AFTER STUDYING THIS CHAPTER, YOU SHOULD BE ABLE TO:

- Describe the major financial institutions and their roles in the financial system.
- Describe the differences between commercial banking and investment banking.
- Identify the functions of banks and of the banking system.
- Describe the early history of U.S. depository institutions.
- Discuss general regulation of the banking system and how depositors’ funds are protected.
- Describe the structure of banks in terms of bank charters, branch banking, and bank holding companies.
- Briefly describe the bank balance sheet and the major account categories that it contains.
- Discuss bank management in terms of bank liquidity and bank solvency.
- Describe liquidity management in terms of asset management and liabilities management.
- Briefly explain why and how bank capital is managed.
- Describe the characteristics of several foreign banking systems.

In Chapter 2, we presented an overview of the U.S. monetary system. We discussed how the monetary system is intertwined with the savings-investment process and we identified the major participants in the monetary system. Money has three functions, which as you remember are a medium of exchange, a store of value, and a standard of value. An understanding of how money developed in the United States over time, as well as knowing current definitions of the U.S. money supply, will be useful as we move through Part 1. Having an understanding of the relationship between the money supply and the economy will help us understand how the actions of policy makers will influence economic activity and the financial system itself.

As we move through Part 1, we are continuing to build on our understanding of the U.S. financial system. Chapter 4 focuses on the Federal Reserve System. We will describe the structure of the Fed and discuss the Fed’s functions. The Fed directs monetary policy by setting reserve requirements and interest rates on loans to depository institutions and through buying and selling of U.S. government securities. We will also discuss the Fed’s supervisory and regulatory responsibilities. The last two chapters in Part 1 focus on the role of the policy makers (those responsible for carrying out fiscal policy, monetary policy, and debt management) and on how international developments impact the financial system.

You probably have a checking account at a depository institution. You may also have a savings account or own some shares in a mutual fund. You may even have a loan on an automobile or a home mortgage. Each of these activities requires an interaction with a financial institution. After reading
this chapter you should have a better understanding of what depository and other financial institutions do in carrying out the savings-investment process and how banks operate and are managed.

Webster’s New English Dictionary defines a “bank” as:

an establishment for the deposit, custody, and issue of money, for making loans and discounts, and for making easier the exchange of funds by checks, notes, etc.

Webster also defines a “bank” as:

the funds of a gambling establishment; the fund or pool by the banker or dealer in some gambling games.

Most of us associate the former (first) definition with our perception of banks and banking in the United States. However, there have been examples throughout history and even recently where the latter definition seems to fit. For example, isolated fraudulent behavior on the part of some commercial bank and S&L officers has resulted in criminal indictments and even in prison sentences. Overall, of course, banks and other financial institutions have performed admirably well in getting savings to investors and contributing to an efficient financial system.

**ROLES OF MAJOR FINANCIAL INSTITUTIONS**

The major types of financial institutions in the United States today evolved over time to meet the needs of individuals, to carry out the savings-investment process, and to make the financial system operate efficiently. It is common practice to group today’s financial institutions into four groups or categories. Recall from Chapter 1 that these categories were depository institutions, contractual savings organizations, securities firms, and finance companies. Depository institutions include commercial banks and savings and loan associations (S&Ls), savings banks, and credit unions. The primary source of funds received by depository institutions is the deposits or savings of individuals. Commercial banks collect deposits from individuals and lend these pooled deposits to individuals, businesses, and government units.

Figure 3.1 illustrates graphically the process of getting funds from individual savers and investors into the hands of business firms that want to make investments to maintain and grow their firms. Individuals make deposits in commercial banks that in turn make loans to and purchase debt securities of business firms. The other depository institutions, which are not specifically depicted in Figure 3.1, also accumulate individual savings but specialize in providing credit primarily to individuals, although S&Ls do make some business loans. We will discuss the roles and operations of banks, and to a lesser extent the other depository institutions, in detail later in this chapter.

Contractual savings organizations in the form of insurance companies and pension funds play important roles by collecting premiums and contributions and using these pooled funds to purchase the debt and equity securities of business firms, as is depicted in Figure 3.1. Of course, contractual savings organizations also actively purchase the debt securities issued by governmental units. Insurance companies provide financial protection to individuals and businesses for life, property, liability, and health uncertainties. Policyholders pay premiums to insurance companies that invest these funds until the insured claims must be paid. Life insurance provides economic security for dependents in the event of premature death of the insured individual. Health insurance provides protection against possible catastrophic medical expenses in the event the insured individual becomes ill or is in an accident. Property
insurance protects a policyholder against possible financial loss from fire, theft, and other insured perils. Liability insurance protects a policyholder against possible financial loss from a claim of negligence charged by another individual.

Pension funds receive contributions from employees and/or their employers and invest the proceeds on behalf of the employees for use during their retirement years.

Pension funds receive contributions from employees and/or their employers and invest the proceeds on behalf of the employees. The purpose of a pension plan is to provide income during an individual’s retirement years. Pension funds are either private pension plans or government-sponsored plans. Many business organizations provide private pension plans for their employees. A private pension plan may be either insured or uninsured. A contractual plan with a life insurance company is an insured plan. An uninsured plan utilizes a trustee, often a commercial bank or trust company, to manage, invest, and distribute benefits as established in the trust arrangement. Government-sponsored plans may involve either the federal government or state and local governments. Social Security, which nearly everyone has heard about, is the largest federal pension plan. The Social Security plan is funded by currently working individuals paying Social Security taxes. Social Security is designed to provide only minimum retirement benefits so that most individuals will need to accumulate additional funds before retirement. The federal government also provides pension plans for its employees know as civil servants, as well as for military employees. State and local government pension plans typically are established to cover teachers, police and fire employees, and their other civil servants.

Securities firms perform several financial functions. Some securities firms are active in the savings-investment process, while others concentrate primarily on marketing new securities and facilitating the transfer of existing securities between investors. Investment companies sell shares in their firms to individuals and others and invest the pooled proceeds in corporate and government securities. An investment company
may be either a closed-end fund or an open-end fund. A closed-end fund issues a fixed number of its shares to investors and invests the pooled funds in securities. Shares in a closed-end fund are bought and sold in secondary securities markets once they have been initially issued. An open-end fund, typically called a mutual fund, can issue an unlimited number of its shares to its investors and use the pooled proceeds to purchase corporate and government securities. However, unlike with a closed-end fund, investors purchase new shares or redeem old shares directly with their mutual fund rather than buying and selling the shares in a secondary securities market. Figure 3.1, which focuses on getting funds to business firms, depicts the important role that mutual funds play today by selling shares in their funds to individual investors and then in turn using the proceeds to purchase debt and equity securities issued by business firms. Mutual funds grow by investing the funds of their existing investors in securities that will pay or distribute cash and will appreciate in value. Successful mutual funds are able to attract more investor funds and, in turn, invest in more securities.

Investment banking firms, also referred to as investment banks, sell or market new securities issued by businesses to individual and institutional investors. Brokerage firms assist individuals who want to purchase new or existing securities issues or who want to sell previously purchased securities. Investment banking and brokerage activities are often combined in the same firms. However, in contrast with mutual funds, investment banking firms and brokerage firms do not gather the savings of individuals but rather “market” or sell securities issued by corporations directly to individuals, as depicted in Figure 3.1. Investment banking and brokerage firms obtain financial capital to carry out their activities from their own resources or from other financial institutions.

### SMALL BUSINESS PRACTICE

**Types of Credit Used by Small Businesses**

The Fed conducted national surveys of small business finances in 1987, 1993, and 1998. These were nationally representative surveys of small businesses designed to gather data on bank and nonbank participants in the supplying of credit to small businesses.

Banks provided more than half of the volume of credit (excluding trade credit and credit card debt) in all three surveys. However, the percentage of firms obtaining credit from banks declined over the three surveys, which may indicate an increase in the difficulty of small firms in borrowing from banks.

Data were gathered on six types of loans. Their relative importance in percentage terms is expressed in the table below.

<table>
<thead>
<tr>
<th>CREDIT TYPE</th>
<th>1987 (%)</th>
<th>1993 (%)</th>
<th>1998 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit lines used</td>
<td>34.0</td>
<td>44.1</td>
<td>30.0</td>
</tr>
<tr>
<td>Mortgage loans</td>
<td>31.2</td>
<td>13.9</td>
<td>14.4</td>
</tr>
<tr>
<td>Equipment loans</td>
<td>10.5</td>
<td>11.3</td>
<td>11.0</td>
</tr>
<tr>
<td>Vehicle loans</td>
<td>6.1</td>
<td>6.0</td>
<td>22.3</td>
</tr>
<tr>
<td>Capital leases</td>
<td>4.0</td>
<td>6.2</td>
<td>11.5</td>
</tr>
<tr>
<td>Other loans</td>
<td>14.2</td>
<td>18.5</td>
<td>10.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

As can be seen, small business relied more heavily on credit lines in each of the three surveys. Mortgage loans as a financing source were relatively stable during the 1990s. The use of capital leases grew over the three surveys. The large increase in the reliance on vehicle loans as a percent of total financing in the 1998 survey is interesting but we are cautious in drawing any major conclusions because vehicle loan definitions may have been different in the 1998 survey relative to the two earlier surveys.

Banks continue to be the most important suppliers of credit to small businesses. Loans are offered primarily in the form of lines of credit against which small businesses can “draw down” or borrow against.

---

Finance firms, while an important type of financial institution, are not included in Figure 3.1 because they focus largely on providing loans to individuals to meet credit needs and the purchase of durable goods and homes. Finance companies provide loans directly to consumers and businesses or aid individuals in obtaining financing. Sales and consumer finance companies lend to individuals. Sales finance companies finance installment loan purchases of automobiles and other durable goods such as washers, dryers, and refrigerators. Consumer finance companies provide small loans to individuals and households. Commercial finance companies provide loans to businesses that are unable to obtain financing from commercial banks. However, commercial finance companies are not included in Figure 3.1 because they do not accumulate the savings of individuals but rather get their funds for making loans to businesses from other financial institutions. Mortgage banking firms or mortgage companies help individuals obtain mortgage loans by bringing together borrowers and institutional investors. A mortgage loan is a loan on real property, such as a house, whereby the borrower pledges the property as collateral to guarantee that the loan will be repaid. The primary mortgage market where home and other real property loans are “originated” is very important to the success of the financial system. Traditionally, once a mortgage loan was originated it was held by the lender until maturity or until the loan was prepaid. However, as individual mortgage loans become more standardized, secondary mortgage markets are developing whereby existing real property mortgages are bought and sold.

