chapter 1

# Introduction

## Chapter Navigator

1. *What is the difference between primary and secondary markets?*
2. *What is the difference between money and capital markets?*
3. *What are foreign exchange markets?*
4. *What are derivative security markets?*
5. *What are the different types of financial institutions?*
6. *What services do financial institutions perform?*
7. *What risks do financial institutions face?*
8. *Why are financial institutions regulated?*
9. *Why are financial markets increasingly becoming global?*

## WHY STUDY FINANCIAL MARKETS AND INSTITUTIONS? CHAPTER OVERVIEW

In the 1990s, financial markets in the United States boomed. The Dow Jones Industrial Index—a widely quoted index of the values of 30 large corporations (see Chapter 8)—rose from a level of 2,800 in January 1990 to more than 11,000 by the end of the decade; this compares to a move from 100 at its inception in 1906 to 2,800 eighty-four years later. In the early 2000s, as a result of an economic downturn in the United States and elsewhere, this index fell back below 10,000. The index rose to over 14,000 in July 2007, but [because of an increasing mortgage market credit crunch, particularly the subprime mortgage market (see In the News box)], fell back to below 13,000 within a month of hitting the all time high. While security values in U.S. financial markets rose dramatically in the 1990s, markets in Southeast Asia, South America, and Russia were much more volatile. The Thai baht, for example, fell nearly 50 percent in value relative to the U.S. dollar on July 2, 1997. More recently, in 2002, Argentina's economic and financial system collapsed and its currency fell more than 30 percent in value relative to the U.S. dollar as the government relaxed the peso's one-to-one parity peg to the dollar.

OUTLINE

Why Study Financial Markets and Institutions? Chapter Overview
Overview of Financial Markets
- Primary Markets versus Secondary Markets
- Money Markets versus Capital Markets
- Foreign Exchange Markets
- Derivative Security Markets
- Financial Market Regulation

Overview of Financial Institutions
- Unique Economic Functions Performed by Financial Institutions
- Additional Benefits FIs Provide to Suppliers of Funds
- Economic Functions FIs Provide to the Financial System as a Whole
- Risks Incurred by Financial Institutions
- Regulation of Financial Institutions

Globalization of Financial Markets and Institutions

IN THE NEWS

## Dow Falls 311.50 As Trades Fly

The Dow's drop of 2.3 percent put the blue-chip index at 13473.57 just days after setting a record in crossing 14,000 for the first time. At its nadir, the Dow was off nearly 450 points yesterday. . . . The markets' problems are a sign that the angst about risky subprime home loans, which has shaken Wall Street recently, is bleeding into other areas amid fears that financial players could face bigger losses than anticipated, and that higher borrowing costs could affect the overall economy. . . . Investors are finding that it is getting harder to get in and out of positions in many parts of the credit markets, reminding some of the fall of 1998 after Russia defaulted on its debt and investors fled all kinds of securities. Wall Street firms, facing potential losses from loans made to back leveraged buyouts, subprime investments, and their hedge-fund clients, are more wary of taking on new trading positions.

**Source:** *The Wall Street Journal,* July 27, 2007, p. C1, by George Zuckerman. Reprinted by permission of The Wall Street Journal. © 2007 Dow Jones & Company, Inc. All Rights Reserved Worldwide. **www.wsj.com**

Meanwhile, the financial institutions industry has gone through a full historical cycle. Originally the banking industry operated as a full-service industry, performing directly or indirectly all financial services (commercial banking, investment banking, stock investing, insurance provision, etc.). In the early 1930s, the economic and industrial collapse resulted in the separation of some of these activities. In the 1970s and 1980s new, relatively unregulated financial services industries sprang up (e.g., mutual funds, brokerage funds) that separated the financial service functions even further. Now, in the early years of the new millennium, regulatory changes, technology, and financial innovation are interacting such that a full set of financial services may again be offered by a single financial institution (FI). Not only are the boundaries between traditional industry sectors weakening, but competition is becoming global in nature, as German, French, and other international FIs enter into U.S. financial service markets and vice versa.

As economic and competitive environments change, attention to profit and, more than ever, risk becomes increasingly important. This book provides a detailed overview and analysis of the financial system in which financial managers and individual investors operate. Making investment and financing decisions requires managers and individuals to understand the flow of funds throughout the economy as well as the operation and structure of domestic and international financial markets. In particular, the book offers a unique analysis of the risks faced by investors and savers, as well as strategies that can be adopted for controlling and managing these risks. Newer areas of operations such as asset securitization, derivative securities, and internationalization of financial services also receive special emphasis.

This introductory chapter provides an overview of the structure and operations of various financial markets and financial institutions. Financial markets are differentiated by the characteristics (such as maturity) of the financial instruments, or securities that are exchanged. Moreover, each financial market, in turn, depends in part or in whole on financial institutions. Indeed, FIs play a special role in the functioning of financial markets. In particular, FIs often provide the least costly and most efficient way to channel funds to and from financial markets.

**financial markets**

The arenas through which funds flow.

## OVERVIEW OF FINANCIAL MARKETS

**Financial markets** are structures through which funds flow. Table 1–1 summarizes the financial markets discussed in this section. Financial markets can be distinguished along

**TABLE 1–1 Types of Financial Markets**

**Primary Markets**—markets in which corporations raise funds through new issues of securities.
**Secondary Markets**—markets that trade financial instruments once they are issued.
**Money Markets** —markets that trade debt securities or instruments with maturities of less than one year.
**Capital Markets**—markets that trade debt and equity instruments with maturities of more than one year.
**Foreign Exchange Markets**—markets in which cash flows from the sale of products or assets denominated in a foreign currency are transacted.
**Derivative Markets**—markets in which derivative securities trade.

two major dimensions: (1) primary versus secondary markets and (2) money versus capital markets. The next sections discuss each of these dimensions.


## Primary Markets versus Secondary Markets

**primary markets**
Markets in which corporations raise funds through new issues of securities.

**Primary Markets.** **Primary markets** are markets in which users of funds (e.g., corporations) raise funds through new issues of financial instruments, such as stocks and bonds. The fund users have new projects or expanded production needs, but do not have sufficient internally generated funds (such as retained earnings) to support these needs. Thus, the fund users issue securities in the external primary markets to raise additional funds. New issues of financial instruments are sold to the initial suppliers of funds (e.g., households) in exchange for funds (money) that the issuer or user of funds needs.[1] Most primary market transactions in the United States are arranged through financial institutions called investment banks—for example, Morgan Stanley or Lehman Brothers—that serve as intermediaries between the issuing corporations (fund users) and investors (fund suppliers). For these public offerings, the investment bank provides the securities issuer (the funds user) with advice on the securities issue (such as the offer price and number of securities to issue) and attracts the initial public purchasers of the securities for the funds user. By issuing primary market securities with the help of an investment bank, the funds user saves the risk and cost of creating a market for its securities on its own (see discussion below). Figure 1–1 illustrates a time line for the primary market exchange of funds for a new issue of corporate bonds or equity. We discuss this process in detail in Chapters 6 and 8.

