the right to get their funds back quickly and the deficit economic units want to keep the funds for a long time? Remember, a financial institution has many different surplus economic units buying its securities (savings

accounts, checking accounts, insurance policies, and so on). The number that will want their funds back on any given day is likely to be small, and they will probably withdraw only a very small percentage of the total funds held in the financial institution. So a large percentage of the funds held by the financial institution can be invested in the long-term securities of deficit economic units, with little danger of running out of funds. The pooling depicted in Figure 3-1 makes this possible.

## Absorbing Credit Risk

Credit risk is the risk that the issuer of a security may fail to make promised payments to the investor at the times specified. When surplus and deficit economic units try to arrange for a direct transfer of funds for securities, this problem is often a large one. Surplus economic units do not usually have the expertise to determine whether deficit economic units can and will make good on their obligations, so it is difficult for them to predict when a would-be deficit economic unit will fail to pay what it owes. Such a failure is likely to be devastating to a surplus economic unit that has lent a relatively large amount of money. In contrast, a financial institution is in a better position to predict who will pay and who won't. It is also in a better position, having greater financial resources, to occasionally absorb a loss when someone fails to pay.

Now let us turn to the various types of financial institutions. We'll start with commercial banks, which are regulated by various government entities. We'll also discuss the Federal Reserve System, which plays a major role in bank regulation and in overseeing the financial system.

## Commercial Banks

Commercial banks are financial institutions that exist primarily to lend money to businesses. Banks also lend to individuals, governments, and other entities, but the bulk of their profits typically come from business loans. Commercial banks make money by charging a higher interest rate on the money they lend than the rate they pay on money lent to them in the form of deposits. This rate charged to borrowers minus the rate paid to depositors is known as the **interest rate spread**.

Banking is different from many other types of business in that it must have a charter before it can open its doors. A bank charter—much more difficult to obtain than a city license needed to open another type of business—is an authorization from the government granting permission to operate. Commercial bank charters are issued by the federal government or the government of the state where the bank is located. You can't just rent some office space, buy a vault and some office furniture, put up a sign that says "Joe's Bank," and begin taking in deposits and making loans.

Banks can't operate without a charter because banking is a business intimately involved in the payment system and money supply of the economy. To protect individual economic units and the economy as a whole, the government has decided to control entry into this business and to regulate it, too.

## Bank Regulation

After a bank has been granted a charter, government entities continue to scrutinize it. To begin with, all banks with federal charters must be members of the Federal Reserve System (commonly known as "the Fed"). State-chartered banks may apply for membership in the Federal Reserve System but are not required to do so. All members of the Federal Reserve System must also belong to the Federal Deposit Insurance Corporation (FDIC), which insures customer deposits at participating institutions for

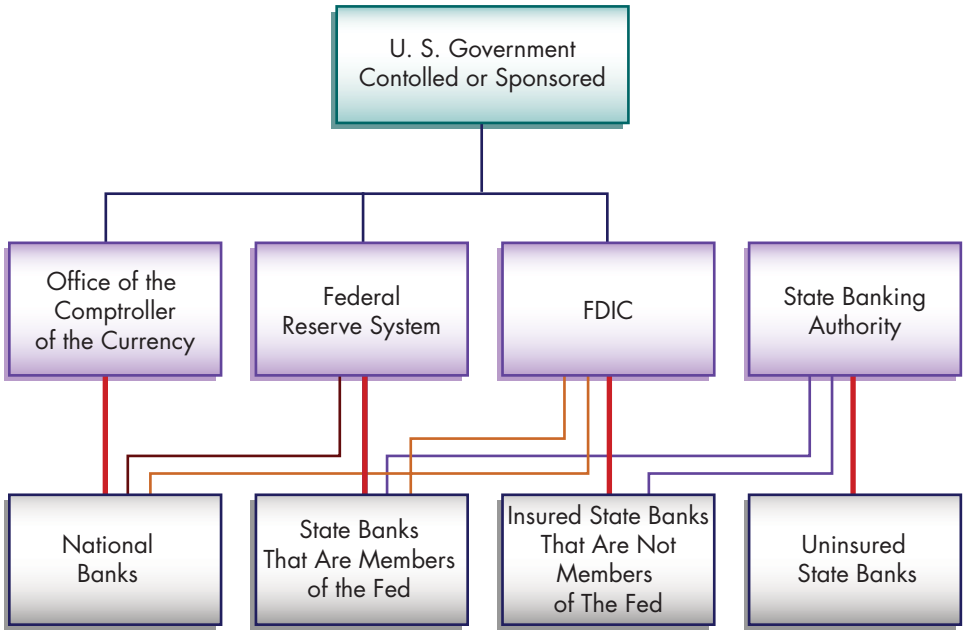


**Figure 3-2** The Commercial Bank Examination System

up to $100,000. Nonmember banks, along with other types of financial institutions, may belong to the FDIC also. Almost all banks—whether federally or state chartered, members of the Fed or not—have FDIC insurance for their depositors.