**OVERVIEW OF THE BANKING SYSTEM**

We now turn our attention to the development of a basic understanding of the current U.S. banking system. First, we describe the traditional differences between commercial banking and investment banking and their combination to provide universal banking. Then, we cover the functions of banks and the banking system.

**COMMERCIAL, INVESTMENT, AND UNIVERSAL BANKING**

When we refer to banks and the banking system in the United States we primarily think in terms of commercial banking. A commercial bank accepts deposits, issues check-writing accounts to facilitate purchases and paying bills, and makes loans to individuals and businesses. This definition of a bank is consistent with the Webster’s dictionary definition cited. In contrast, an investment bank helps businesses sell their new debt and equity securities to raise financial capital.

Figure 3.2 depicts these two types of indirect transfers from savers to a business firm. You should be able to recall a similarity between this figure and Figure 2.2 in Chapter 2, which also included direct transfers between individuals and business firms whereby no financial institution performs an intermediary role by bringing individual investors together with business firms desiring to sell securities. Direct investments are relatively rare occurrences. The top portion of Figure 3.2 shows the traditional role of the commercial bank as a financial institution that accepts the deposits of savers in exchange for the bank’s securities (e.g., certificates of deposit or CDs). The bank then loans money to the business firm in exchange for the firm’s promise to repay the loan (e.g., a note). The bottom portion of Figure 3.2 shows that the investment bank markets the business firm’s securities (e.g., a bond) to savers. This can be done either by first purchasing the securities from the firm and then reselling the securities (called “underwriting,” as we will see in Chapter 11) or by just marketing the securities on behalf of the issuing firm to savers.
In the midst of the Great Depression, the U.S. Congress passed the Banking Act of 1933. This legislation, which was commonly known as the Glass-Steagall Act of 1933 in recognition of the individuals responsible for introducing and supporting the Act, provided for the separation of commercial banking and investment banking activities in the United States. Many banks failed during the late 1920s and early 1930s, causing scrutiny of the banking industry, and efforts were undertaken to assess why banks failed. Some politicians, regulators, and others thought that many of the bank failures were caused, in part, by investment banking activities involving underwriting and the holding of equity securities. The result was passage of the Glass-Steagall Act.

After over six decades being law, the Glass-Steagall Act was repealed with the passage of the Gramm-Leach-Bliley Act of 1999. When Glass-Stegall was passed, many officials and individuals believed that government and regulation was the answer to avoiding banking excesses and mismanagement. Today the belief is that competition and free markets represent the best way to manage banking risks and create stability in the financial system. Commercial banks are no longer prohibited from engaging in investment banking and insurance underwriting activities. Likewise, insurance companies and investment banking firms can now engage in commercial banking activities. Universal banking now is permitted in the U.S., as is the case in various other countries. A universal bank is a bank that engages in both commercial banking and investment banking activities. Germany also has universal banking and the United Kingdom does not legally separate commercial banking from investment banking.

FUNCTIONS OF BANKS AND THE BANKING SYSTEM

Depository institutions accept deposits, make loans, and issue checkable deposit accounts. Like commercial banks, savings and loan associations (also called savings and loans or S&Ls), savings banks, and credit unions perform these activities. The U.S. banking system includes commercial banks, savings and loans, savings banks, and credit unions, which are the four depository institutions operating in the financial system. It is common practice today to refer to all depository institutions as “banks.” Banks and the banking system perform five functions: (1) accepting deposits, (2) granting loans, (3) issuing checkable deposit accounts, (4) clearing checks, and (5) creating deposit money. If, or when, U.S. banking moves to universal banking, the sixth function will be: (6) raising financial capital for businesses (investment banking).
In accepting deposits, banks provide a safe place for the public to keep money for future use. Individuals and businesses seldom wish to spend their money as it becomes available; without depository facilities such funds may lie idle. The banking system puts the accumulated deposits to use through loans to persons and businesses that have an immediate use for them. This, of course, is the financial intermediation activities of depository institutions in the savings-investment process.

Banks play a very important role in the payments process or mechanism in place in the U.S. financial system by creating deposit money. By permitting “check writing” against demand and other checkable deposits it is easier for individuals and businesses to make purchases and to pay bills or debts. Of course, it is not enough just to permit check writing; there must also be an efficient mechanism for processing the checks so that they can be presented to the bank that authorized the check for payment.

Let’s take a brief look at how checks are “cleared” or processed in the United States. Let’s assume that you owe $100 for the purchase of a product on credit from the ABC firm. You write a $100 check against your checkable deposit account held at the First Bank payable to the ABC Company and mail the check to ABC. An ABC employee opens the envelope containing your check and deposits the check in ABC’s deposit account held at the Last Bank.

Figure 3.3 shows the three basic ways of processing or collecting a check. First, the Last Bank could present your check directly to the First Bank for payment.
The First Bank “pays” the check and deducts the amount of the check from your checkable deposit account. Since the First Bank authorized or issued the deposit money, confidence in its creditworthiness is important in making the clearing process work.

However, since direct check presentation is both costly and time-consuming, most banks use bank clearinghouses. This is particularly useful when the two banks are located in different cities. In our example, the bank clearinghouse would receive the check from the Last Bank, credit the bank’s account at the clearinghouse, and subtract the amount of your check from the First Bank’s account at the clearinghouse. At the end of each day, all of a bank’s transactions handled through the clearinghouse are “netted out” with the result being an increase or decrease in the bank’s account with the clearinghouse. Of course, the First Bank when presented with your check will reduce your checkable deposit account accordingly.

Sometimes banks work closely with and hold deposit accounts at other banks known as “correspondent” banks in distant cities. For example, the Last Bank may hold a deposit account at one of its correspondent banks called the Middle Bank, which is located in the same city as is the First Bank. In this case, when the Last Bank receives your check from the ABC firm it is deposited in the Last Bank’s account at the Middle Bank. The Middle Bank, in turn, either presents your check directly to the First Bank or uses the bank clearinghouse in its and the First Bank’s city.

Most depository institutions with large checkable deposit accounts are required to hold accounts with the Federal Reserve. Actually, the funds are held with the Federal Reserve Bank responsible for their city or area, as we will see in the next chapter. If the Last Bank wants to make use of the Federal Reserve for check-clearing purposes, it will first deposit your check with its Federal Reserve Bank where the Last Bank’s account will be increased. The Fed Bank will also reduce the First Bank’s account held at the Federal Reserve even if it is held at a different Federal Reserve Bank. The check then is returned to the First Bank so that your checkable account balance can be reduced by the $100. We examine the Fed’s check-clearing process in greater detail in Chapter 4.

The banking system has the unique ability to create deposit money and thus expand the money supply. The ability to create more and more deposit money would be almost limitless as long as the deposit money keeps coming back into the banking system unless banks are required to hold a portion of their checkable deposits in the form of reserves. We examine deposit, reserves, and other accounts later in this chapter. Chapter 4 will cover how the Fed can regulate the money supply by setting reserve requirements that banks must hold against their checkable deposits. Chapter 5 will explore how reserve requirements and other Fed tools can be used to set monetary policy.

**HISTORICAL DEVELOPMENT OF THE U.S. BANKING SYSTEM**

Before we examine the current structure of the banking industry, we will review a little U.S. banking history. We know you are about to ask: Why should I learn anything about the history of banking? First, a basic understanding of how the U.S. banking system evolved should help us better understand how and why the system operates the way it does today. Second, to paraphrase the quote at the beginning of Chapter 1: “Those who don’t study history are doomed to repeat its mistakes.”
BEFORE THE CIVIL WAR

Until the Civil War banking in the United States developed under circumstances that explain much of the apparent confusion and difficulty that accompanied its development. The population lived for the most part on farms. Families were self-sufficient, and transportation and communications were poor. The friction between those who supported a strong central government and those who did not existed in the early years of U.S. history as it does today. The country had little experience in money and financial management, and much controversy raged over the power to charter and regulate banks.

Early Chartered Banks

During the colonial period small, unincorporated banks were established to ease the shortage of financial capital for businesses. Their operations consisted largely of issuing their own paper money. Outside of the larger towns, deposit banking was of minor significance. It was not until 1782 that the first incorporated bank, the Bank of North America, was created. It was established in Philadelphia by Robert Morris to assist in financing the Revolutionary War. This bank set a good example for successful banking: its notes served as a circulating medium of exchange, it loaned liberally to the U.S. government, and it redeemed its own notes in metallic coins upon demand. Two years later the Bank of Massachusetts and the Bank of New York were established. These three incorporated banks were the only such banks until 1790.

First Bank of the United States

Alexander Hamilton was the first Secretary of the Treasury of the United States. For several years he had harbored the idea of a federally chartered bank that would adequately support the rapidly growing economy and would give financial assistance to the government during its crises. His recommendations were submitted to the House of Representatives of the United States in 1790, and in 1791 a twenty-year charter was issued to the First Bank of the United States. This bank served the nation effectively by issuing notes, transferring funds from region to region, and curbing the excessive note issues of state banks by presenting such notes periodically to the issuing banks for redemption. However, strong opposition existed to the renewal of its charter, and it ceased operations in 1811. The antagonism of state banking interests was an important cause of the demise of the First Bank.

Following the expiration of the charter of the First Bank of the United States, the number of state banks increased rapidly, as did the volume of their note issues. Abuses of banking privileges were extensive. The capital of many banks was largely fictitious, and there was a flood of irredeemable notes issued to the public.

Second Bank of the United States

The Second Bank of the United States was chartered primarily to restore order to the chaotic banking situation that had developed after the First Bank of the United States ceased operations. Like the First Bank of the United States, it received a twenty-year federal charter. This Second Bank began operations in 1816 and ably served individuals, businesses, and the government. It accepted deposits, made loans, and issued notes. Furthermore, it restrained the note-issuing practices of state banks by periodically presenting their notes for redemption. The Second Bank of the United States also served as the fiscal agent for the government. It received all deposits of government funds and reported regularly on all government receipts and expenditures.
In 1833 President Andrew Jackson and many of his associates began such a vigorous campaign against the Second Bank of the United States that it became apparent its charter would not be renewed when it expired in 1836. President Jackson claimed that the Bank was being run to benefit private interests and was operated in such a way as to weaken government policies. Like the First Bank of the United States, it became a victim of political pressure. Not until 1863 was another bank in the United States to receive a federal charter.

State Banks from 1836 to the Civil War
When the Second Bank's charter expired, the excesses that had plagued the period between 1811 and 1816 began again. This period is characterized as one of “wild-cat” banking. Although many state banks operated on a conservative and very sound basis, the majority engaged in risky banking practices through excessive note issues, lack of adequate bank capital, and insufficient reserves against their notes and deposits.