Rather than a public offering (i.e., an offer of sale to the investment public at large), a primary market sale can take the form of a private placement. With a private placement, the securities issuer (user of funds) seeks to find an institutional buyer—such as a pension fund—or group of buyers (suppliers of funds) to purchase the whole issue. Privately placed securities have traditionally been among the most illiquid securities, with only the very largest financial institutions or institutional investors being able or willing to buy and hold them. We discuss the benefits and costs of privately placed primary market sales in detail in Chapter 6.

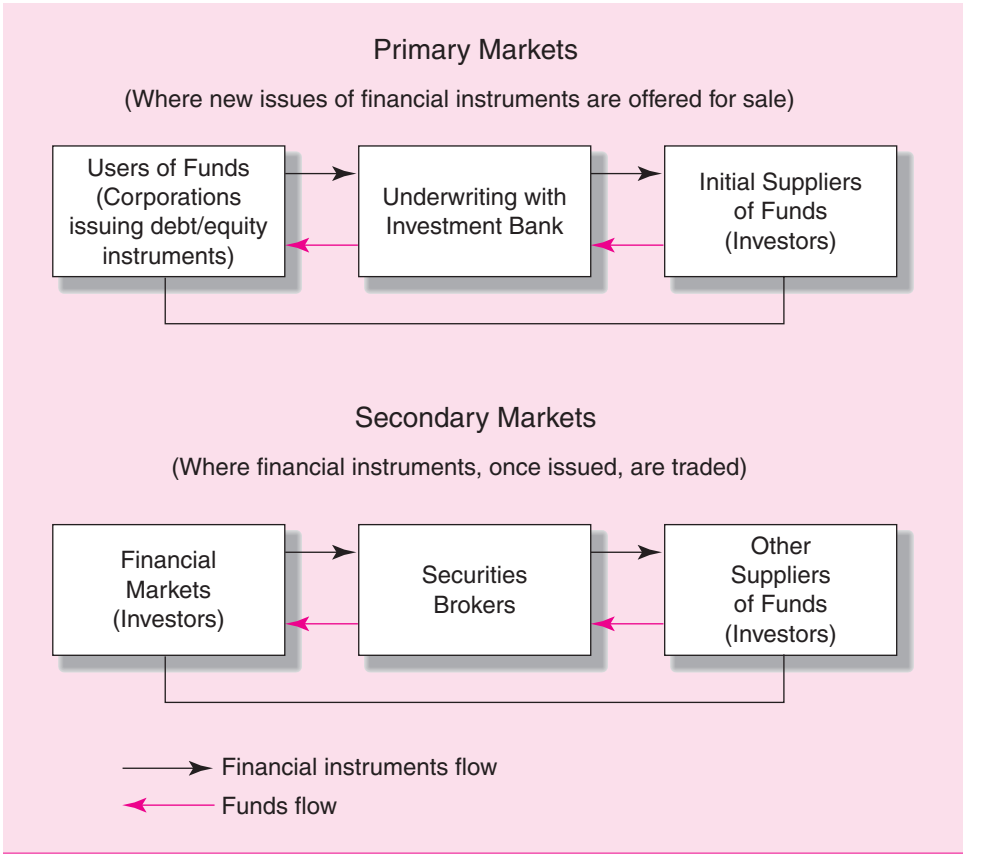
**initial public offerings (IPOs)**
The first public issue of financial instruments by a firm.

Primary market financial instruments include issues of equity by firms initially going public (e.g., allowing their equity—shares—to be publicly traded on stock markets for the first time). These first-time issues are usually referred to as **initial public offerings (IPOs).** For example, on May 8, 2007, TomoTherapy announced a $257 million IPO of its common stock. The company's stock was underwritten by several investment banks, including Merrill Lynch and Piper Jaffray.

Primary market securities also include the issue of additional equity or debt instruments of an already publicly traded firm. For example, in March 2006 Google announced the sale of an additional 5.3 million shares of common stock underwritten by the investment bank Goldman Sachs.

[1]We discuss the users and suppliers of funds in more detail in Chapter 2.

**Figure 1–1** **Primary and Secondary Market Transfer of Funds Time Line**




In recent years public confidence in the integrity of the IPO process has eroded significantly. Investigations have revealed that certain underwriters of IPOs have engaged in misconduct contrary to the best interests of investors and the markets. Among the most harmful practices that have given rise to public concerns are "spinning" (in which certain underwriters allocate "hot" IPO issues to directors and/or executives of potential investment banking clients in exchange for investment banking business) and "biased" recommendations by research analysts whose compensation is tied to the success of their firms' investment banking business. This culminated in the spring of 2003 with an agreement between securities regulators and 10 of the nation's largest securities firms, in which they agreed to pay a record $1.4 billion in penalties to settle charges involving investor abuses (see the Ethical Debates box). The settlement centered on civil charges that securities firms routinely issued overly optimistic stock research to investors to gain favor with corporate clients and win their investment banking business. The agreement also settled charges that some major firms improperly allocated IPO shares to corporate executives to win investment banking business from their firms. The agreement has forced brokerage companies to make structural changes in the way they handle research—preventing, for example, analysts from attending certain meetings relating to investment banking.[2]

**Secondary Markets.** Once financial instruments such as stocks are issued in primary markets, they are then traded—that is, rebought and resold—in secondary markets. For example, on August 15, 2007, 27.3 million shares of ExxonMobil were traded in the secondary stock market. Buyers of secondary market securities are economic agents

[2]Within days of this agreement, however, Bears Stearns, one of the 10 firms involved in the settlement, was accused of using its analysts to promote a new stock offering.

(consumers, businesses, and governments) with excess funds. Sellers of secondary market financial instruments are economic agents in need of funds. Secondary markets provide a centralized marketplace where economic agents know they can transact quickly and efficiently. These markets therefore save economic agents the search and other costs of seeking buyers or sellers on their own. Figure 1–1 illustrates a secondary market transfer of funds. When an economic agent buys a financial instrument in a secondary market, funds are exchanged, usually with the help of a securities broker such as Schwab acting as an intermediary between the buyer and the seller of the instrument (see Chapter 8). The original issuer of the instrument (user of funds) is not involved in this transfer. The New York Stock Exchange (NYSE), the American Stock Exchange (AMEX), and the National Association of Securities Dealers Automated Quotation (NASDAQ)[3] system are three well-known examples of secondary markets for trading stocks.[4] We discuss the details of each of these markets in Chapter 8. In addition to stocks and bonds, secondary markets also exist for financial instruments backed by mortgages and other assets (see Chapter 7), foreign exchange (see Chapter 9), and futures and options [i.e., **derivative securities**—financial securities whose payoffs are linked to other, previously issued (or underlying) primary securities (see Chapter 10)]. As we will see in Chapter 10, derivative securities have existed for centuries, but the growth in derivative securities markets occurred mainly in the 1970s, 1980s, and 1990s. As major markets, therefore, the derivative securities markets are among the newest of the financial security markets.

**derivative security**

A financial security whose payoffs are linked to other, previously issued securities.

**secondary market**

A market that trades financial instruments once they are issued.