So many agencies regulate banks that it can be difficult to sort them out. To lessen the potentially extensive overlap of authority, bank regulating entities have worked out an agreement. The Office of the Comptroller of the Currency (OCC) has primary responsibility for examining national banks, ensuring that they meet accepted standards. The Fed has primary responsibility for examining state-chartered member banks. The FDIC assumes primary responsibility for examining state nonmember banks having FDIC insurance. State banking authorities have primary examining authority over state nonmember banks with no FDIC coverage for their depositors. Figure 3-2 shows the main examination authority structure for commercial banks.

## Commercial Bank Operations

Commercial banks operate with more government oversight than most businesses, but they are managed just like other companies. Commercial banks have stockholders, employees, managers, equipment, and facilities, and the primary financial goal of such banks is to maximize value for their stockholders. The banks do most of their business by receiving funds from depositors and lending the funds to those who need them. Commercial banks also occasionally issue long-term bonds to raise funds, borrow from the Federal Reserve, or borrow deposits kept by other financial institutions in Federal Reserve banks in what is known as the federal funds market.

**Commercial Bank Reserves** Commercial banks are not allowed to lend all the funds they get from depositors. The Federal Reserve requires all commercial banks to keep a minimum amount of reserves on hand. Reserves are cash assets: vault cash, and deposits

**Table 3-1** Reserve Requirements as of March 2006

| |
|---|
| 0 percent on net transaction accounts $0 to $7.8 million |
| 3 percent on net transaction accounts $7.8 to $48.3 million |
| 10 percent on net transaction accounts over $48.3 million |
| 0 percent on nonpersonal time deposits |
| 0 percent on Eurocurrency liabilities |

Source: Statistical Supplement to the *Federal Reserve Bulletin*, March 2006 (*http://www.federalreserve.gov/pubs/supplement/2006/03/table1_15.htm*)

at the Fed that are available to a bank to meet the withdrawal demands of its depositors and to pay other obligations as they come due. Actually, the reserve requirement is set more with monetary policy in mind than to ensure that banks meet their depositors' withdrawal requests.

The required level of reserves a bank must hold is determined by applying a certain percentage to the average weekly deposits held by the bank. The exact percentage of deposits a bank must hold in reserve, called the **required reserve ratio**, depends on the type of deposit and the size of the bank. It varies from time to time as determined by the Federal Reserve, subject to certain statutory limits (see Table 3-1).

Table 3-1 shows the amount of reserves financial institutions are required to keep, depending on the amount of different kinds of deposits. Vault cash and deposits in the bank's account at the Fed are used to satisfy these reserve requirements; they are called **primary reserves**. These primary reserves are non-interest-earning assets held by financial institutions.

In addition to primary reserves, commercial banks generally hold some secondary reserves—assets that can be quickly and easily sold and converted into cash. Secondary reserves consist of short-term securities such as Treasury bills or commercial paper. They serve as a buffer between the very liquid primary reserves and the rest of the bank's assets (mostly loans), which are generally less liquid.

## Online Banking

Online banking consists of using the Internet to link your personal computer to your bank account. Online banks offer a full range of services, including checking accounts, savings accounts, loans, mortgages, credit cards, and online bill paying. About the only thing you cannot do (so far!) with an online bank is have it send you cash over the Internet.

Online banking requires special software, which is either provided by the bank itself or by financial programs such as Quicken® or Microsoft Money®. Online customers use their own personal identification number (PIN) to access their accounts. Security is enhanced by using 128-bit, Secure Socket Layer (SSL) encryption.

Most major banks in the United States offer some form of online banking today. The following table shows the top 10 online banks in July 2005 according to Watchfire GómezPro, an Internet research firm.

| Firm | Score (out of 100) |
|---|---|
| 1. Wellsfargo.com | 80 |
| 2. Citibank.com | 79 |
| 3. Bankofamerica.com | 77 |
| 4. Bankus.etrade.com | 74 |
| 5. Huntington.com | 69 |
| 6. Firstnational.com* | 68 |
| 7. Hsbc.com | 68 |
| 8. Usbank.com | 68 |
| 9. Chase.com | 67 |
| 10. Wachovia.com | 67 |

*First National Bank of Omaha

Source: *http://moneycentral.msn.com*, *www.smartcomputing.com*, and *www.kiplinger.com*, Apr 30, 2006. The data was complied by Watchfire GomezPro.

# The Federal Reserve System

The **Federal Reserve System** serves as the central bank of the United States. It regulates the nation's money supply, makes loans to member banks and other financial institutions, and regulates the financial system, as described in the previous section.