Because the notes of even well-established banks were often of inferior quality, it was easy for skillful counterfeiters to increase the denomination of notes. Also, because of the poor communications that existed between various sections of the country, it was often quite difficult for a banker to be certain whether notes presented for payment were real. Skillfully prepared counterfeit notes frequently circulated with greater freedom than did the legitimate notes of weak and little-known banks.

In spite of the many abuses of state banks during this period, New York, Massachusetts, and Louisiana originated sound banking legislation, much of which provided the basis for the establishment of the National Banking System in 1863.

ENTRY OF THRIFT INSTITUTIONS
The chaotic banking conditions of the early 1800s left individuals with few safe institutions in which they could place their savings. The lack of safe depository institutions, in turn, inhibited the effective development of home financing. The rapidly growing population depended to a large extent on individual financial arrangements to meet its need for housing. The accumulated savings of most individuals the best place to “bank” may not be a bank, but rather a credit union. Their members, who have some kind of common affiliation such as an employer or religious organization membership, run these. Credit unions are tax-exempt depository institutions. Although they do not pay any taxes, any interest or dividends received by their members is taxable.

While both commercial banks and credit unions accept the savings deposits of individuals, their lending objectives differ. Commercial banks provide loans to both businesses and individuals, whereas credit unions emphasize consumer loans.

Credit unions often pay slightly higher interest rates than their commercial bank counterparts on interest-bearing checking accounts, savings accounts, and certificates of deposit. At the same time, credit union members often receive lower credit card and new car loan interest rates than what they would have to pay at a commercial bank. However, interest rates on home equity loans tend to be about the same at credit unions and commercial banks. Of course, in order to compare and take advantage of possible differences in savings and borrowing rates between a commercial bank and a credit union, you must first become a member of a credit union.

PERSONAL FINANCIAL PLANNING
Saving with a Credit Union

Banks' fondness for charging fees can make banking expensive for individuals who do not shop around for the bank that best and most inexpensively meets their needs. For individuals, the best place to “bank” may not be a bank, but rather a credit union. Their members, who have some kind of common affiliation such as an employer or religious organization membership, run these. Credit unions are tax-exempt depository institutions. Although they do not pay any taxes, any interest or dividends received by their members is taxable.

While both commercial banks and credit unions accept the savings deposits of individuals, their lending objectives differ. Commercial banks provide loans to both businesses and individuals, whereas credit unions emphasize consumer loans.

This nickname was used to refer to banks located in wilderness areas that were more accessible to "wildcats" than people. This made it difficult for anyone to redeem these banks' notes.
individual home buyers, then as now, were simply not enough to buy a house. In response to this problem, two new forms of depository institutions, known as thrift institutions, came into being: savings banks and savings and loan associations. Credit unions developed later. 

**Thrift institutions**, savings and loan associations, savings banks, and credit unions accumulate individual savings and lend primarily to individuals seeking consumer and mortgage loans.

**Savings Banks**

Savings banks made their appearance in 1812, emphasizing individual thrift savings and safety of principal. A **savings bank** accepts the savings of individuals and lends pooled savings to individuals primarily in the form of mortgage loans. Very often the trustees of these banks were prominent local citizens, serving without pay, who regarded their service as an important civic duty. Today, savings banks operate almost entirely in the New England area, New York state, and New Jersey, with most of their assets continuing to be invested in mortgage loans.

**Savings and Loan Institutions**

Savings and loans (S&Ls) first came on the scene in 1831. First known as building societies, then as building and loan associations, their basic mission was to provide home mortgage financing. In distinguishing between savings banks and savings and loans, it might be said that originally the savings banks' emphasis was on thrift and the safety of savings while the emphasis of the S&Ls was on home financing. Today, a **savings and loan association** accepts individual savings and lends pooled savings to individuals, primarily in the form of mortgage loans, and businesses. In contrast with the limited geographic expansion of savings banking, savings and loan activity spread throughout the United States.

**Credit Unions**

Credit unions came on the American scene much later than the other thrift institutions. A **credit union** is a cooperative nonprofit organization that exists primarily to provide member depositors with consumer credit. Credit unions are made up of individuals who possess common bonds of association such as occupation, residence, or church affiliation. These institutions derive their funds almost entirely from the savings of their members. It was not until the 1920s that credit unions became important as a special form of depository institution.

**REGULATION OF THE BANKING SYSTEM**

The purpose of this section is to provide a brief review of major legislation that has altered and shaped the development of the U.S. banking system. We separate our discussion into general banking legislation and legislation enacted to protect depositors' funds.

**General Banking Legislation**

A variety of laws have been passed in the United States to regulate the banking system. Early laws focused on establishing first a system of federally chartered banks and then a system of central banks. More recent legislation has focused on deregulating banking activities and improving the effectiveness of monetary policy.

---

**CONCEPT CHECK**

Why was the First Bank of the United States authorized and what did it do?

What are the three types of depository institutions in addition to commercial banks?

**INTERNET ACTIVITY**

Go to the Citibank website at www.Citibank.com. Find information on the savings alternatives and interest rates currently being paid.
National Banking Act of 1864
In 1864 the National Banking Act made it possible for banks to receive federal charters. This legislation provided the basis for the present national banking laws. As in the cases of the First and the Second Bank of the United States, the reasons for federal interest in the banking system were to provide for a sound banking system and to curb the excesses of the state banks. An important additional purpose of the National Banking Act was to provide financing for the Civil War. Secretary of the Treasury Salmon P. Chase and others believed that government bonds could be sold to the nationally chartered banks, which could in turn issue their own notes based in part on the government bonds they had purchased.

Through the National Banking Act, various steps were taken to promote safe banking practices. Among other things, minimum capital requirements were established for banks with federal charters, loans were regulated with respect to safety and liquidity, a system of supervision and examination was instituted, and minimum reserve requirements against notes and deposits were established. In general, while these reform measures were constructive, they also were viewed by some as being too restrictive. For example, loans against real estate were not allowed. Much of the criticism of the national banking system, in fact, was caused by the inflexibility of its rules.

Federal Reserve Act of 1913
The Federal Reserve Act of 1913 brought to the American economy a system of central banks. The Federal Reserve System was designed to eliminate many of the weaknesses that had persisted under the National Banking Act and to increase the effectiveness of commercial banking in general. It included not only strong central domination of banking practices but also many services for commercial banks. The structure and functions of the Federal Reserve System are described in the next chapter. Implementation and management of monetary policy are discussed in Chapter 5.

Depository Institutions Deregulation and Monetary Control Act of 1980
In 1980 President Jimmy Carter signed into law the Depository Institutions Deregulation and Monetary Control Act. This act represents a major step toward deregulating banking in the United States and improving the effectiveness of monetary policy. We generally refer to this legislation as the Monetary Control Act. The two main provisions of the Act are deregulation and monetary control.

Depository Institutions Deregulation. This major part of the Monetary Control Act was designed to reduce or eliminate interest rate limitations imposed on the banking system, increase the various sources of funds, and expand the uses of the funds of S&Ls. One significant change affected the Fed’s Regulation Q, which established interest rate ceilings on time and savings deposits. Most provisions of Regulation Q were phased out by early 1986. Furthermore, state-imposed interest rate ceilings were substantially modified, and existing state restrictions on deposit interest rates for insured institutions were eliminated.

To enable depository institutions to compete effectively for funds that were flowing in large amounts to money market mutual funds (MMMFs), negotiable orders of withdrawal (NOW) accounts were authorized. While the NOW accounts carried interest rates more competitive with those of the MMMFs, they still fell under Regulation Q restrictions. Credit unions were permitted to issue draft accounts that for all intents and purposes were the same as the NOW accounts. Federal deposit insurance, which we discuss in greater detail later, was increased from
$40,000 to $100,000 for each account. This large increase in deposit protection, although politically popular at the time, is now described as an undue expansion of protection. The U.S. Treasury has stated that it undermined market discipline and enabled depository institutions to make high-risk loans for which the taxpayers in the long run have become liable.

To enhance competition among depository institutions, Title IV of the Monetary Control Act amended the Home Owners’ Loan Act of 1933. Federally chartered S&Ls were permitted to invest up to one-fifth of their assets in corporate debt securities, commercial paper, and consumer loans. Prior residential mortgage loan restrictions relating to geographical areas and first mortgage lending requirements were removed. Greater authority was also permitted for granting real estate development and construction loans by federally chartered S&Ls. In addition, federal savings banks were allowed to make a small number of commercial loans and accept some checkable deposits.

Monetary Control. The Monetary Control Act was designed to extend the Fed’s control to thrift institutions and to commercial banks that are not members of the system. This was accomplished by extending both reserve requirements and general controls to these institutions. Because the Fed had more stringent regulations than many state regulatory agencies, many commercial banks had given up their membership in the system to become state-chartered nonmember banks. The Monetary Control Act, therefore, has had the effect of halting the declining system membership by transferring much regulatory control from the state to the federal level.

In the past, reserve requirements imposed by the Fed applied only to member banks. The requirements were based on a complicated formula involving size, location, and type of charter. These differential reserve requirements have now been eliminated. Even foreign banks and offices operating in this country have been included in these simplified reserve requirements. Along with the broadening of control by the Fed, there has also been a broadening of privileges to those institutions brought under its control. All depository institutions may now borrow from the Fed on the same basis, and the fee schedule for services rendered by the Fed applies to all regulated depository institutions.

Garn-St. Germain Depository Institutions Act of 1982
There had been high hopes that the Monetary Control Act would have a quick and beneficial effect on the banking system as well as on the effectiveness of monetary control by the Fed. However, this was not the case. Of special significance was the dramatic increase in interest rates in late 1980 and 1981. S&Ls and savings banks were faced with heavy increases in their cost of funds as depositors shifted from low-interest passbook savings to the higher-yielding NOW accounts and savings certificates. Furthermore, since the interest rates on NOW accounts were restricted by Regulation Q, money market mutual funds had a clear competitive advantage in attracting funds. Rapidly increasing federal deficits and troubles in the automobile and housing industries added to the demand for legislation to address these problems. The Garn-St. Germain Act of 1982 resulted.

Although the Garn-St. Germain Act had many provisions, its principal focus was to assist the savings and loan industry, which had deteriorated to dangerous levels. Depository institutions in general were authorized, among other things, to issue a new money market deposit account with no regulated interest rate ceiling. S&Ls were authorized to make nonresidential real estate loans, commercial loans, and to issue variable-rate mortgages.
PROTECTION OF DEPOSITORS’ FUNDS

As discussed, legislation passed in the early 1980s was designed to permit both greater competition for deposits and more flexibility in the holding of assets by depository institutions. However, this movement toward deregulation and increased competition led to some major problems. Many depository institutions’ managements were unable to cope and adjust to this new freedom in terms of asset investment choices and/or the competitive environment. Other managers engaged in fraudulent activities and some were even prosecuted and sent to prison. We will explore the trade-offs that are involved in bank management decisions in the next-to-last section of this chapter.