**Secondary markets** offer benefits to both investors (suppliers of funds) and issuing corporations (users of funds). For investors, secondary markets provide the opportunity to trade securities at their market values quickly as well as to purchase securities with varying risk-return characteristics (see Chapter 2). Corporate security issuers are not directly involved in the transfer of funds or instruments in the secondary market. However, the issuer does obtain information about the current market value of its financial instruments, and thus the value of the corporation as perceived by investors such as its stockholders, through tracking the prices at which its financial instruments are being traded on secondary markets. This price information allows issuers to evaluate how well they are using the funds generated from the financial instruments they have already issued and provides information on how well any subsequent offerings of debt or equity might do in terms of raising additional money (and at what cost).

Trading volume in secondary markets can be large. In the mid-1980s, a NYSE trading day involving 250 million shares was considered to be heavy. In the early 2000s this level of trading was considered quite light. For example, on October 28, 1997, NYSE trading volume exceeded 1 billion shares for the first time ever and trading of this magnitude has occurred several times since. Indeed, on August 9, 2007, trading volume topped 5.3 billion shares, the highest level to date.

Secondary markets offer buyers and sellers liquidity—the ability to turn an asset into cash quickly—as well as information about the prices or the value of their investments. Increased liquidity makes it more desirable and easier for the issuing firm to sell a security initially in the primary market. Further, the existence of centralized markets for buying and selling financial instruments allows investors to trade these instruments at low transaction costs.

## Money Markets versus Capital Markets

**Money Markets.** **Money markets** are markets that trade debt securities or instruments with maturities of one year or less (see Figure 1–2). In the money markets, economic agents with short-term excess supplies of funds can lend funds (i.e., buy money market instruments) to economic agents who have short-term needs or shortages of funds (i.e., they sell money market instruments). The short-term nature of these instruments means that fluctuations in

**money markets**

Markets that trade debt securities or instruments with maturities of one year or less.

[3]In the fall of 2008, the NYSE, the world's largest stock market, and the American Stock Exchange (AMEX), the nation's second largest floor-based exchange, merged.

[4]Most bonds are not traded on floor-based exchanges. Rather, FIs trade them over the counter (OTC) using telephone and computer networks (see Chapter 6). For example, less than 1 percent of corporate bonds outstanding are traded on organized exchanges such as the NYSE.

## ETHICAL DEBATES

### Street Braces for Revelations in Settlement

Ten Wall Street securities firms are bracing for a burst of e-mail messages and other documents suggesting that their stock research was tainted by investment-banking goals, as regulators put the finishing touches on the long-awaited $1.4 billion global research settlement, which is expected to be announced early next week . . . The pact's firm-by-firm allegations will include e-mails from Goldman telecom-sector analysts James Golob and Frank Governali, in which they candidly discuss how investment-banking considerations influenced many telecom stocks they were recommending in mid-2000 even as the stocks' prices were plummeting. Even Morgan Stanley . . . comes in for criticism for allowing some bullish research reports to sit for as long as six months without an update, according to one person familiar with the pact. The findings on Lehman will focus on four or five individuals, including both analysts and managers . . .

The Smith Barney unit of Citigroup, which is slated to pay a $400 million fine, the largest portion of the settlement, is expected to be subject voluntarily to a separate set of rules separating its research and investment-banking activities that are more stringent than for other firms involved in the settlement. Three firms paying the most—Citigroup, Merrill Lynch and the Credit Suisse First Boston (CFSB) unit of Credit Suisse Group—also could be hit with securities-fraud charges.

Merrill and CSFB have agreed to pay $200 million in settlement payment. Other firms are paying between $37.5 million and $125 million. The pact also generally includes rules separating research from investment banking; provision of independent research for individual investors; and more disclosure of research ratings and other data . . .



**over-the-counter markets**

Markets that do not operate in a specific fixed location—rather, transactions occur via telephones, wire transfers, and computer trading.

their prices in the secondary markets in which they trade are usually quite small (see Chapters 3 and 19 on interest rate risk). In the United States, money markets do not operate in a specific location—rather, transactions occur via telephones, wire transfers, and computer trading. Thus, most U.S. money markets are said to be **over-the-counter (OTC) markets.**

**Money Market Instruments.** A variety of money market securities are issued by corporations and government units to obtain short-term funds. These securities include Treasury bills, federal funds, repurchase agreements, commercial paper, negotiable certificates of deposit, and banker's acceptances. Table 1–2 defines the major money market securities. Figure 1–3 shows outstanding amounts of money market instruments in the United States in 1990, 2000, and 2007. Notice that in 2007 federal funds and repurchase agreements followed by commercial paper, negotiable CDs, and Treasury bills had the largest amounts outstanding. Money market instruments and the operation of the money markets are described and discussed in detail in Chapter 5.

**capital markets**

Markets that trade debt (bonds) and equity (stocks) instruments with maturities of more than one year.

**Capital Markets.** **Capital markets** are markets that trade equity (stocks) and debt (bonds) instruments with maturities of more than one year (see Figure 1–2). The major suppliers of capital market securities (or users of funds) are corporations and governments. Households are the major suppliers of funds for these securities. Given their longer maturity, these instruments experience wider price fluctuations in the secondary markets in which

**Figure 1–2 Money versus Capital Market Maturities**

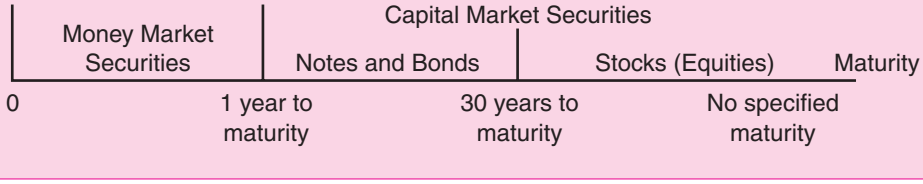
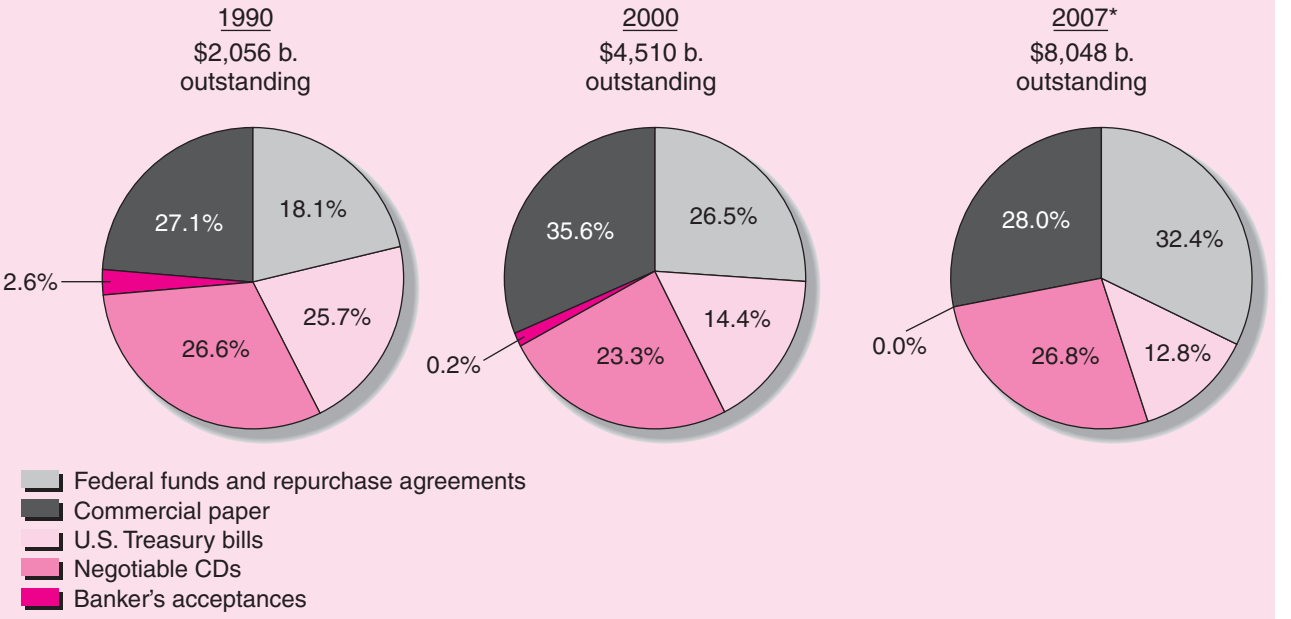