Open-market purchases of government securities, making loans to financial institutions, and decreasing reserve requirements all lead to an increase in the money supply. Open-market sales of government securities, receiving payments on loans made to financial institutions, and increasing reserve requirements all lead to a decrease in the money supply.

## Organization of the Fed

The Fed is made up of twelve district Federal Reserve banks spread throughout the country, as shown in Figure 3-3, along with a seven-member Board of Governors and a Federal Open Market Committee (FOMC) that has twelve voting members. Both the Board of Governors and the Federal Open Market Committee are located in Washington, D.C. They hold most of the power of the Fed.

The seven members of the Board of Governors are appointed by the president of the United States, subject to confirmation by the United States Senate. The governors serve staggered 14-year terms, partly to insulate them from political influences. It would be naive to believe that these members are not subject to some political influences, but a president would normally have to be well into a second (and final) term before successfully replacing a majority of the Fed members.

The twelve voting members of the FOMC are the seven members of the Board of Governors plus five of the twelve presidents of the district Federal Reserve banks. The district bank presidents take turns serving as voting members of the FOMC, although the president of the Federal Reserve Bank of New York is always one of the five. The nonvoting presidents of the district Federal Reserve banks usually attend the FOMC meetings and participate in discussions.


**Figure 3-3** The 12 Fed Districts in the United States

## Controlling the Money Supply

The main focus of the FOMC is to recommend **open-market operations** that the Fed should implement to increase or decrease the money supply. Open-market operations are purchases and sales of government securities and foreign currencies conducted in the Federal Reserve Bank of New York at a trading desk that exists for this purpose.

When the Fed buys government securities or currencies, it increases bank reserves and the money supply. When the Fed sells government securities or currencies, it decreases bank reserves and the money supply.

When the Fed wishes to increase the money supply, it instructs its traders at the Federal Reserve Bank of New York to buy government securities (primarily T-bills) on the open market. The traders contact government securities dealers (that are mostly

commercial banks) around the country and buy the required amount of securities. These dealers have accounts at the Fed. When the Fed buys government securities from a dealer, it credits that dealer's account at the Fed. This action increases the amount of funds held by the dealer banks and enables them to make additional loans and investments. When the additional loans and investments are made the supply of money in circulation increases, thus accomplishing the Fed's objective.

The exact opposite occurs when the Fed wishes to decrease the money supply. The Fed calls its traders at the Federal Reserve Bank of New York and instructs them to sell government securities on the open market. The traders contact government securities dealers around the country and sell the required amount of securities to them. When the dealers receive their securities, their accounts are debited and the amount of funds held by these banks decreases. The amount of loans and investments then, that these banks can support, also decreases. Some maturing loans are not renewed and some marketable security investments are not replaced because of the loss of funds. The result is a decrease in the supply of money in circulation.

Why, you might ask, would the Fed want to increase or decrease the money supply? The answer is simple: to influence economic activity. When the members of the FOMC feel that the economy is growing too slowly, the Fed increases the money supply, thus increasing liquidity in the economy and stimulating growth. When the economy is growing too fast and inflation seems imminent, the Fed decreases the money supply (or slows down its growth). This causes the economy to "cool off" because liquidity has decreased.

Although the government securities and currency markets are very large and efficient, the Fed is like a large elephant: People notice when it enters the market. It buys and sells in huge amounts; so when the Fed buys or sells securities, its actions can't help but affect prices (and interest rates) across the whole market.

### The Discount Window

The 12 district Federal Reserve banks lend money to financial institutions at the discount window. Originally, only member banks in a Federal Reserve bank's district came to the discount window for loans. Since 1980, however, the district Federal Reserve banks have extended loans to nonmember banks and to nonbank financial institutions, too.

The district Federal Reserve banks also provide clearing services—collecting and paying for checks written on and deposited in banks. The Fed charges fees for the services it provides. The fees collected, interest earned on government securities held, and other sources of income provide the funds the Fed needs to operate. The Fed does not require appropriations from Congress. In fact, if excess profits are left over, as is usually the case, they are turned over to the U.S. Treasury. There are not many federal government entities that turn money over to the Treasury.


**Interactive Module**

Go to Downloadable Companion Material, chapter 3. There is additional information there on the structure of the Federal Reserve system and the roles of the Board of Governors, Federal Open Market Committee (FOMC), and Federal Reserve banks.

## Savings and Loan Associations

Like commercial banks, **savings and loan associations (S&Ls)** are in business to take in deposits and lend money, primarily in the form of mortgage loans. Mortgage loans are loans that are secured by real property such as real estate. If a borrower defaults on a mortgage loan, the lender can take legal possession of the property. The property can then be sold and the lender keeps the proceeds from the sale up to the amount owed. S&Ls make a profit by charging a higher interest rate on the money they lend than the rate paid on deposits they take in.