The Savings and Loan Crisis

Authorization in the early 1980s to invest funds in a wide range of higher-yielding investments permitted many savings and loan associations to “run wild” by supporting speculative office buildings and other such ventures. This resulted not only in overbuilding at inflated costs, but as the promoters were unable to honor the terms of their loan contracts many S&Ls became insolvent. Because the deposits of these associations were largely protected by the Federal Savings and Loan Insurance Corporation (FSLIC), the federal government was obliged to provide a safety net for the depositors at a cost of over $500 billion to taxpayers. The Federal Savings and Loan Insurance Corporation had insured the deposits of most S&L depositors since the early 1930s. Federal financial assistance to the FSLIC was made possible through legislation approved by Congress in 1988. Legislators created the Resolution Trust Corporation (RTC) to take over and liquidate the assets of failed associations. As depositors withdrew funds for investment in other institutions, high interest rates continued to burden S&Ls in their attempt to remain solvent.

Additional legislation came in 1989 under the title Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA). This legislation included numerous provisions and financial resources designed to strengthen the nation’s depository institutions and their federal deposit insurance programs. Special features of this legislation included stronger capital standards for thrift institutions and enhanced enforcement powers for the federal government.

During the last half of the 1980s and the first half of the 1990s, well over 2,000 S&Ls were closed or merged into other organizations. Some of the reductions were the result of savings institutions being voluntarily liquidated or placed in Resolution Trust Corporation conservatorships. In other cases, financially weak S&Ls were merged into financially stronger S&Ls or into commercial banks. Government agencies frequently assisted in bringing these mergers to completion. Up until 1989 S&Ls were either liquidated or merged into other S&Ls. Beginning in 1989 most failed S&Ls were placed in RTC conservatorship or assisted by the RTC in merging into other savings institutions. Other reductions occurred because savings institutions merged into commercial banks. In some instances, savings institutions had their charters transferred to commercial banks.

Commercial banks have suffered some of the same difficulties as the S&Ls. However, losses from international loans, agricultural loans and from loans to the petroleum industry have been more significant for commercial banks—many banks had to be merged with other banks. Savings banks and credit unions experienced some difficulties as well but to a lesser extent.

Insurance for Deposit and Share Accounts

Insurance protection for deposits at depository institutions started during the Great Depression to restore the confidence of depositors. The Federal Deposit Insurance Corporation (FDIC), the Federal Savings and Loan Insurance Corporation...
(FSLIC), and the National Credit Union Share Insurance Fund (NCUSIF) were established under federal legislation to protect deposits in banks, S&Ls, and credit unions, in that order. Over the years the limitation on deposit account insurance was increased until by 1980 it had been set at $100,000 per account.

The financial difficulties discussed resulted not only in the failure of many S&Ls but also in the bankruptcy of the FSLIC. The reserves held by the FSLIC were not enough to meet the claims of depositors of bankrupt S&Ls, and its functions were transferred to the FDIC in 1989. The Treasury has transferred huge amounts of capital to the FDIC to cover the losses of S&L depositors. Furthermore, capital has been needed to cover losses from a significant increase in commercial bank failures.

One of the special problems of insuring bank losses has been the practice and assumption that some banks are “too big to fail”; too big in the sense that the problems created by losses may extend far beyond the failed bank. It is on this basis that all depositors have received 100 percent coverage of their funds even though coverage of only the first $100,000 deposited is guaranteed by law. This practice tended to reduce the incentive for large depositors to exercise market discipline and created an incentive for large deposits to be shifted to “too big to fail” banks. Congress addressed this issue as part of its deposit insurance bill, the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA). This act generally requires that failed banks be handled in such a way as to provide the lowest cost to the FDIC. Limited exceptions, however, were provided if very serious adverse effects on economic conditions could be expected as a result of failure of big banks.

There is little doubt that deposit insurance will continue to exist. It is also obvious that changes will have to be made if we are to avoid future burdens on taxpayers resulting from deposit insurance programs. Suggestions for solving these problems include eliminating all deposit insurance, reducing insurable deposits limits to protect only the small deposits, levying higher premiums on depository institutions for the insurance, and having more strict regulatory and supervisory control.

CONCEPT CHECK

What were the two main provisions of the Monetary Control Act of 1980?
How are depositors’ funds in commercial banks and S&Ls protected today?

CAREER OPPORTUNITIES IN FINANCE

Financial Institutions

Opportunities
Financial institutions, such as banks, S&Ls, and credit unions, assist businesses and individuals with the flow of funds between borrowers. Financial intermediary jobs provide the chance to work with individuals, small businesses, and large corporations on a variety of financial matters, and therefore provide invaluable business world experience. In addition, individuals interested in finance may find numerous entry-level jobs with strong advancement opportunities.

Jobs
Loan analyst
Loan officer
Financial economist

Responsibilities
A loan analyst evaluates loan applicants in terms of their creditworthiness and ability to repay. Since these types of loans are usually for one or more years, the loan analyst must monitor and reevaluate outstanding loans on a periodic basis.

A loan officer is responsible for generating new loan business and managing existing loans. As such, a loan officer must have the ability to address the needs of existing clients while at the same time identify and actively pursue new clients.

A financial economist analyzes business conditions over time and prepares forecasts of economic activity and employment trends. This information is crucial for lending institutions so that they do not make unwise loans.

Education
The level of education needed varies among different jobs. However, all of these jobs require a solid background in economics and finance, as well as experience with computers, statistics, and communication.
STRUCTURE OF BANKS

Bank structure is characterized by how a bank is established, the extent to which branching takes place, and whether a holding company organizational structure is used. We will address each of these structural characteristics in terms of commercial banks, as well as comment on how the other three depository institutions are structured.

BANK CHARTERS

To start and operate a bank or other depository institution, a “charter” must be obtained that spells out the “powers” of the institution. Commercial banks may obtain charters either from the federal government or from a state government, making the United States a dual banking system. While there are many similarities between federal and state charters, federally chartered banks must include “national” in their titles while state chartered banks cannot use the word national. Federally chartered banks also must be members of the Federal Reserve System and the Federal Deposit Insurance Corporation. State-chartered banks are not required to join either the Fed or the FDIC, although today almost all banks are covered by federal deposit insurance.

According to FDIC statistics, as of the end of 2000 there were 8,315 commercial banks insured by the FDIC. About 28 percent of these banks held national charters, and the remaining 72 percent were state chartered. Only about 15 percent of the state banks were members of the Fed. For some time, concern was expressed that the Fed might not be able to administer monetary policy effectively if it could not regulate nonmember state banks. This concern disappeared at the beginning of the 1980s when reserve requirements set by the Fed for member banks were extended to state nonmember banks.

Savings and loan associations and credit unions also can obtain federal or state charters. Savings banks are state chartered. Savings institutions that are FDIC-insured totaled 1,590 at the end of 2000, according to FDIC statistics. About 58 percent of these savings institutions held federal charters and 42 percent had state charters. Credit unions are not included in FDIC statistics because they are not FDIC-insured.

At the end of 2000, FDIC-insured commercial banks held assets in excess of $6 trillion. The total assets of FDIC-insured savings institutions were more than $1 trillion. Credit unions rank third in terms of the value of assets held. Savings banks are a distant fourth. Thus, while S&Ls, credit unions, and savings banks are important components of the banking system, we will continue to focus on commercial banks because of their dominant role in the banking system.

DEGREE OF BRANCH BANKING

Commercial banks wanting to operate branches away from their home offices are restricted by state laws as to the number of offices they are permitted, as well as where the offices may be located. Unit banking means that a bank can have only one full-service office. Back in the 1960s about one-third of the states were considered to be unit banking states. Today there are no unit-banking states. Colorado was the last unit banking state before it began permitting some form of limited branching in 1991.

In addition to unit banking, there is limited banking and statewide banking. States with limited branch banking permit banks under their jurisdiction to locate offices within a geographically defined (e.g., within a county) distance of their
Statewide branch banking means, as the name implies, that banks can operate offices throughout the state. Back in the 1960s about one-third of the states permitted limited branching and about one-third permitted statewide branching. Today, statewide branching is permitted in most states.

One of the particular merits of branch banking is that these systems are less likely to fail than independent unit banks. In a branch banking system, a wide diversification of investments can be made. Therefore, the temporary reverses of a single community are not as likely to cause the complete failure of an entire banking chain. This is true primarily of those branch systems that operate over wide geographical areas rather than in a single metropolitan area.

The independent bank cannot rely on other banks to offset local economic problems. It is on this point that branch banking operations appear to have their strongest support. The record of bank failures in the United States is one of which the banking system as a whole cannot be proud. However, opponents of branch banking have pointed out that failure of a system of banks, although less frequent, is far more serious.

There are also conflicting points of view on the pros and cons of branch banking among bank customers. The placement of branches in or near shopping centers, airports, and other centers of activity is convenient for consumers. The ability to make deposits or to withdraw funds at a branch is a special advantage for the elderly. Businesses may satisfy very large borrowing requirements by dealing with a bank that has been able to grow to a substantial size through its branch operations.

BANK HOLDING COMPANIES

A bank may be independently owned by investors, or it may be owned by a holding company. As the name suggests, a holding company owns and controls other organizations or firms. One-bank holding companies (OBHCs) own only one bank. Multibank holding companies (MBHCs) own and control two or more banks. Both OBHCs and MBHCs may also own other businesses permitted by law. The policies of banks controlled by a holding company are determined by the parent company and coordinated for the purposes of that organization. The holding company itself may or may not engage in direct banking activities. The banks controlled by the holding company may operate branches.

There was little control over bank holding companies until the depression years of the early 1930s. Bank holding companies did not come under the jurisdiction of either state or federal control unless they also engaged directly in banking operations themselves. The Banking Act of 1933 and the Securities Acts of 1933 and 1934 imposed limited control on bank holding companies, but it remained for the Bank Holding Company Act of 1956 to establish clear authority over these operations.

The Bank Holding Company Act defined a bank holding company as one that directly or indirectly owns, controls, or holds the power to vote 25 percent or more of the voting shares of each of two or more banks. Thus, the Act of 1956 regulated MBHCs, but not OBHCs. MBHCs were not permitted to engage in nonfinancial activities and financial activities were restricted primarily to direct banking activities. As a result, during the 1960s while the MBHCs were heavily restricted in terms of their nonbanking activities, the OBHCs diversified widely into nonfinancial areas, including manufacturing, retailing, and transportation.