**TABLE 1–2 Money and Capital Market Instruments**

**Treasury Bills**—short-term obligations issued by the U.S. government.
**Federal Funds**—short-term funds transferred between financial institutions usually for no more than one day.
**Repurchase Agreements**—agreement involving the sale of securities by one party to another with a promise by the seller to repurchase the same securities from the buyer at a specified date and price.
**Commercial Paper**—short-term unsecured promissory notes issued by a company to raise short-term cash.
**Negotiable Certificates of Deposit**—bank-issued time deposit that specifies an interest rate and maturity date and is negotiable, i.e., can be sold by the holder to another party.
**Banker Acceptances**—time draft payable to a seller of goods, with payment guaranteed by a bank.
**Corporate Stocks**—the fundamental ownership claim in a public corporation.
**Mortgages**—loans to individuals or businesses to purchase a home, land, or other real property.
**Corporate Bonds**—long-term bonds issued by corporations.
**Treasury Bonds**—long-term bonds issued by the U.S. Treasury.
**State and Local Government Bonds**—long-term bonds issued by state and local governments.
**U.S. Government Agencies**—long-term bonds collateralized by a pool of assets and issued by agencies of the U.S. government.
**Bank and Consumer Loans**—loans to commercial banks and individuals.

**Figure 1–3 Money Market Instruments Outstanding**



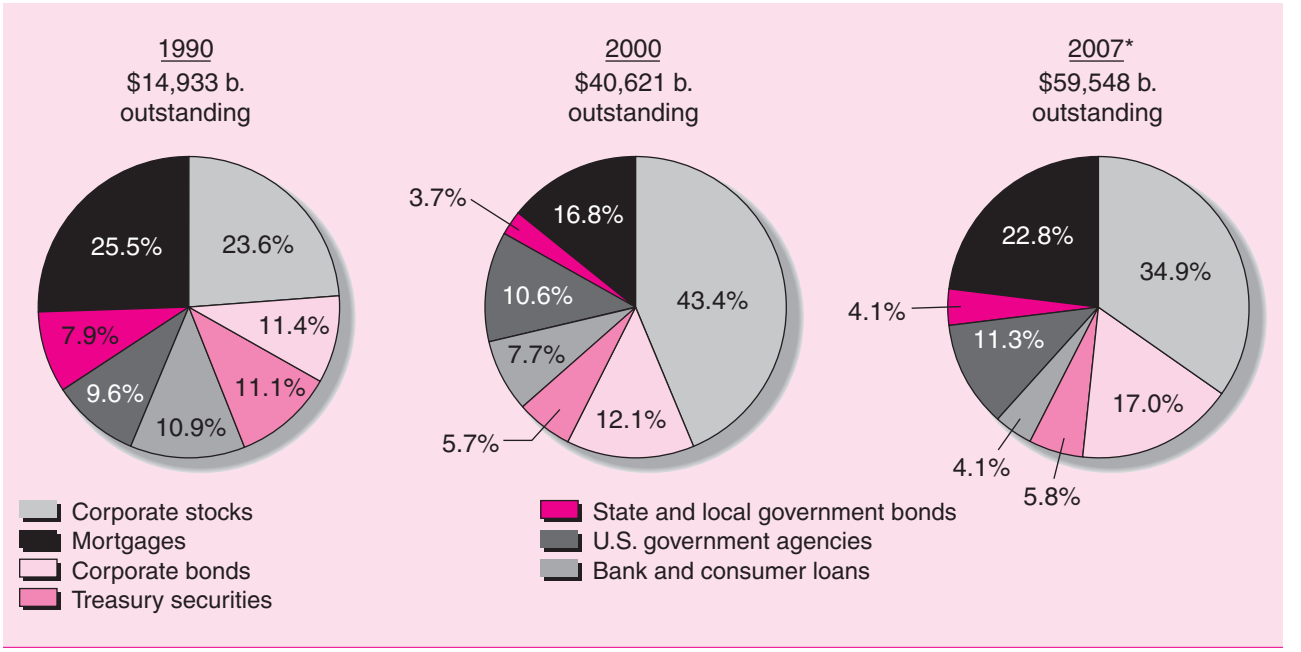

*As of the end of the first quarter.

**Source:** Federal Reserve Board, "Flow of Fund Accounts," *Statistical Releases,* Washington, DC, various issues. **www.federalreserve.gov**

they trade than do money market instruments.[5] For example, all else constant, long-term maturity debt instruments experience wider price fluctuations for a given change in interest rates than short-term maturity debt instruments (see Chapter 3).

[5]For example, their longer maturities subject these instruments to both higher credit (or bankruptcy) risk and interest rate risk than money market instruments.

**Figure 1–4** **Capital Market Instruments Outstanding**




*As of the end of the first quarter.

**Source:** Federal Reserve Board, "Flow of Fund Accounts," *Statistical Releases,* Washington, DC, various issues. **www.federalreserve.gov**

**Capital Market Instruments.** Figure 1–4 shows the major capital market instruments and their outstanding amounts by dollar market value. Notice that corporate stocks or equities represent the largest capital market instrument, followed by securitized mortgages and corporate bonds. Securitized mortgages are those mortgages that FIs have packaged together and sold as bonds backed by mortgage cash flows (such as interest and principal repayments—see Chapters 7 and 24). The relative size of the market value of capital market instruments outstanding depends on two factors: number of securities issued and their market prices.[6] One reason for the sharp increase in the value of equities outstanding is the bull market in stock prices in the 1990s. Capital market instruments and their operations are discussed in detail in Chapters 6, 7, and 8.