Like banks, S&Ls can borrow from the Federal Reserve and from other financial institutions. S&Ls can also borrow from one of the 12 Federal Home Loan banks to meet some of their funding needs. The Office of Thrift Supervision (OTS) is the primary regulator of federally chartered S&Ls.

## Legislation Affecting S&Ls

The Depository Institutions Deregulation and Monetary Control Act of 1980 (MCA)[1] took the cap off interest rates that S&Ls may pay to depositors. It also brought S&Ls under the control of the Fed with regard to reserve requirements. The MCA authorized S&Ls to raise funds from new sources, such as negotiable orders of withdrawal (NOW accounts).

The 1982 Garn–St. Germain Act authorized S&Ls to offer money market accounts. It also expanded the lending and investing powers of S&Ls. The S&L crisis in the latter years of the 1980s demonstrated that these new powers were not always exercised wisely. Probably the most widely known S&L failure was that of Charles Keating's Lincoln Savings and Loan of California. That one failure cost the federal government about $2 billion.

In 1989 Congress passed the Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA) to clean up the mess made when hundreds of S&Ls failed because of bad loans, bad investments, a recession, and fraud. The FIRREA created the Resolution Trust Corporation (RTC) to preserve the remaining value of failed S&Ls, liquidate those that were hopelessly insolvent, and sell some failed S&Ls to other institutions where possible. The RTC often purchased poor-quality assets itself to allow a healthy institution to merge with a failing S&L.

It is often said that Congress, having created the RTC, bailed out the failed S&Ls. This is not true. The owners of these failed S&Ls lost most or all their investments. It was the depositors who were protected. If Congress had not authorized the $200 billion or so needed to keep S&L depositors from taking losses, thousands of individuals, including many of modest means, would have lost substantial savings.

## Regulation of S&Ls

Like commercial banks, savings and loan associations must apply for either a federal or a state charter that authorizes them to operate. All federally chartered S&Ls are regulated by the Office of Thrift Supervision (OTS), and almost all S&Ls have their deposits insured by the Savings Association Insurance Fund (SAIF), which is part of the FDIC. Savings and loan associations also have to keep reserves based on their size and the amount and type of deposit.

## Mutual Companies versus Stockholder-Owned Companies

Some savings and loan associations are owned by stockholders, just as commercial banks and other corporations are owned by their stockholders. Other S&Ls, called **mutuals**, are owned by their depositors. In other words, when a person deposits money in an account at a mutual S&L, that person becomes a part owner of the firm. The mutual S&L's profits (if any) are put into a special reserve account from which dividends are paid from time to time to the owner/depositors.

[1]This mouthful is also referred to as the Monetary Control Act (MCA).

**Table 3-2** First-Year Profit for an S&L with a 7% Loan Financed by a 3% CD

| | |
|---|---|
| Interest received from the loan | $100,000 x .07 = $7,000 |
| Interest paid out to the CD holder | $100,000 x .03 = $3,000 |
| | Net Income: $4,000 |

Note: For simplicity in this example, we assume the loan's terms allow the borrower to make only interest payments each year, deferring payment of the principal until the end of the loan's term.

On the one hand, mutual S&L owner/depositors do not face as much risk as regular stockholder owners: If the mutual S&L loses money, the loss isn't taken out of the owner/depositors' accounts. (Regular stockholder owners, of course, may well see the value of their holdings decline in bad times.) On the other hand, mutual S&L owner/depositors do not enjoy as much reward potential as regular stockholder owners. For example, unlike regular stockholders, who might be able to sell their stock for a profit, mutual S&L owner/depositors can't sell their deposits to other investors at all.

## The Problem of Matching Loan and Deposit Maturities

Most of the mortgage loans made by S&Ls have very long maturities (the 30-year mortgage is most common, although 15-year mortgages are becoming increasingly popular). However, most of the deposits that provide the money for these loans have zero or short maturities (passbook savings accounts have zero maturity because the depositor can withdraw at any time; CDs come in maturities of up to five years). This gap between the 15- to 30-year maturity of the S&Ls' major assets and the zero-to five-year maturity of their deposits creates a problem if market interest rates rise. Consider the following example.

Suppose an S&L wanted to make a 30-year, fixed-rate mortgage loan for $100,000 at 7 percent interest. To raise cash for the loan, the S&L sells a one-year $100,000 CD at 3 percent interest. This creates a favorable spread (7% – 3% = +4%) as long as interest rates stay where they are. Table 3-2 shows the S&L's profit during the first year of the loan.

At the end of the first year, the CD matures and the S&L must pay the CD holder $100,000 plus 3 percent interest ($3,000). So the S&L sells another one-year CD for $100,000, giving the proceeds to the first CD holder. Then it uses $3,000 of its interest income from the loan to pay the interest due on the first CD. At the end of the second year and thereafter, the cycle repeats itself with the S&L selling a new one-year CD each year and using the profits from the loan to pay the interest due on the old CDs. You can see that as long as each new CD is issued for 3 percent interest, the S&L will net a yearly profit of $4,000 ($7,000 income from the loan minus $3,000 paid to the CD holder).