The Bank Holding Company Amendments of 1970 allowed bank holding companies to acquire companies with activities closely related to banking, such as credit card operations, insurance, and data processing services. The 1970 amendments also brought the OBHCs under the provisions of the 1956 Act. Thus, while
MBHCs were granted more flexibility in terms of banking-related activities, OBHCs had to divest their nonfinancial holdings. Today, bank holding companies control over three-fourths of the banks in the United States and most of the banking assets.

The liberalization of regulations relating to interstate banking is as significant as the liberalization of branch banking within states. All states currently permit the acquisition of banks by out-of-state bank holding companies. In contrast, only one state permitted interstate banking before 1982. However, while some state laws still limit entry to banking organizations from nearby states, called regional reciprocal, states are increasingly permitting entry on a nationwide basis, known as national reciprocal or open-entry. Recent congressional actions have paved the way for passage of nationwide banking legislation. In anticipation, large banking mergers have been occurring to establish nationwide banking systems.

THE BANK BALANCE SHEET

A balance sheet indicates an organization’s financial position at a particular point. In other words, the balance sheet represents a “snapshot” of its assets, liabilities, and owners’ capital. Assets are the financial and physical items owned by the bank. Liabilities are the financial debts and obligations owed by the bank. Owners’ capital is the financial equity capital supplied by the bank’s owners. Since the term balance sheet is used, total assets must equal the sum of the bank’s liabilities and its owners’ capital. Figure 3.4 shows a representative composite balance sheet for FDIC-insured commercial banks. Here we continue to focus on commercial banks because of their dominant role in the banking system. And, while the balance sheets of the three other types of depository institutions differ somewhat in terms of weights for individual accounts, the account categories are similar.

ASSETS

The principal assets of banks and other depository institutions are cash assets, securities-owned, loans, and bank fixed assets.

Cash and Balances Due from Depository Institutions

“Cash and balances due from depository institutions” account for less than 10 percent of FDIC-insured commercial bank assets. “Currency plus cash items in the process of collection” is the most important component and represents about one-half of the total for this account. “Balances due from depository institutions” is a very large component, with “balances due from Federal Reserve Banks” being a relatively small portion of this account.

A certain minimum of vault cash is needed to meet the day-to-day currency requirements of customers. The amount of cash required may be small compared to total resources because the typical day’s operation will result in approximately the same amount of cash deposits as cash withdrawals. A margin of safety, however, is required to take care of those periods when for one reason or another withdrawals greatly exceed deposits.

The appropriate amount of cash a bank should carry depends largely on the character of its operations. For example, a bank that has some very large accounts might be expected to have a larger volume of unanticipated withdrawals (and deposits) than a bank that has only small individual accounts. An unpredictable volume of day-to-day withdrawals requires, of course, a larger cash reserve.
“Balances due from depository institutions” reflect, in large part, the keeping of substantial deposits with correspondent banks. Correspondent banks typically are located in large cities and these relationships can help speed the check-clearing process, as discussed.

“Balances due from Federal Reserve banks” reflect reserves held at Federal Reserve banks. Bank and other depository institutions are required to keep a percentage of their deposits as reserves either with the Reserve Bank in their districts or in the form of vault cash. As noted, the Monetary Control Act requires uniform reserve amounts for all depository institutions to enhance monetary control and competitive fairness. As withdrawals are made and total deposit balances decrease, the amount of the required reserves also decreases. The vault cash reserves that have been freed may then be used to help meet withdrawal demands.

**Securities**

Securities are the second major group of bank assets and account for about one-fifth of total assets. Securities issued by the U.S. Treasury and by U.S. government
corporations and agencies account for about three-fourths of the total securities held by banks. Commercial banks also hold debt securities issued by state and local governments, as well as other types of debt instruments. Equity securities include investments in mutual funds and other equity securities such as the holding of capital stock in a Federal Reserve Bank. Member banks of the Fed must hold shares of stock in the Federal Reserve Bank in their district.

**Loans**

Loans account for about three-fifths of bank assets, making this the most important account category. Loans secured by real estate comprise about two-fifths of total bank loans and also represent one-fourth of total bank assets. In a **secured loan**, specific property is pledged as collateral for the loan. In the event the borrower fails to repay the loan, the lending institution will take the assets pledged as collateral for the loan. In all cases, the borrower is required to sign a note specifying the details of the indebtedness; but unless specific assets are pledged for the loan, it is classified as unsecured.

The second most important loan category is comprised of commercial and industrial loans, which represent a little more than one-fourth of all bank loans. These are loans made to businesses, and they may be secured or unsecured. An **unsecured loan** represents a general claim against the assets of the borrower. The interest rate charged by banks for short-term unsecured loans to their highest-quality business customers is referred to as the **prime rate**. This represents, in theory, the lowest business loan rate available at a particular point and is sometimes called the floor rate.\(^2\) Less qualified business borrowers will be charged a higher rate, for example, prime plus two percentage points. If the prime rate is 8 percent, then the financially weaker business borrower would be charged 10 percent (8 percent prime plus 2 percentage points more).

Figure 3.5 shows changes in the prime rate over the 1975–2001 period. Both the average annual and end-of-year prevailing rates are graphed. Notice that the prime rates during the middle of the 1970s were similar to those during the early 1990s. However, in between the beginning and end of the 20-year period, the prime rate fluctuated widely. For example, at the end of 1980 the prime rate reached a record high level of 21.50 percent. The prime rate then continued to decline until lows were reached in single-digit levels during 1986 and 1987. A another peak occurred in 1989 before the prime rate declined to the 6 percent level by 1993 before increasing to the 9.50 percent level by the end of 2000. A dramatic decline occurred during 2001 with the yearend rate falling to 4.75 percent as the Fed lowered the interest rate targets under its control several times and commercial banks followed along with lower prime rates. In Chapter 8 we discuss the factors that cause interest rates to rise or fall over time.

A loan customarily includes a specified rate of interest such as the prevailing prime rate or prime plus some percentage point amount. For short-term loans, the interest often is paid along with the principal amount of the loan when the loan contract matures. In some instances, a discount loan or note is offered. With a discount loan, the interest is deducted from the stated amount of the note at the time the money is loaned. The borrower receives less than the face value of the note, but repays the full amount of the note when it matures.

---

\(^2\)We say that “in theory” the prime rate is the lowest borrowing rate for unsecured loans because almost everything is negotiable. In fact, there have been many instances whereby large corporate borrowers have been able to negotiate bank loans at interest rates below the then-prevailing prime rate.
A given discount rate results in a higher cost of borrowing than an interest loan made for the same rate. This is true because under the discount arrangement actual money received by the borrower is less, although the amount paid for its use is the same. For example, if $5,000 is borrowed on a loan basis at an interest rate of 10 percent for one year, at maturity $5,000 plus $500 interest must be repaid. In general terms, the annual percent cost of borrowing for a one-year loan with interest paid annually is determined as:

**Standard Loan:**

\[
\text{Percent Annual Rate} = \frac{\text{Interest Paid}}{\text{Amount Borrowed}} \times 100 \quad (3-1)
\]

For our example, we have:

\[
\text{Percent Annual Rate} = \frac{500}{5,000} \times 100 = .10 \times 100 = 10.0\%
\]

In contrast, if the $5,000 is borrowed on a discount basis and the rate is 10 percent, a deduction of $500 from the face value of the note is made and the borrower receives only $4,500. At the end of the year, the borrower repays the face amount of the note, $5,000. In general terms, the percent annual rate on a one-year discount loan is calculated as follows:

**Discount Loan:**

\[
\text{Percent Annual Rate} = \frac{\text{Discount Amount}}{\text{Amount Borrowed} - \text{Discount Amount}} \times 100 \quad (3-2)
\]
For our example, we have:

\[
\text{Percent Annual Rate} = \frac{\$500}{\$5,000 - \$500} \times 100 = \frac{\$500}{\$4,500} \times 100 = 11.11 \times 100 = 11.1\%
\]

In the first case, the borrower has paid $500 for the use of $5,000; in the second case, $500 has been paid for the use of only $4,500. The effective rate of interest, therefore, on the discount basis is approximately 11.1 percent compared with the even 10 percent paid when the $5,000 was borrowed on a loan basis.

Loans to individuals also are an important category for commercial bank lending. Loans to individuals constitute about one-fifth of all bank loans. Credit cards and related loan plans comprise a little less than one-half of all bank loans to individuals.

Other Bank Assets

Other bank assets represent about 16 percent of total bank assets. They include bank premises and fixed assets, assets held in trading accounts, and all other assets, including other real estate owned and intangible assets.

As noted, about three-fifths of the assets of commercial banks are in the form of loans with about one-fourth of assets being held in the form of real estate loans. In contrast, S&Ls and savings banks have about three-quarters of their assets in the form of real estate mortgages and mortgage-backed securities. The assets of credit unions are largely consumer loans with a small percentage in government securities. Some credit unions also make home mortgage loans, although such mortgage financing typically constitutes a small percentage of their total assets.

LIABILITIES AND OWNERS’ CAPITAL

There are two major sources from which banks and other depository institutions acquire their capital funds and liabilities. Owners’ equity represents the initial investment and retained earnings of the owners of the institutions. Liabilities represent the funds owed to depositors and others from whom the bank has borrowed. The most important liability of a depository institution consists of its deposits of various kinds, but the other liabilities should be understood also.

Deposits

As can be seen in Figure 3.4, deposits represent about two-thirds of FDIC-insured commercial bank liabilities and owners’ capital. Deposits are separated into transactional accounts, which include demand (checking account) deposits and NOW accounts, and nontransactional accounts. Transactional accounts constitute about one-fifth of total deposits, and demand deposits represent over three-fourths of transactional account deposits. Nontransactional accounts comprise three-fifths of total deposits. The remaining components are nondomestic or foreign deposits. Nontransactional accounts are in the form of time and savings deposits, each being about one-half of the total. Money market deposit accounts (MMDAs) represent the largest component of savings accounts.

Most time deposits are certificates of deposit (CDs) that have a stated maturity and either pay a fixed rate of interest or are sold at a discount. Although records reveal that commercial banks issued certificates of deposit as early as 1900, a major innovation in the early 1960s resulted in a tremendous growth in their importance. Large-denomination CDs for deposits of $100,000 or more were issued in negotiable form, which meant they could be bought and sold. The vastly increased use
of negotiable CDs in the 1960s caused a secondary market for them to develop. Today, CDs issued by banks and other depository institutions are purchased and sold in the money markets as readily as most forms of debt obligations.