## Foreign Exchange Markets

In addition to understanding the operations of domestic financial markets, a financial manager must also understand the operations of foreign exchange markets and foreign capital markets. Today's U.S.-based companies operate globally. It is therefore essential that financial managers understand how events and movements in financial markets in other countries affect the profitability and performance of their own companies. For example, a currency and economic crisis in Argentina in late 2001 adversely impacted some U.S. markets and firms in the winter and spring of 2002. Coca Cola Co., which derived about 2 percent of its sales from Argentina, attributed a 5 percent decline in its 2002 operating profits to unfavorable currency movements between the Argentinian peso and the U.S. dollar.[7]

[6]For example, the market value of equity is the product of the price of the equity times the number of shares that are issued.

[7]See "U.S. Firms Assess Damage in Argentina," *The Wall Street Journal,* January 9, 2002, p. A10.

**DO YOU UNDERSTAND?**

1. *The difference between primary and secondary markets?*
2. *The major distinction between money markets and capital markets?*
3. *What the major instruments traded in the capital markets are?*
4. *What happens to the dollar value of a U.S. investor's holding of British pounds if the pound appreciates (rises) in value against the dollar?*
5. *What are derivative security markets?*

Cash flows from the sale of securities (or other assets) denominated in a foreign currency expose U.S. corporations and investors to risk regarding the value at which foreign currency cash flows can be converted into U.S. dollars. For example, the actual amount of U.S. dollars received on a foreign investment depends on the exchange rate between the U.S. dollar and the foreign currency when the nondollar cash flow is converted into U.S. dollars. If a foreign currency depreciates (declines in value) relative to the U.S. dollar over the investment period (i.e., the period between the time a foreign investment is made and the time it is terminated), the dollar value of cash flows received will fall. If the foreign currency appreciates, or rises in value, relative to the U.S. dollar, the dollar value of cash flows received on the foreign investment will increase.

While foreign currency exchange rates are often flexible—they vary day to day with demand and supply of foreign currency for dollars—central governments sometimes intervene in foreign exchange markets directly or affect foreign exchange rates indirectly by altering interest rates. We discuss the motivation and effects of these interventions in Chapters 4 and 9. The sensitivity of the value of cash flows on foreign investments to changes in the foreign currency's price in terms of dollars is referred to as *foreign exchange risk* and is discussed in more detail in Chapter 9. Techniques for managing, or "hedging," foreign exchange risk, such as using derivative securities such as foreign exchange (FX) futures, options, and swaps, are discussed in Chapter 23.


## Derivative Security Markets

**derivative security markets**

The markets in which derivative securities trade.

**derivative security**

An agreement between two parties to exchange a standard quantity of an asset at a predetermined price on a specified date in the future.

**Derivative security markets** are the markets in which derivative securities trade. A **derivative security** is a financial security (such as a futures contract, option contract, or swap contract) whose payoff is linked to another, previously issued security such as a security traded in the capital or foreign exchange markets. Derivative securities generally involve an agreement between two parties to exchange a standard quantity of an asset or cash flow at a predetermined price and at a specified date in the future. As the value of the underlying security to be exchanged changes, the value of the derivative security changes. While derivative securities have been in existence for centuries, the growth in derivative security markets occurred mainly in the 1990s and 2000s. Table 1–3 shows the dollar (or notional) value of derivatives of commercial banks from 1992 through 2007. As major markets, therefore, the derivative security markets are the newest of the financial security markets. We discuss the tremendous growth of derivative security activity in Chapter 10. Derivative security traders can be either users of derivative contracts for hedging (see Chapters 10 and 23) and other purposes or dealers (such as banks) that act as counterparties in trades with customers for a fee.

## Financial Market Regulation

Financial instruments are subject to regulations imposed by regulatory agencies such as the Securities and Exchange Commission (SEC)—the main regulator of securities

**TABLE 1–3 Derivative Contracts Held by Commercial Banks, by Contract Product** *(in billions of dollars)*

| | 1992 | 2000 | 2007* |
|---|---|---|---|
| Futures and forwards | $4,780 | $ 9,877 | $ 15,307 |
| Swaps | 2,417 | 21,949 | 87,995 |
| Options | 1,568 | 8,292 | 31,323 |
| Other | — | 426 | 10,165 |
| Total | $8,765 | $40,544 | $144,790 |

*As of the first quarter.

**Source:** Office of the Comptroller of the Currency Web site, various dates. **www.occ.treas.gov**

www.sec.gov

markets since the passage of the Securities Act of 1934—as well as the exchanges (if any) on which the instruments are traded. For example, the main emphasis of SEC regulations (as stated in the Securities Act of 1933) is on full and fair disclosure of information on securities issues to actual and potential investors. Those firms planning to issue new stocks or bonds to be sold to the public at large (public issues) are required by the SEC to register their securities with the SEC and to fully describe the issue, and any risks associated with the issue, in a legal document called a prospectus.[8] The SEC also monitors trading on the major exchanges (along with the exchanges themselves) to ensure that stockholders and managers do not trade on the basis of inside information about their own firms (i.e., information prior to its public release). SEC regulations are not intended to protect investors against poor investment choices but rather to ensure that investors have full and accurate information available about corporate issuers when making their investment decisions. The SEC has also imposed regulations on financial markets in an effort to reduce excessive price fluctuations. For example, the NYSE operates under a series of "circuit breakers" that require the market to shut down for a period of time when prices drop by large amounts during any trading day. The details of these circuit breaker regulations are listed in Chapter 8.

www.nyse.com

## OVERVIEW OF FINANCIAL INSTITUTIONS


**financial institutions**

Institutions that perform the essential function of channeling funds from those with surplus funds to those with shortages of funds.

**Financial institutions** (e.g., commercial and savings banks, credit unions, insurance companies, mutual funds) perform the essential function of channeling funds from those with surplus funds (suppliers of funds) to those with shortages of funds (users of funds). Chapters 11 through 18 discuss the various types of FIs in today's economy, including (1) the size, structure, and composition of each type, (2) their balance sheets and recent trends, (3) FI performance, and (4) the regulators who oversee each type. Table 1–4 lists and summarizes the FIs discussed in detail in later chapters.

In Table 1–5, we show the changing shares of total assets of financial institutions in the United States from 1860 to 2007. A number of important trends are clearly evident; most apparent is the decline in the total share of depository institutions—commercial banks and thrifts—since World War II. Specifically, while still the dominant sector of the financial institutions industry, the share of commercial banks declined from 55.9 to 25.7 percent between 1948 and 2007, as the share of thrifts (savings banks, savings associations, and credit unions) fell from 12.3 to 6.4 percent over the same period.[9] Similarly, insurance companies also witnessed a decline in their share, from 24.3 to 15.5 percent. The most dramatic trend involves the increasing share of pension funds and investment companies. Pension funds (private plus state and local) increased their asset share from 3.1 to 14.1 percent, while investment companies (mutual funds and money market mutual funds) increased their share from 1.3 to 25.3 percent over the 1948 to 2007 period.