What happens, however, if interest rates rise during the first year, such that at the end of the year the S&L must pay 9 percent to get anyone to buy a new one-year CD? Now the S&L is in trouble. It has to sell a new CD to pay the $100,000 owed to the holder of the first CD, but it can only do so by offering an interest rate two points higher than its mortgage loan is paying. So at the end of the second year, when the S&L must pay the interest to the CD holder, it must pay $9,000 instead of $3,000 and suffers a $2,000 loss for the year. Table 3-3 summarizes the situation.

**Table 3-3** Second-Year Loss for an S&L with a 7% Loan Financed by a 9% CD

| | |
|---|---|
| Interest received from the loan | $100,000 x .07 = $7,000 |
| Interest paid out to the CD holder | $100,000 x .09 = $9,000 |
| | Net Income: ($2,000) |

Of course, market interest rates can go down too, creating extra profits for the S&L, but S&Ls face a risk of loss when market interest rates move against them.

### S&Ls' Real Assets

S&Ls also own buildings and equipment that are needed to conduct business. These assets, which do not earn an explicit rate of return, are supposed to be kept to a low level subject to the needs of the institution. As the fraud of the 1980s showed, however, that has not always been the case. Many S&L executives spent much of their companies' money on private business jets, luxurious offices, and even vacation retreats—a clear example of the agency problem discussed in Chapter 1.

## Credit Unions

**Credit unions** are member-owned financial institutions. They pay interest on shares bought by, and collect interest on loans made to, the members. Members are individuals rather than businesses or government units.

Credit unions are able to make relatively low interest loans to their members because they are cooperative organizations. They don't have to charge extra to make a profit, and they don't pay federal income taxes. Also, they make loans *only* to members, who are presumed to be somewhat better credit risks than the general population.

### The Common Bond Requirement

To help ensure that credit union members actually are better credit risks than the general population, credit union members must have a *common bond* with one another. This could mean that all members work for the same company, belong to the same labor union, or perhaps just live in the same town as the other members. The theory is that people who belong to the same group, sharing common values, will be less likely to default on loans supported by money from their fellow group members.

### Members as Shareholders

Credit unions are owned by their members, so when credit union members put money in their credit union, they are not technically "depositing" the money. Instead, they are purchasing *shares* of the credit union.

Like owners of other businesses, credit union members are entitled to any income the credit union has after debts and expenses have been paid. This residual income may be distributed in the form of extra dividends paid on the members' shares or by a rebate on interest paid on loans.

### Credit Unions Compared with Banks

Traditionally, credit unions were small institutions that did not compete much with banks. However, they have grown rapidly in recent years and now provide most of the same services as commercial banks. Because banks now see credit unions as more of a threat, the banking lobby is pressuring Congress to treat credit unions more like banks, including the way they are taxed.

### Credit Union Regulation

Credit unions must have charters giving them authority to operate, just like banks and S&Ls. They obtain these charters either from the state where they are located or from the federal government. The federal chartering and regulatory body for credit unions is the National Credit Union Administration (NCUA). The NCUA also oversees the National Credit Union Share Insurance Fund (NCUSIF). This fund insures share accounts up to $100,000. All federally chartered credit unions have NCUSIF insurance. State-chartered credit unions may also apply for NCUSIF insurance for the share accounts of their members.

If credit unions have emergency borrowing needs, they can turn to the Central Liquidity Facility (CLF), which was created by Congress in 1978 and is administered by the National Credit Union Administration. Credit unions can also turn to the Federal Reserve Bank in the district where they are located.

## Finance Companies, Insurance Companies, and Pension Funds

*Finance companies* are nonbank firms that make short-term and medium-term loans to consumers and businesses. They often serve those customers who don't qualify for loans at other financial institutions.

Like banks and S&Ls, finance companies operate by taking in money and lending it out to their customers at a higher interest rate. A major difference between finance companies and other financial institutions, however, lies in the source of finance company funds. Banks and S&Ls receive most of their funds from individuals and businesses that deposit money in accounts at the institutions. Finance companies generally get their funds by borrowing from banks or by selling commercial paper.

### Types of Finance Companies

There are three main types of finance companies: consumer, commercial, and sales. In the following sections, we will explain the characteristics and functions of each type.

**Consumer Finance Companies** Consumer finance companies, sometimes known as small-loan companies, make small loans to consumers for car purchases, recreational vehicles, medical expenses, vacations, and the like. Consumer finance companies often make loans to customers with less than perfect credit. Because the customers are a higher risk, the interest rates charged on loans are usually a little higher to compensate for the greater risk.