**Other Liabilities**

The second category of liabilities is represented by items that when combined have smaller dollar significance than that of deposits. Included are federal funds purchased or borrowed from other banks. Federal funds are overnight loans from banks with excess reserves to banks that need to borrow funds to meet minimum reserve requirements. Other borrowed money and liabilities include longer-term notes and debt issues, as well as taxes, interest, and wages owed.

**Owners’ Capital**

The owners’ equity capital includes stock, surplus, and undivided profits or retained earnings. At the time a bank is formed, stock is purchased by the owners of the bank or by the public. In the case of credit unions, the members buy shares. From time to time additional stock may be sold to accommodate bank expansion. A bank’s common stock account reflects the number of shares of stock outstanding times a “par” or stated value per share. The surplus account is used to record separately the difference between the sales price of the stock and the stock’s par value.

**BANK MANAGEMENT**

Banks are managed to make profits and increase the wealth of their owners. However, bank management must also consider the interests of depositors and bank regulators. Profitability often can be increased when bank managers take on more risk at the expense of bank safety. The lower the level of bank safety, the greater the likelihood of bank failure. Bank managers must trade off higher profitability objectives against the desire of depositors to maintain the safety of their deposits. Bank regulators try to ensure that bank managers are prudent in their trade-off decisions between profitability and risk or safety.

Banks can fail either because of inadequate liquidity or by becoming insolvent. Bank liquidity reflects the ability to meet depositor withdrawals and to pay off other liabilities when they come due. The inability to meet withdrawal and debt repayments results in bank failure. Bank solvency reflects the ability to keep the value of a bank’s assets greater than its liabilities. When the value of a bank’s liabilities exceeds its assets, the bank is insolvent and thus has “failed.” However, from a technical standpoint failure does not take place until depositors or creditors are not paid and consequently take legal action. Figure 3.6 illustrates the trade-off involving profitability and bank safety or risk. Bank managers manage their bank’s riskiness in terms of bank liquidity and bank solvency. We will first discuss bank liquidity management and then cover the issue of bank solvency in terms of capital adequacy management.

**LIQUIDITY MANAGEMENT**

Liquidity management is the management of a bank’s liquidity risk, which is the likelihood that the bank will be unable to meet its depositor withdrawal demands and/or other liabilities when they are due. Figure 3.6 shows that lower liquidity risk is associated with higher bank safety and generally lower bank profits. The opposite is the case when bank managers choose to take on greater liquidity risk to improve profits. In deciding on how much liquidity risk is appropriate, bank managers make asset management and liability management decisions.
Asset Management

A bank needs cash assets to meet depositor withdrawal requests when demanded. However, cash assets do not earn interest for the bank. Thus, the more cash assets are held, the lower the profitability and vice versa. In contrast, banks earn higher interest on loans and on longer-maturity securities investments. However, these types of assets are not easily converted into cash assets, and if converted the conversion costs can be quite high. For example, if a loan is sold to another investor, the loan may have to be heavily “discounted,” sold well below its face value.

Let’s now return to the aggregate bank balance sheet depicted in Figure 3.4. The cash assets of the firm included under the heading “cash and balances due from depository institutions” are considered to be the bank’s primary reserves to meet liquidity requirements. Vault cash and deposits held at other depository institutions and at Federal Reserve Banks are immediately available. Cash items in process of collection while not immediate cash are being converted into cash on an ongoing basis. However, primary reserves don’t earn interest, and thus bank managers want to minimize the amount of primary reserves that they hold. Notice that FDIC-insured commercial banks hold primary reserves that amount to about 7 percent of total bank assets.

To supplement their primary reserves, banks also hold secondary reserves to help meet depositor withdrawal demands and other liabilities as they come due. Secondary reserves are short-term securities held by banks that are quickly converted into cash at little cost. For example, the holding of U.S. treasury bills is an important source of secondary reserves for most banks. Banks would prefer to hold secondary reserves over primary reserves because interest is earned on secondary reserves. On the other hand, secondary reserves are less liquid than cash assets and thus provide a little more liquidity risk than do primary reserves. In Figure 3.4, both short-term and long-term securities are grouped together under the heading “securities.” As a consequence, we cannot readily estimate the average amount of secondary reserves held by banks.
Let’s not lose sight of the fact that banks are in business to make profits for the bank owners. Banks accept deposits from savers and, in turn, make loans to businesses and individuals. Figure 3.4 shows that nearly three-fifths of bank assets are in the form of loans. Bank loans are generally less liquid and have higher risks of default than other bank assets. As a consequence, bank loans offer higher potential profit than do other securities. Thus, after setting primary reserve and secondary reserve targets, banks concentrate on meeting loan demand by individuals and businesses. Credit (default) risk is the likelihood that borrowers will not make interest and principal payments. Higher interest rates can be charged to riskier borrowers, but such customers also are more likely to default on their loans. Bank managers must trade off the size of their loan portfolios against the amount of credit risk they are willing to assume. The acceptance of higher credit risk also increases the likelihood of insolvency.

After primary reserve and secondary reserve targets have been set, loan demand met, and bank fixed asset decisions have been made, remaining funds are invested in longer-maturity securities. Included would be U.S. government notes and bonds, state and local government debt securities, and other securities. These are riskier than the short-term securities held as secondary reserves and thus offer higher potential profitability that is second only to the potential profitability of bank loans.

**Liability Management**

A bank’s liabilities can be managed to help the bank maintain a desired level of liquidity. This is possible because certain types of bank liabilities are very sensitive to changes in interest rates. Included would be negotiable certificates of deposit (CDs), commercial paper, and federal funds. For example, if a bank needs cash to meet unexpected depositor withdrawals, it could immediately attract more liabilities by raising short-term interest rates it will pay on negotiable CDs or by issuing commercial paper at acceptable interest rates being demanded in the marketplace. Likewise the bank could borrow federal funds from other banks that have excess reserves as long as it is willing to pay that day’s interest rate. You should recall that federal funds are overnight loans and thus the bank may have to reborrow each day for several days to offset liquidity pressures.

Time and savings deposits generally are less sensitive to immediate changes in interest rates and thus receive less focus from a liability management standpoint. Longer-term debt and bank capital don’t work well in terms of liquidity management because of the time it takes for debt and equity securities to be issued or sold. Liability management is meant to supplement asset management in managing bank liquidity. In banks incurring severe liquidity problems, bank managers may find that they are unable to even sell their negotiable CDs or commercial paper. Furthermore, if banks pay higher and higher interest rates to sell negotiable CDs, they must find assets to invest in that will provide returns higher than the cost of funds. Otherwise, profitability will suffer.

**CAPITAL MANAGEMENT**

Adequate capital is necessary to ensure that banks remain solvent, meet depositor demands, and pay their debts as they come due. A bank is considered “solvent” as long as its assets are worth more than its liabilities. Let’s return to Figure 3.4. Since we know that total assets must equal total liabilities plus owners’ capital, the difference between total assets and total liabilities is owners’ capital, which reflects the degree of solvency. For all FDIC-insured banks, owners’ capital averages 8 percent of total assets.
What can cause a bank to become insolvent? One reason is that excessive credit risk could result in nonrepayment of loans. For example, if businesses default on the loans they owe to a bank, that bank’s assets will decline by the amount of the defaults. If a bank’s assets decline enough relative to its liabilities, the bank could become insolvent. In addition to credit risk reasons, a bank may become insolvent because of **interest rate risk**, which is the risk associated with changing market interest rates on the value of underlying debt instruments.\(^3\) For example, let’s assume that a bank purchases $100 million of long-term U.S. government bonds when interest rates are 6 percent. If interest rates rise, the value of the bonds held as assets will decline. If the decline in the bond value causes the bank’s assets to be less than its liabilities, the bank would be insolvent.

Adequate bank capital represents an important “cushion” against both credit risk and interest rate risk as they impact bank solvency. Bank regulators set minimum capital ratio requirements for the banks and other depository institutions that they regulate. In a strict sense, a capital ratio could be defined as owners’ capital divided by total assets. However, bank regulators have chosen to define bank capital and thus capital ratios more loosely. For example, at the beginning of the 1980s, bank capital was defined in terms of both primary capital and secondary capital. Primary capital consists of owners’ capital (common stock, surplus, and retained earnings), perpetual preferred stock, debt convertible into common stock, and loan loss reserves (i.e., funds set aside to cover possible loan losses). Thus, a primary capital ratio (PCR) is expressed as:

\[
\text{Primary Capital Ratio (PCR)} = \frac{\text{Primary Capital}}{\text{Total Assets}} \times 100 \quad (3-3)
\]

Secondary capital typically is in the form of capital notes. These notes, always placed below the claims of bank depositors, reflect long-term borrowing on the part of the bank to bolster the equity section for solvency purposes. Thus, capital notes are also referred to as subordinated notes. The sum of primary capital and secondary capital is called a bank’s total capital. A total capital ratio (TCR) is expressed as:

\[
\text{Total Capital Ratio (TCR)} = \frac{\text{Primary Capital} + \text{Secondary Capital}}{\text{Total Assets}} \times 100 = \frac{\text{Total Capital}}{\text{Total Assets}} \times 100 \quad (3-4)
\]

Let’s assume that a bank has total assets of $100 million. Owners’ capital is $4.5 million and the bank has a $1.5 million loan loss reserve account. The bank has no preferred stock or debt convertible into common stock but has previously issued subordinated notes in the amount of $2 million. What are its primary capital and total capital ratios? The PCR and the TCR are calculated as follows:

\[
\text{PCR} = \frac{$4.5 \text{ million} + $1.5 \text{ million}}{$100 \text{ million}} \times 100 = .06 \times 100 = 6\%
\]

\[
\text{TCR} = \frac{$6.0 \text{ million} + $2.0 \text{ million}}{$100 \text{ million}} \times 100 = .08 \times 100 = 8\%
\]

Minimum capital requirements for the PCR were set in the mid-1980s by bank regulators at 5.5 percent of total assets. At the same time, the minimum ratio for the TCR was set at 6 percent of total assets.