To understand the important economic function financial institutions play in the operation of financial markets, imagine a simple world in which FIs did not exist. In such a world, suppliers of funds (e.g., households), generating excess savings by consuming less than they earn, would have a basic choice: They could either hold cash as an asset or directly invest that cash in the securities issued by users of funds (e.g., corporations or

[8]Those issues not offered to the public at large but rather sold to a few large investors are called private placements and are not subject to SEC regulations (see Chapter 6).

[9]Although commercial bank assets as a percentage of total assets in the financial sector may have declined in recent years, this does not necessarily mean that banking activity has decreased. Indeed, off-balance-sheet activities have replaced some of the more traditional on-balance-sheet activities of commercial banks (see Chapter 11). Further, as is discussed in Part Three of the text, banks are increasingly providing services (such as securities underwriting, insurance underwriting and sales, and mutual fund services) previously performed exclusively by other FIs.

**TABLE 1–4 Types of Financial Institutions**

**Commercial banks**—depository institutions whose major assets are loans and whose major liabilities are deposits. Commercial banks' loans are broader in range, including consumer, commercial, and real estate loans, than are those of other depository institutions. Commercial banks' liabilities include more nondeposit sources of funds, such as subordinate notes and debentures, than do those of other depository institutions.

**Thrifts**—depository institutions in the form of savings associations, savings banks, and credit unions. Thrifts generally perform services similar to commercial banks, but they tend to concentrate their loans in one segment, such as real estate loans or consumer loans.

**Insurance companies**—financial institutions that protect individuals and corporations (policyholders) from adverse events. Life insurance companies provide protection in the event of untimely death, illness, and retirement. Property casualty insurance protects against personal injury and liability due to accidents, theft, fire, and so on.

**Securities firms and investment banks**—financial institutions that help firms issue securities and engage in related activities such as securities brokerage and securities trading.

**Finance companies**—financial intermediaries that make loans to both individuals and businesses. Unlike depository institutions, finance companies do not accept deposits but instead rely on short- and long-term debt for funding.

**Mutual funds**—financial institutions that pool financial resources of individuals and companies and invest those resources in diversified portfolios of asset.

**Pension funds**—financial institutions that offer savings plans through which fund participants accumulate savings during their working years before withdrawing them during their retirement years. Funds originally invested in and accumulated in a pension fund are exempt from current taxation.

households). In general, users of funds issue financial claims (e.g., equity and debt securities) to finance the gap between their investment expenditures and their internally generated savings such as retained earnings. As shown in Figure 1–5, in such a world we have a **direct transfer** of funds (money) from suppliers of funds to users of funds. In return, financial claims would flow directly from users of funds to suppliers of funds.

**direct transfer**

A corporation sells its stock or debt directly to investors without going through a financial institution.

In this economy without financial institutions, the level of funds flowing between suppliers of funds (who want to maximize the return on their funds subject to risk) and users of funds (who want to minimize their cost of borrowing subject to risk) is likely to be quite low. There are several reasons for this. Once they have lent money in exchange for financial claims, suppliers of funds need to monitor continuously the use of their funds. They must be sure that the user of funds neither steals the funds outright nor wastes the funds on projects that have low or negative returns, since this would lower the chances of being repaid and/or earning a positive return on their investment (such as through the

**Figure 1–5 Flow of Funds in a World without FIs**

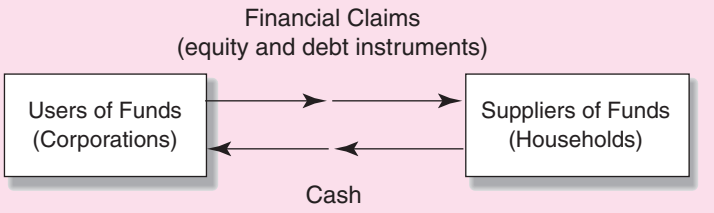


**TABLE 1–5 Percentage Shares of Assets of Financial Institutions in the United States, 1860–2007**

| | 1860 | 1929 | 1948 | 1960 | 1970 | 1980 | 1990 | 2000 | 2007† |
|---|---|---|---|---|---|---|---|---|---|
| Commercial banks | 71.4% | 53.7% | 55.9% | 38.2% | 37.9% | 34.8% | 36.8% | 35.7% | 25.7% |
| Thrift institutions | 17.8 | 14.0 | 12.3 | 19.7 | 20.4 | 21.4 | 16.5 | 10.0 | 6.4 |
| Insurance companies | 10.7 | 18.6 | 24.3 | 23.8 | 18.9 | 16.1 | 18.2 | 16.8 | 15.5 |
| Investment companies | — | 2.4 | 1.3 | 2.9 | 3.5 | 3.6 | 9.5 | 17.0 | 25.3 |
| Pension funds | — | 0.7 | 3.1 | 9.7 | 13.0 | 17.4 | 11.2 | 10.7 | 14.1 |
| Finance companies and mortgage companies | — | 2.6 | 2.1 | 4.6 | 4.8 | 5.5 | 6.4 | 6.0 | 4.8 |
| Securities brokers and dealers | 0.0 | 8.1 | 1.0 | 1.1 | 1.2 | 1.1 | 1.3 | 3.6 | 7.2 |
| Real estate investment trusts | — | — | — | 0.0 | 0.3 | 0.1 | 0.1 | 0.2 | 1.0 |
| Total (percent) | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Total (trillion dollars) | .001 | .123 | .281 | .596 | 1.328 | 4.025 | 8.122 | 14.650 | $39.620 |

Columns may not add to 100% due to rounding.

*Data not available.

†As of March 2007.

**Source:** Randall Kroszner, "The Evolution of Universal Banking and Its Regulation in Twentieth Century America," in *Universal Banking Financial System Design Reconsidered,* eds. Anthony Saunders and Ingo Walter (Burr Ridge, IL: Irwin, 1996); and Federal Reserve Board, "Flow of Funds Accounts," *Statistical Releases,* various issues. **www.federalreserve.gov**

receipt of dividends or interest). Such monitoring is often extremely costly for any given fund supplier because it requires considerable time, expense, and effort to collect this information relative to the size of the average fund supplier's investment.[10]

As mentioned earlier, the SEC requires and monitors the full and fair disclosure of information on securities to actual or potential investors (suppliers of funds)—such as in quarterly and annual reports. Many investors, however, do not have the financial training to analyze this information in order to determine whether a securities issuer is making the best use of its funds. Further, such a large number of investment opportunities are available to fund suppliers that even those trained in financial analysis rarely have the time to monitor the use of funds for all of their investments. Given this, fund suppliers would likely prefer to leave, or delegate, the monitoring of fund borrowers to others. The resulting lack of monitoring increases the risk of directly investing in financial claims.