**Commercial Finance Companies** These firms concentrate on providing credit to other business firms. A special type of commercial finance company is called a factor. Factoring is the buying of a business firm's accounts receivable, thus supplying needed funds to

the selling firm. Commercial finance companies also make loans to businesses, usually with accounts receivable or inventory pledged as collateral. This type of financing will be examined in detail in Chapter 20.

**Sales Finance Companies** The mission of sales finance companies is to help the sales of some corporation (indeed, many are subsidiaries of the corporation whose sales they are promoting). In the automotive industry, for example, customers are more likely to buy cars from dealers that offer financing on the spot than from dealers who have no financing programs.

A finance company generally gives its retail dealers a supply of loan contract forms, which the dealers fill out at the time of sale. The contract is immediately sold to the finance company (at a slightly reduced price, of course, to allow for the finance company's profit). General Motors Acceptance Corporation (GMAC) and the Ford Motor Credit Company are prominent examples of sales finance companies.

## Insurance Companies

*Insurance companies* are firms that, for a fee, will assume risks for their customers. They collect fees, called premiums, from a large number of customers. Then they draw on the pool of funds collected to pay those customers who suffer damages from the perils they have insured against.

There are two main types of insurance companies: life insurance companies, and property and casualty insurance companies.

**Life Insurance Companies** *Life insurance companies* sell policies that pay the beneficiaries of the insured when the insured person dies. You might ask how life insurance companies make any money because everybody dies sooner or later. If the risk life insurance companies were taking in return for the premium received were the risk of their customers dying, it is true that none of them would make any money. The real risk they are taking, however, is that the insured person will die *sooner than expected*.

To help assess this risk, insurance companies employ **actuaries**. Actuaries help calculate the premium for a life insurance policy for a person of a given age, gender, and state of health, so that the insurance company can pay the insurance benefit, cover expenses, and make a profit. Actuaries cannot tell specifically *who* is going to die when; but they can predict, with a high degree of accuracy, *how many* in a group of 100,000 healthy 40-year-old males will die during the coming year.

Life insurance companies function as financial intermediaries essentially the same way as commercial banks or savings and loan associations. They take money in from surplus economic units in the form of policy premiums and channel it to deficit economic units in the form of investments in common stock, corporate bonds, mortgages, and real estate. Their payout can be predicted with a high degree of accuracy, so they need only a small amount of liquid assets.

**Property and Casualty Insurance Companies** *Property and casualty insurance companies* insure against a wide range of hazards associated with person and property. These include theft; weather damage from hurricanes, tornadoes, and floods; fire; and earthquakes. Two close relatives of property and casualty companies are health insurance companies, which insure people against injuries and illnesses, and disability insurance companies, which insure people against loss of income from being unable to work.

One special hazard that these companies insure against is a policyholder's own negligence. This kind of insurance is called **liability insurance**. Most people are familiar with automobile liability insurance, but liability coverage can also be purchased for such things as medical malpractice, dog bites, and falls by visitors on your property.

The risks protected against by property and casualty companies are much less predictable than the risks insured by life insurance companies. Hurricanes, fires, floods, and trial judgments are all much more difficult to predict than the number of 60-year-old females who will die this year among a large number in this risk class. This means that property and casualty insurance companies must keep more liquid assets than life insurance companies.

## Pension Funds

Pension funds are set up by companies, governments, and unions to pay retirement benefits for their employees. They are essentially savings plans. Employees generally contribute money to the funds now in order to draw it out later, on retirement. Employers usually contribute money on behalf of the employees, too. All the money is pooled and invested, and the investment returns are added to the pot. It is always possible, of course, that the sponsor (the company, government, or union) will not be able to pay promised benefits. If this happens the pension fund is said to have failed, and the worker may not collect all the promised benefits.

Pension funds invest so much money that they are the country's greatest source of long-term capital. They have *trillions* of dollars invested in a wide range of securities and other assets, such as real estate. Pension fund officials often hire money management firms just to manage the fund's investments. Bank trust departments and insurance companies also manage pension fund money.

Pension funds generally use one of two types of procedures for determining benefits for retired workers: a defined benefit plan and a defined contribution plan. In a defined benefit plan, retirement benefits are determined by a formula that usually considers the worker's age, salary, and years of service. The employee and/or the firm contribute the amounts necessary to reach the goal. In a defined contribution plan, the contributions to be made by the employee and/or employer are spelled out, but retirement benefits depend on the total accumulation in the individual's account at the retirement date.