\(^3\)There is an inverse relationship between the price or value of debt instruments and interest rates. When market interest rates increase, debt instruments go down in value, and vice versa.
However, as commercial banks and other depository institutions began failing more frequently during the 1980s, U.S. bank regulatory authorities tried to improve on these standard capital adequacy ratios by relating the amount of capital needed to the riskiness of a bank’s “activities.” In addition to trying to assess differences in the riskiness of the types of bank loans and investments, many growing bank activities such as providing “letters of credit” and engaging in “interest rate swaps” were “off-the-balance sheet.” Many banks also increased their foreign currency management and trading activities, with large losses being the result in some instances.4

In mid-1988, the central banks of major industrialized countries met in Basel, Switzerland, and reached an agreement (the Basel Accord) that set capital adequacy requirements for international banks. Capital requirements were expressed in terms of a risk-based capital ratio. For example, zero weights are applied to a bank’s cash assets, excluding cash items in the process of collection (CIPC), which means that no capital support is required; U.S. government and other high-quality securities plus CIPC are assigned a 20 percent weight. Loans secured by real estate have a 50 percent weight, and other loans and bank fixed assets are assessed with a 100 percent weight.

A risk-based capital ratio (RCR) would be calculated by dividing total capital (primary and secondary) capital by the risk-adjusted assets. The RCR can be expressed as follows:

\[
\text{Risk-Based Capital Ratio (RCR)} = \frac{\text{Total Capital}}{\text{Risk-Adjusted Assets}} \times 100
\] (3-5)

Let’s illustrate this capital ratio calculation with an example. Assume a bank has total assets of $100 million. This is broken down into cash assets of $10 million, investments in government securities of $20 million, loans secured by real estate of $40 million, and other loans and bank fixed assets of $30 million. Total capital (primary and secondary) is $5.5 million. First, we calculate the risk-adjusted assets as follows:

<table>
<thead>
<tr>
<th>RISK CATEGORY</th>
<th>AMOUNT</th>
<th>WEIGHT</th>
<th>WEIGHTED AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash assets</td>
<td>$5 million</td>
<td>.00</td>
<td>$0</td>
</tr>
<tr>
<td>Government securities</td>
<td>$20 million</td>
<td>.20</td>
<td>$4</td>
</tr>
<tr>
<td>Real estate loans</td>
<td>$30 million</td>
<td>.50</td>
<td>$15</td>
</tr>
<tr>
<td>Other loans and assets</td>
<td>$45 million</td>
<td>1.00</td>
<td>$45</td>
</tr>
<tr>
<td><strong>Risk-adjusted assets</strong></td>
<td></td>
<td></td>
<td><strong>$64</strong></td>
</tr>
</tbody>
</table>

The risk-based capital ratio then would be calculated as:

\[
\text{RCR} = \frac{\$5.5 \text{ million}}{\$64 \text{ million}} \times 100 = 0.086 \times 100 = 8.6\%
\]

The international agreement provided for an 8 percent minimum risk-based capital ratio. This minimum RCR ratio also was adopted by each of the three U.S. bank regulatory bodies (the Federal Deposit Insurance Corporation (FDIC), the Fed, and the Office of the Comptroller of the Currency). In the example, the bank would have a risk-based capital ratio that is slightly above the minimum requirements.

The large number of bank and other depository failures at the end of the 1980s and the beginning of the 1990s led the FDIC to impose even tighter capital adequacy standards. First, banks were classified into five different risk-based capital

4We will cover international activities, including those that relate directly to banks, in Chapter 6.
CONCEPT CHECK

How are the primary capital and the total capital ratios calculated?

How does the FDIC use risk-based capital ratios?

INTERNATIONAL BANKING AND FOREIGN SYSTEMS

Banks with headquarters in one country may open offices or branches in other countries. When banks operate in more than one country, we call this international banking. European banks dominated international banking until the 1960s when world trade began expanding rapidly and multinational corporations were increasing in number and size. As a response to these and other developments involving international trade, American banks began opening offices in foreign countries and establishing correspondent banking arrangements with foreign banks. In essence, as U.S. corporations began expanding their operations in other countries, the American banks with which they were working followed their corporate customers. Likewise, the growing importance of the U.S. dollar in international transactions and the movement by foreign corporations to invest in the U.S. resulted in foreign banks opening offices in the United States. Today, U.S. banks are actively involved throughout the world with major operations in Europe, Asia, and Latin America, and foreign banks have opened hundreds of offices in the United States.

Banking in the United States has traditionally been highly regulated to protect depositor funds and to maintain citizen confidence in the U.S. banking system. European and most other countries generally have adopted less restrictive approaches to bank regulation. This led to a competitive disadvantage for U.S. domestic banks relative to foreign-owned banks. The result was the passage of the International Banking Act (IBA) of 1978, which was intended to provide a “level playing field” for all banks. Some of the provisions included restricting foreign banks in terms of their U.S. interstate banking activities and giving authority to the Fed to impose reserve requirements on foreign banks. Rules against nonbanking operations for U.S. banks were extended to foreign banks operating in the United States. Congress strengthened regulations relating to foreign banks by enacting the Foreign Bank Supervision Enhancement Act in 1991. This act requires that the Fed give its approval before foreign banks can open offices in the United States and the Fed is required to examine U.S. offices of foreign banks on an annual basis.

While most countries have central banking systems that operate much like the U.S. Federal Reserve System, some countries allow their banks to engage in both commercial banking and investment banking activities. This is called universal banking. As noted earlier in the chapter, Germany is a universal banking country. Its largest banks participate in both types of banking activities. The United Kingdom (U.K.) does not restrict its banks from engaging in both commercial banking and investment banking activities. However, British banks traditionally have been either “clearing banks,” which are similar to U.S. commercial banks, or “merchant
The whole basis for this service is that I become very familiar with the personal finances of the client.

Q: Why is private banking?
A: Private banking means providing very personalized and specialized services to high-net-worth individuals and families.

Q: What kind of services are involved?
A: We use a team approach to meet the needs of these clients. I supply the checking, savings, and mortgage instruments, the normal retail banking pieces. There is a brokerage officer on the team who provides investment services. Then we have a trust officer who deals with issues such as estate planning. It’s not unusual for a bank or other financial services company to provide all of these functions. What’s new about private banking is that we all work as a team rather than independently.

Q: How high does a client’s net worth need to be to qualify?
A: There are several criteria we look for, but in general we look for investable assets of $250,000. This would be above and beyond whatever they have invested in real estate. We’re located in Naples, Florida, which has an unusual number of wealthy retirees that fit the profile we look for. There are other banks in town that require even higher net worth to qualify for their private banking services.

Q: You’re a “relationship manager.” What is that?
A: The whole basis for this service is that I become very familiar with and involved in the personal finances of the client. The more I know about their financial situation and needs, the better our team can meet those needs. It really is a relationship. I get to know their families, learn about their lifestyles, discuss their futures, including what happens after they die. So the term relationship manager is very accurate.

Q: You were a branch manager for Key Bank before you took your current position. How would you describe that experience?
A: I ran a branch in Maine with about a dozen employees. In that setting you need to be a true jack-of-all-trades. At nine o’clock I might open a savings account for a 12-year-old who has a paper route. At ten o’clock I might discuss a $100,000 business loan. At eleven o’clock I might open a checking account for a small business. So I was dealing with every imaginable kind of client. Plus I had the management and operations responsibilities. I was essentially running a small bank. I had profitability targets I needed to meet and other requirements set at our main office.

Q: Do you miss anything about that job?
A: It was a tough job because it combined the sales and management roles. Either one of those roles is plenty of work. Doing both demands a lot. The thing I miss the most is working with new businesses and watching them grow from ideas into successes. Most of my private banking clients are past the point of starting a new business. But what I like about my current job is that I get so involved with my clients. I can be much more focused on them and spend more time with them than in the branch environment where it’s a continuous stream of different people all day long.
banks," which are similar to U.S. investment banks. In recent years, some British clearing banks have formed subsidiaries to perform a wide range of investment banking activities. Likewise, merchant banks are expanding their activities beyond investment banking. As a result, banking consolidations are taking place and the United Kingdom is moving more toward universal banking. Commercial banking and investment banking are separated in Japan much like in the United States. German banks are allowed to own shares of stock in German firms and also are permitted to vote those shares. Japanese banks also are allowed to own common stock in their business customer firms as well as engage in various cross-holdings of stock involving other Japanese firms and banks. United Kingdom banks are not actively involved with the firms that they conduct business with. While stock ownership in business firms by banks is not restricted in the United Kingdom, British banks are generally risk-averse to ownership of common stock.

<table>
<thead>
<tr>
<th>INSTITUTIONS AND MARKETS</th>
<th>INVESTMENTS</th>
<th>FINANCIAL MANAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial banks, insurance companies, pension funds, and mutual funds play important roles in getting the savings of individuals into the hands of business firms so that investments can be made to maintain and grow the businesses.</td>
<td>Bank loans to businesses and other debt obligations such as small certificates of deposit originate in the primary debt obligations market. However, since they are specific arrangements with business borrowers and depositors, these debt obligations do not trade in a secondary debt obligations market. Rather, business loans and small CDs are usually held to maturity and are repaid and depositors redeem their CDs.</td>
<td>Financial managers borrow from commercial banks and depend on the banking system to help support day-to-day operating activities involving producing and selling their products and services. Materials must be purchased from suppliers and are usually paid for by writing checks. Sales made to consumers also are often paid by check. Business firms depend on the banking system having a high efficient check clearing system so that cash outflows and inflows can be reasonably balanced. Financial managers also rely on mutual funds, insurance companies, and pension funds to buy their new security issues.</td>
</tr>
<tr>
<td>Thrift institutions (savings and loans, savings banks, and credit unions) along with commercial banks comprise the banking system and help with the financial functions of creating money and transferring money, which is conducted largely through a highly efficient check processing or clearing system. In contrast with commercial banks, while thrift institutions also accept the savings of individuals they focus on lending to individuals, who want to purchase durable goods and homes.</td>
<td>Investment banking firms and brokerage houses help businesses market their new debt and equity securities issues so funds can be raised in addition to those provided by banks.</td>
<td></td>
</tr>
</tbody>
</table>

**APPLICATIONS**

**INSTITUTIONS AND MARKETS**

Commercial banks, insurance companies, pension funds, and mutual funds play important roles in getting the savings of individuals into the hands of business firms so that investments can be made to maintain and grow the businesses. Thrift institutions (savings and loans, savings banks, and credit unions) along with commercial banks comprise the banking system and help with the financial functions of creating money and transferring money, which is conducted largely through a highly efficient check processing or clearing system. In contrast with commercial banks, while thrift institutions also accept the savings of individuals they focus on lending to individuals, who want to purchase durable goods and homes.

**INVESTMENTS**

Bank loans to businesses and other debt obligations such as small certificates of deposit originate in the primary debt obligations market. However, since they are specific arrangements with business borrowers and depositors, these debt obligations do not trade in a secondary debt obligations market. Rather, business loans and small CDs are usually held to maturity and are repaid and depositors redeem their CDs. Investment banking firms and brokerage houses help businesses market their new debt and equity securities issues so funds can be raised in addition to those provided by banks.