The relatively long-term nature of many financial claims (e.g., mortgages, corporate stock, and bonds) creates a second disincentive for suppliers of funds to hold the direct financial claims issued by users of funds. Specifically, given the choice between holding cash and long-term securities, fund suppliers may well choose to hold cash for **liquidity** reasons, especially if they plan to use their savings to finance consumption expenditures in the near future and financial markets are not very developed, or deep, in terms of the number of active buyers and sellers in the market. Moreover, even though real-world financial markets provide some liquidity services, by allowing fund suppliers to trade financial securities among themselves, fund suppliers face a **price risk** upon the sale of securities. In addition, the secondary market trading of securities involves various transaction costs. The price at which investors can sell a security on secondary markets such as the New York Stock Exchange (NYSE) may well differ from the price they initially paid for the security either because investors change their valuation of the security between the time it was bought and when it was sold and/or because dealers, acting as intermediaries between buyers and sellers, charge transaction costs for completing a trade.[11]

**liquidity**
The ease with which an asset can be converted into cash at its fair market value.

**price risk**
The risk that an asset's sale price will be lower than its purchase price.

## Unique Economic Functions Performed by Financial Institutions

Because of (1) monitoring costs, (2) liquidity costs, and (3) price risk, the average investor may view direct investment in financial claims and markets as an unattractive proposition and prefer to hold cash. As a result financial market activity (and therefore savings and investment) would likely remain quite low.

However, the financial system has developed an alternative and indirect way for investors (or fund suppliers) to channel funds to users of funds.[12] This is the **indirect transfer** of funds to the ultimate user of funds via FIs. Due to the costs of monitoring, liquidity risk, and price risk, as well as for other reasons explained later, fund suppliers often prefer to hold the financial claims issued by FIs rather than those directly issued by the ultimate users of funds. Consider Figure 1–6, which is a closer representation than Figure 1–5 of the world in which we live and the way funds flow in the U.S. financial system. Notice how financial intermediaries or institutions are standing, or intermediating between, the suppliers and users of funds—that is, channeling funds from ultimate suppliers to ultimate users of funds.

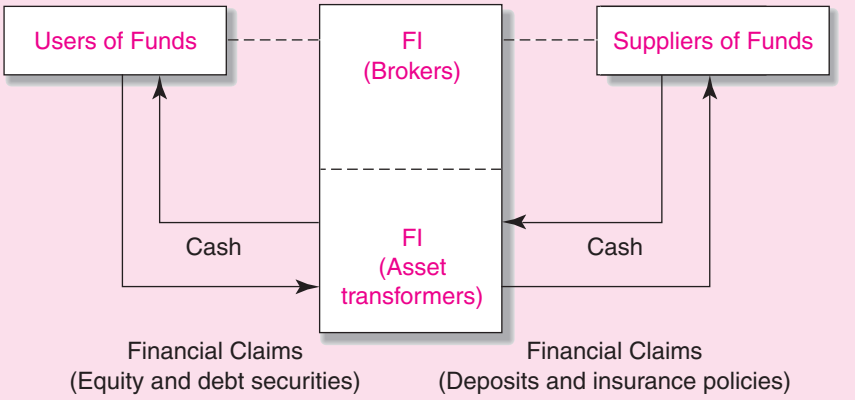
**indirect transfer**
A transfer of funds between suppliers and users of funds through a financial intermediary.

[10]Failure to monitor exposes fund suppliers to "agency costs," that is, the risk that the fund users will take actions with the fund supplier's money contrary to the promises contained in the financing agreement. Monitoring costs are part of overall agency costs. That is, agency costs arise whenever economic agents enter into contracts in a world of asymmetric or incomplete information and thus information collection is costly. The more difficult and costly it is to collect information, the more likely it is that contracts will be broken. In this case, the fund suppliers could be harmed by the actions taken by the fund users. As discussed below, one solution to this agency problem is for a large number of fund suppliers to place their funds with a single FI who acts as a "delegated" monitor.

[11]On organized exchanges such as the NYSE, the price difference between a buy and sell price is called the bid-ask spread.

[12]We describe and illustrate this flow of funds in Chapter 2.

**Figure 1–6 Flow of Funds in a World with FIs**





How can a financial institution reduce the monitoring costs, liquidity risks, and price risks facing the suppliers of funds compared to when they directly invest in financial claims? We look at how FIs resolve these cost and risk issues next and summarize them in Table 1–6.

**Monitoring Costs.** As mentioned above, a supplier of funds who directly invests in a fund user's financial claims faces a high cost of monitoring the fund user's actions in a timely and complete fashion. One solution to this problem is for a large number of small investors to group their funds together by holding the claims issued by a financial institution. In turn the FI invests in the direct financial claims issued by fund users. This aggregation of funds by fund suppliers in a financial institution resolves a number of problems.

**TABLE 1–6 Services Performed by Financial Intermediaries**

**Services Benefiting Suppliers of Funds**

**Monitoring Costs**—Aggregation of funds in an FI provides greater incentive to collect a firm's information and monitor actions. The relatively large size of the FI allows this collection of information to be accomplished at a lower average cost (economies of scale).

**Liquidity and Price Risk**—FIs provide financial claims to household savers with superior liquidity attributes and with lower price risk.

**Transaction Cost Services**—Similar to economies of scale in information production costs, an FI's size can result in economies of scale in transaction costs.

**Maturity Intermediation**—FIs can better bear the risk of mismatching the maturities of their assets and liabilities.

**Denomination Intermediation**—FIs such as mutual funds allow small investors to overcome constraints to buying assets imposed by large minimum denomination size.

**Services Benefiting the Overall Economy**

**Money Supply Transmission**—Depository institutions are the conduit through which monetary policy actions impact the rest of the financial system and the economy in general.

**Credit Allocation**—FIs are often viewed as the major, and sometimes only, source of financing for a particular sector of the economy, such as farming and residential real estate.

**Intergenerational Wealth Transfers**—FIs, especially life insurance companies and pension funds, provide savers with the ability to transfer wealth from one generation to the next.

**Payment Services**—Efficiency with which depository institutions provide payment services directly benefits the economy.

First, the "large" FI now has a much greater incentive to hire employees with superior skills and training in monitoring and who will use this expertise to collect information and monitor the ultimate fund user's actions because the FI has far more at stake than any small individual fund supplier. Second, the monitoring function performed by the FI alleviates the "free-rider" problem that exists when small fund suppliers leave it to each other to collect information and monitor a fund user. In an economic sense, fund suppliers have appointed the financial institution as a **delegated monitor** to act on their behalf. For example, full-service securities firms such as Morgan Stanley carry out investment research on new issues and make investment recommendations for their retail clients (or investors), while commercial banks collect deposits from fund suppliers and lend these funds to ultimate users such as corporations. An important part of these FIs' functions is their ability and incentive to monitor ultimate fund users.

**delegated monitor**

An economic agent appointed to act on behalf of smaller investors in collecting information and/or investing funds on their behalf.

**Liquidity and Price Risk.** In addition to improving the quality and quantity of information, FIs provide further claims to fund suppliers, thus acting as **asset transformers.** Financial institutions purchase the financial claims issued by users of funds—primary securities such as mortgages, bonds, and stocks—and finance these purchases by selling financial claims to household investors and other fund suppliers in the form of deposits, insurance policies, or other *secondary securities.*

**asset transformers**

Financial claims issued by an FI that are more attractive to investors than are the claims directly issued by corporations.