## Annuities

An annuity is a series of equal payments made at regular time intervals, such as monthly payments, for a specified period of time. Pension fund benefits are often paid out in the form of annuities. Sometimes the sponsor of a pension fund will use the funds accumulated during the retiring person's working years to purchase an annuity from an insurance company. This provides the retired person's benefits. Insurance companies also sell annuities to investors. In return for the amount paid to the insurance company, the investor receives payments (usually monthly) for the remainder of his or her life. A person who receives annuity payments is called an annuitant. The size of the payments depends on how much money is paid to the insurance company at the time of the employee's retirement, along with factors such as the age, gender (if allowed by law), and state of health of the annuitant. If the pension fund investments made on behalf of a given employee earned a high return, a large amount of money will be available to purchase a large annuity. If the defined contribution pension fund investments performed poorly, the retired employee will be able to purchase only a small annuity.

Sometimes the investments made on an employee's behalf will be paid out in a lump sum at retirement. It is then up to the retired employee to invest this money wisely to generate the needed income during retirement.

## What's Next

In this chapter we have seen how financial institutions help to bring together suppliers and users of funds to the benefit of both and to the economy. Commercial banks, savings and loan associations, credit unions, finance companies, insurance companies, and pension funds do this in different ways and have different constituents, but all assist in this efficient flow of funds.

In the following two chapters we will review financial statements and learn how to analyze them from the perspective of a financial manager.

## Summary

**1.** Explain financial intermediation and the role of financial institutions.

Financial institutions act as intermediaries between surplus and deficit economic units. They coordinate the flow of funds, absorbing differences between the amount of funds offered and needed, between the length of time funds are offered and needed, and between the degree of risk that surplus economic units are willing to bear and the risk that is inherent in the securities offered by the deficit economic units.

**2.** Define commercial banks and explain how reserve requirements influence their operations.

Commercial banks are financial institutions that are owned by stockholders, that take in deposits, and that make loans (primarily to businesses). Reserve requirements force banks to maintain minimum levels of reserves (vault cash and deposits at the Fed) based on the level and type of deposits they have. Reserves are nonearning assets, so, although they provide liquidity for the bank, they limit its ability to make a profit.

**3.** Describe how the Federal Reserve regulates financial institutions.

The Federal Reserve is the central bank of the United States. It has seven members on its Board of Governors and a 12 voting-member Federal Open Market Committee. The 12 district Federal Reserve banks make loans to financial institutions and perform other functions to assist member banks and other financial institutions. The Federal Reserve sets reserve requirements and influences the money supply through its open-market purchases and sales of government securities and foreign currencies. The Fed regulates financial institutions and uses its powers to try to maintain stability in the financial system.

**4.** Explain how savings and loan associations differ from commercial banks.

Savings and loan associations (S&Ls) are financial institutions that take in deposits and mainly make mortgage loans. The Office of Thrift Supervision is the primary authority for overseeing S&Ls. S&Ls primarily make mortgage loans (to consumers). Banks primarily make commercial loans to businesses.

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**5.** Describe how credit unions operate.

Credit unions are financial institutions that take in funds by selling shares to members and make loans to those members. People are eligible for membership in a credit union if they meet the requirement of having a common bond with the other members. This might be working for a given company, belonging to a certain union, or living in a specified area.

**6.** Compare and contrast finance companies, insurance companies, and pension funds.

Finance companies take in funds, primarily by selling commercial paper, and make personal loans. Insurance companies sell policies, collecting premiums and paying beneficiaries if the insured-against event the insurance covers occurs. Pension funds take in funds, usually contributed by both the employer and the employee, and invest those funds for future payment to the worker when he or she retires. This retirement benefit may be determined by a formula (a defined benefit plan) or by how much is in the investment fund at the time of retirement (a defined contribution plan).

## Self-Test

**ST-1.** Why is intermediation sometimes needed to bring together surplus and deficit economic units?

**ST-2.** Is it better to be a surplus economic unit or a deficit economic unit? Explain.

**ST-3.** Define secondary reserves that are held by a bank.

**ST-4.** What is the difference, if any, between the way commercial banks and credit unions are taxed?

**ST-5.** What is the common bond requirement that credit union members must have to be eligible for membership?

**ST-6.** What is a Federal Reserve discount window loan?

**ST-7.** What are Federal Reserve open-market operations?

## Review Questions

**1.** Define *intermediation*.

**2.** What can a financial institution often do for a surplus economic unit (SEU) that the SEU would have difficulty doing for itself if the SEU were to deal directly with a deficit economic unit (DEU)?

**3.** What can a financial institution often do for a deficit economic unit (DEU) that the DEU would have difficulty doing for itself if the DEU were to deal directly with an SEU?

**4.** What are a bank's primary reserves? When the Fed sets reserve requirements, what is its primary goal?

**5.** Compare and contrast mutual and stockholder-owned savings and loan associations.

**6.** Who owns a credit union? Explain.

**7.** Which type of insurance company generally takes on the greater risks: a life insurance company or a property and casualty insurance company?