**FINANCIAL MANAGEMENT**

Financial managers borrow from commercial banks and depend on the banking system to help support day-to-day operating activities involving producing and selling their products and services. Materials must be purchased from suppliers and are usually paid for by writing checks. Sales made to consumers also are often paid by check. Business firms depend on the banking system having a high efficient check clearing system so that cash outflows and inflows can be reasonably balanced. Financial managers also rely on mutual funds, insurance companies, and pension funds to buy their new security issues.

**CONCEPT CHECK**

What is international banking and why has it grown in importance?

What is universal banking and which country has important universal banks?

**SUMMARY**

This chapter began with a review of the financial institutions that currently play major roles in the financial system. Then we provided an overview of the banking system followed by a comparison of commercial banking, investment banking, and universal banking. We then discussed the five current functions of banks and the banking system: (1) accepting deposits, (2) granting loans, (3) issuing checkable deposit accounts, (4) clearing checks, and (5) creating deposit money. A sixth function, investment banking, could be added in the future if the United States moves to universal banking.

We next presented a review of the historical development of the U.S. banking system. Banking prior to the Civil War was described first, followed by how and when thrift institutions entered the banking system. Legislation passed to govern the banking system and to protect depositors’ funds was then covered.

Our attention then turned to the structure and operation of U.S. banks. Banks may obtain either state or federal charters that make the United States a dual banking system. Individual states have the authority to decide whether banks can operate branches in their states. Today, most states permit
statewide branching, although a few states still have limited branch banking laws that restrict branching to a specified geographical area such as a county. Banks may be independently owned or owned by either a one-bank holding company (OBHC) or a multibank holding company (MBHC).

A bank’s balance sheet is comprised of assets that equal its liabilities and owners’ capital. Bank assets are primarily in the form of cash and balances due from depository institutions, securities, loans, and fixed assets. Most assets are held in the form of loans. A bank’s liabilities are primarily in the form of deposits that may take the form of transaction accounts such as demand deposits or nontransactional accounts, which are time and savings deposits. Owners’ capital is provided through the purchase of common stock or by retaining profits in the bank.

**Bank Management** involves the trade-off of potential profitability against bank safety. Banks can fail because of inadequate bank liquidity or of bank insolvency. Bank liquidity is the ability to meet depositor withdrawals and to pay debts as they come due. Bank solvency reflects the ability to maintain the value of the bank’s assets above the value of its liabilities. Liquidity management is practiced in terms of both asset management and liability management. Capital management focuses on maintaining adequate bank capital relative to assets to protect the bank against insolvency and liquidity risk.

The development of international banking and some examples of foreign banking systems compared to the U.S. banking system were described in the last section of the chapter.

**KEY TERMS**

- bank liquidity
- bank solvency
- banking system
- brokerage firms
- certificates of deposit (CDs)
- commercial bank
- credit (default) risk
- credit union
- dual banking system
- federal funds
- finance companies
- Glass-Steagall Act of 1933
- Gramm-Leach-Bliley Act of 1999
- insurance companies
- interest rate risk
- international banking
- investment bank
- investment banking firms
- investment companies
- limited liability companies
- mortgage banking firms
- multibank holding companies
- mortgage companies
- one-bank holding companies
- pension funds
- primary reserves
- prime rate
- savings bank
- savings and loan association
- secondary reserves
- secured loan
- statewide branch banking
- thrift institutions
- unit banking
- universal bank
- unsecured loan

**DISCUSSION QUESTIONS**

1. Describe the major financial institutions engaged in getting the savings of individuals into business firms that want to make investments to maintain and grow their firms.
2. Compare commercial banking with investment banking. What is universal banking?
3. Describe the functions of banks and the banking system.
4. Describe the three basic ways for processing or collecting a check in the United States.
5. How did the First Bank of the United States serve the nation? Also briefly describe why the Second Bank of the United States was chartered.
6. Briefly describe why and when thrift institutions were founded.
7. Why was it considered necessary to create the Federal Reserve System when we already had the benefits of the National Banking Act?
9. Why was the Garn-St. Germain Depository Institutions Act thought to be necessary?
10. How are depositors’ funds protected today in the United States?
11. Describe the structure of banks in terms of bank charters, branch banking, and bank holding companies.
12. What are the major asset categories for banks? Identify the most important category. What is a bank’s major liabilities and which category is the largest in size?
13. What is meant by bank liquidity and bank solvency?
14. Describe how assets are managed in terms of a bank’s liquidity risk. Also briefly describe how liquidity management is used to help manage liquidity risk.
15. Describe what is meant by liquidity risk, credit risk, and interest rate risk.
16. Define and describe the following terms: primary capital ratio, total capital ratio, risk-based capital ratio. How are these used by bank regulators?
17. In 1989, the Financial Institutions Reform, Recovery, and Enforcement Act was passed. What are the special features of this legislation?
18. Define what is meant by international banking. Describe how some foreign banking systems differ from the U.S. banking system.
EXERCISES

1. From a recent issue of the Federal Reserve Bulletin, identify, on a consolidated basis for all commercial banks,
   a. the dollar amount of the principal sources of funds and
   b. the dollar amount of the principal uses to which the funds were applied.

   For each source and use of funds, compute the percentage represented by each relative to the total sources and uses.

2. As the treasurer of a mid-size industrial manufacturer, your firm’s cash balances vary between $300,000 and $1,000,000. During the last three board meetings a board member has asked how you protect this cash while it is being lodged in banks or other temporary facilities. Your problem is to satisfy the board member, obtain some income from the cash or cash equivalent balances, and have funds available for immediate payout if required. What course of action do you follow?

PROBLEMS

1. Assume that you can borrow $175,000 for one year from a local commercial bank.
   a. The bank loan officer offers you the loan if you agree to pay $16,000 in interest plus repay the $175,000 at the end of one year. What is the percent interest rate or effective cost?
   b. As an alternative you could get a one-year, $175,000 discount loan at 9 percent interest. What is the percent interest rate or effective cost?
   c. Which one of the two loans would you prefer?
   d. At what discount loan interest rate would you be indifferent between the two loans?

2. Following are selected balance sheet accounts for the Third State Bank: vault cash = $2 million; U.S. government securities = $5 million; demand deposits = $13 million; non-transactional accounts = $20 million; cash items in process of collection = $4 million; loans to individuals = $7 million; loans secured by real estate = $9 million; federal funds purchased = $4 million; and bank premises = $11 million.
   a. From these accounts, select only the asset accounts and calculate the bank’s total assets.
   b. Calculate the total liabilities for the Third State Bank.
   c. Based on the totals for assets and liabilities, determine the amount in the owners’ capital account.

3. Rearrange the following accounts to construct a bank balance sheet for the Second National Bank. What are the total amounts that make the bank’s balance sheet “balance”?
   Demand deposits: $20 million
   Securities owned: $7 million
   Cash assets: $5 million
   Bank fixed assets: $14 million

   Loans secured by real estate: $30 million
   Time and savings deposits: $40 million

   Commercial and industrial loans: $18 million
   Federal funds purchased: $6 million

   Owners’ capital: $6 million
   Other long-term liabilities: $2 million

4. Use the data from Problem 3 for the Second National Bank to make the following calculations.
   a. Calculate the primary capital ratio.
   b. Now, if we assume that the other long-term liabilities account was actually subordinated notes, what are the amounts of the bank’s primary capital, secondary capital, and total capital?
   c. What would be the total capital ratio for the Second National Bank?

5. The Tenth National Bank has common stock of $2 million, retained earnings of $5 million, provides loan loss reserves on its balance sheet of $3 million, and has subordinated notes outstanding in the amount of $4 million. Total bank assets are $105 million.
   a. Calculate the primary capital ratio.
   b. Calculate the total capital ratio.
   c. If the average weighted risk factor assigned to the Tenth National Bank is .80, calculate the risk-based capital ratio.

6. Let’s assume that you have been asked to calculate a risk-based capital ratio for the Second National Bank. Cash assets are not considered risky, and thus no capital “backing” is required. Securities owned carry a 20 percent weighting factor and loans secured by real estate have a 50 percent...
weighting factor. All other bank assets have a 100 percent weighting factor in terms of riskiness. Use the balance sheet data from Problem 3, the total capital data from Problem 4, and the weighting factor data from this problem to calculate the risk-based capital ratio.

7. Challenge Problem This problem focuses on bank capital management and various capital ratio measures. Following are recent balance sheet accounts for the Prime First National Bank.

| Cash assets | $ 17 million | Demand deposits | $ 50 million |
| Loans secured by real estate | 40 | Time & savings deposits | 66 |
| Commercial loans | 45 | Federal funds purchased | 15 |
| Government securities owned | 16 | Capital/subordinated notes | 2 |
| Bank fixed assets | 20 | Owners’ capital | 5 |
| Total assets | $138 million | Total liab. & owners’ capital | $138 million |

a. Calculate the primary capital ratio (PCR). The bank’s President wants to achieve a PCR of 5.5 percent. What amount of government securities would have to be sold to reach the desired PCR?

b. Instead of reducing assets, how much additional owners’ capital needs to be raised to achieve the target PCR?

c. Calculate the total capital ratio (TCR). Assume the TCR target is 6.5 percent. Repeat (a) and (b) to achieve the desired TCR.

d. The Prime First National Bank’s cash assets is comprised of $8 million in cash and $9 million in the form of cash items in the process of collection (CIPC). Estimate the bank’s risk-adjusted assets using the following weights: cash =.00; CIPC = .20; government securities = .20; real estate loans = .50; commercial and industrial loans = 1.00; and bank fixed assets = 1.00. Determine the bank’s risk-adjusted assets and calculate the risk-based capital ratio (RCR).

e. The target risk-based capital ratio is 8.0 percent. How might Prime First’s President achieve the target RCR if only $1 million in owners’ capital can be raised?

f. How might Prime First achieve the RCR target if it wants to maintain its total assets at $138 million and cannot raise additional owners’ capital?

g. While the bank President desires to meet the RCR target of 8.0 percent, she also wants to keep the bank’s profits as high as possible. Currently, it is estimated that the bank earns the following percent rates of return by class of asset: cash and CIPC = 0.0%; government securities = 4.0%; real estate loans = 9.0%; commercial loans = 12.0%; and bank fixed assets = 0.0%. Taking into consideration the likely impact on the bank’s profitability, how would you recommend the bank should achieve the target RCR of 8.0 percent?