**8.** Compare and contrast a defined benefit and a defined contribution pension plan.

**9.** What tools are used in online banking to ensure the security of transactions?


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## Build Your Communication Skills

**CS-1.** Women live longer than men, on average, but some insurance regulators are forcing insurance companies to ignore this fact when setting rates. Do you think it is ethical to charge women and men, who are otherwise similar in age and other risk factors, different amounts for life insurance? Have two groups of students debate this issue.

**CS-2.** Read three articles about the Federal Reserve's current monetary policy. Use sources such as *The Wall Street Journal*, *Fortune* magazine, the *Federal Reserve Bulletin*, or sources available on the Internet or CD databases. Write a brief report (two or three pages) summarizing the Fed's current monetary policy. What issues seem to be influencing the Fed's actions the most? What actions are being taken by the Fed to achieve the goals it has defined for itself?

## Problems

**3-1.** Assume that society is made up of 100 surplus economic units (SEUs) that have $10 each and three deficit economic units (DEUs) that need $100 each. With that in mind, describe (a) how the society would have to operate if there were no financial institutions present to perform financial intermediation, and (b) how financial institutions help overcome the problems you described.

**Financial Intermediation**

**3-2.** **a.** Assume that the Goodfellows National Bank pays 5 percent interest on depositors' accounts and charges 10 percent interest on loans it makes to businesses. What is Goodfellows' interest rate spread?

**b.** Perhaps that was too simple. To make it a little more challenging, assume that Goodfellows pays 5 percent interest on depositors' passbook savings accounts, which make up 50 percent of all funds on hand, and 7 percent interest on depositors' Certificates of Deposit, which make up the other 50 percent of funds received. Next, assume that Goodfellows charges 10 percent interest on short-term loans, which make up 50 percent of all loans outstanding, and 12 percent interest on long-term loans, which make up the other 50 percent of all loans outstanding. Now what is Goodfellows' interest rate spread?

**Commercial Banks**
(Interest rate spread)

**3-3.** Assume that Goodfellows National Bank has $60 million in transaction accounts, $20 million in nonpersonal time deposits, and $10 million in Eurocurrency liabilities. Given the reserve requirements shown in Table 3-1, how much must Goodfellows keep on hand in reserve funds?

**Commercial Banks**
(Required reserve ratio)

**3-4.** Assume that you are attending a meeting of the Federal Reserve's Open Market Committee (FOMC). There is great concern among the members present that the economy is in a recessionary trend.

**a.** What would you recommend that the FOMC do to stimulate the economy?

**b.** Explain the chain of events that occurs when the FOMC takes the action that you recommended in part *a*?

**The Federal Reserve System**

**Matching Loan and Deposit Maturities**

**3-5.** Goodfellows National Bank has decided to compete with savings and loan associations (S&Ls) by offering 30-year fixed-rate mortgage loans at 8 percent annual interest. It plans to obtain the money for the loans by selling one-year 6 percent CDs to its depositors. During the first year of operation, Goodfellows sells its depositors $1,000,000 worth of 7 percent one-year CDs, and homebuyers take out $1,000,000 worth of 8 percent 30-year fixed-rate mortgages.

**a.** Considering only the information above, what is Goodfellows' gross profit for the first year of operation?

In Goodfellows' second year of operation, Goodfellows must sell $1,000,000 worth of new CDs to replace the ones that mature. However, interest rates have gone up during the year, and now the rate the bank must pay to get people to buy new CDs is 9 percent.

**b.** Assuming that Goodfellows does sell $1,000,000 worth of new CDs at 9 percent interest in the second year, and assuming the $1,000,000 worth of 8 percent mortgage loans are still outstanding, what is Goodfellows' gross profit during the second year?

(Note: For the purposes of this problem, assume that the mortgage holders make only interest payments each year.)

## Answers to Self-Test

**ST-1.** Intermediation is sometimes needed when surplus and deficit economic units cannot agree about the denomination, maturity, and risk of the security offered and bought. Financial intermediaries can often give each side what it needs by stepping into the middle of the exchange of funds for securities.

**ST-2.** There is nothing inherently good or bad in the classification of either a surplus economic unit or a deficit economic unit.

**ST-3.** Secondary reserves are short-term liquid securities that a bank can sell quickly and easily to obtain cash that can be used to satisfy primary reserve requirements.

**ST-4.** Commercial banks pay federal income taxes on their profits, whereas credit unions do not.

**ST-5.** Credit union members are required to have some common bond with the other members before the request for membership is approved. Examples of common bonds required by various credit unions include working for a given company, belonging to a certain union, or living in a certain area.

**ST-6.** A Federal Reserve discount window loan is a loan made by one of the 12 district Federal Reserve banks to a financial institution from that district.

**ST-7.** Federal Reserve open-market operations are the purchasing and selling of U.S. government securities and foreign currencies by the Federal Reserve. This is done to affect the amount of reserves in the banking system.

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