Often claims issued by financial institutions have liquidity attributes that are superior to those of primary securities. For example, banks and thrift institutions (e.g., savings associations) issue transaction account deposit contracts with a fixed principal value and often a guaranteed interest rate that can be withdrawn immediately, on demand, by investors. Money market mutual funds issue shares to household savers that allow them to enjoy almost fixed principal (depositlike) contracts while earning higher interest rates than on bank deposits, and that can be withdrawn immediately by writing a check. Even life insurance companies allow policyholders to borrow against their policies held with the company at very short notice. How can FIs such as depository institutions offer highly liquid, low price-risk securities to fund suppliers on the liability side of their balance sheets while investing in relatively less liquid and higher price-risk securities—such as the debt and equity—issued by fund users on the asset side? Furthermore, how can FIs be confident enough to guarantee that they can provide liquidity services to fund suppliers when they themselves invest in risky assets? Indeed, why should fund suppliers believe FIs' promises regarding the liquidity and safety of their investments?

**diversify**

The ability of an economic agent to reduce risk by holding a number of securities in a portfolio.

The answers to these three questions lie in financial institutions' ability to **diversify** away some, but not all, of their investment risk. The concept of diversification is familiar to all students of finance. Basically, as long as the returns on different investments are not perfectly positively correlated, by spreading their investments across a number of assets, FIs can diversify away significant amounts of their portfolio risk. (We discuss the mechanics of diversification in the loan portfolio in Chapter 20.) Indeed, experiments in the United States and the United Kingdom have shown that diversifying across just 15 securities can bring significant diversification benefits to FIs and portfolio managers.[13] Further, for equal investments in different securities, as the number of securities in an FI's asset portfolio increases, portfolio risk falls, albeit at a diminishing rate. What is really going on here is that FIs can exploit the law of large numbers in making their investment decisions, whereas because of their smaller wealth size, individual fund suppliers are constrained to holding relatively undiversified portfolios. As a result, diversification allows an FI to predict more accurately its expected return and risk on its investment portfolio so that it can credibly fulfill its promises to the suppliers of funds to provide highly liquid claims with little price risk. A good example of this is a bank's ability to offer highly liquid, instantly withdrawable demand deposits as liabilities while investing in risky, nontradable, and often illiquid loans as assets. As long as an FI is large enough to gain from diversification and monitoring on

[13]For a review of such studies, see E. J. Elton and M. J. Gruber, *Modern Portfolio Theory and Investment Analysis,* 6th ed. (New York: John Wiley & Sons, 1998), Chapter 2.

the asset side of its balance sheet, its financial claims (its liabilities) are likely to be viewed as liquid and attractive to small savers—especially when compared to direct investments in the capital market.

## Additional Benefits FIs Provide to Suppliers of Funds

The indirect investing of funds through financial institutions is attractive to fund suppliers for other reasons as well. We discuss these below and summarize them in Table 1–6 .

**economies of scale**
The concept that cost reduction in trading and other transaction services results from increased efficiency when FIs perform these services.

**etrade**
Buying and selling shares on the Internet.

**Reduced Transaction Cost.** Not only do financial institutions have a greater incentive to collect information, but also their average cost of collecting relevant information is lower than for the individual investor (i.e., information collection enjoys **economies of scale**). For example, the cost to a small investor of buying a $100 broker's report may seem inordinately high for a $10,000 investment. For an FI with $10 billion of assets under management, however, the cost seems trivial. Such economies of scale of information production and collection tend to enhance the advantages to investors of investing via FIs rather than directly investing themselves.

Nevertheless, as a result of technological advances, the costs of direct access to financial markets by savers are ever falling and the relative benefits to the individual savers of investing through FIs are narrowing. An example is the ability to reduce transactions costs with an **etrade** on the Internet rather than use a traditional stockbroker and paying brokerage fees (see Chapter 8). Another example is the private placement market, in which corporations such as General Electric sell securities directly to investors often without using underwriters. In addition, a number of companies allow investors to buy their stock directly without using a broker. Among well-known companies that have instituted such stock purchase plans are AT&T, Microsoft, Marathon Oil, IBM, and Walt Disney Co.

**Maturity Intermediation.** An additional dimension of financial institutions' ability to reduce risk by diversification is their greater ability to bear the risk of mismatching the maturities of their assets and liabilities than can small savers. Thus, FIs offer maturity intermediation services to the rest of the economy. Specifically, by maturity mismatching, FIs can produce new types of contracts such as long-term mortgage loans to households, while still raising funds with short-term liability contracts such as deposits. In addition, although such mismatches can subject an FI to interest rate risk (see Chapters 3 and 19), a large FI is better able than a small investor to manage this risk through its superior access to markets and instruments for hedging the risks of such loans (see Chapters 7, 10, 20, and 24).

**Denomination Intermediation.** Some FIs, especially mutual funds, perform a unique service because they provide services relating to denomination intermediation. Because many assets are sold in very large denominations, they are either out of reach of individual savers or would result in savers holding very undiversified asset portfolios. For example, the minimum size of a negotiable CD is $100,000, while commercial paper (short-term corporate debt) is often sold in minimum packages of $250,000 or more. Individual small savers may be unable to purchase such instruments directly. However, by pooling the funds of many small savers (such as by buying shares in a mutual funds with other small investors), small savers overcome constraints to buying assets imposed by large minimum denomination size. Such indirect access to these markets may allow small savers to generate higher returns (and lower risks) on their portfolios as well.

## Economic Functions FIs Provide to the Financial System as a Whole

In addition to the services financial institutions provide to suppliers and users of funds in the financial markets, FIs perform services that improve the operation of the financial system as a whole. We discuss these next and summarize them in Table 1–6.

**The Transmission of Monetary Policy.** The highly liquid nature of bank and thrift deposits has resulted in their acceptance by the public as the most widely used medium of exchange in the economy. Indeed, at the core of the most commonly used definitions of the money supply (see Chapter 4) are bank and/or thrift deposit contracts. Because deposits are a significant component of the money supply, which in turn directly impacts the rate of inflation, depository institutions—particularly commercial banks—play a key role in the *transmission of monetary policy* from the central bank (the Federal Reserve) to the rest of the economy (see Chapter 4 for a detailed discussion of how the Federal Reserve implements monetary policy through depository institutions).[14] Because depository institutions are instrumental in determining the size and growth of the money supply, depository institutions have been designated as the primary conduit through which monetary policy actions by the Federal Reserve impact the rest of the financial sector and the economy in general.

www.federalreserve.gov

**Credit Allocation.** Additionally, FIs provide a unique service to the economy in that they are the major source of financing for particular sectors of the economy preidentified by society as being in special need of financing. For example, policymakers in the United States and a number of other countries such as the United Kingdom have identified *residential real estate* as needing special attention. This has enhanced the specialness of those FIs that most commonly service the needs of that sector. In the United States, savings associations and savings banks must emphasize mortgage lending. Sixty-five percent of their assets must be mortgage related for these thrifts to maintain their charter status (see Chapter 14). In a similar fashion, farming is an especially important area of the economy in terms of the overall social welfare of the population. Thus, the U.S. government has directly encouraged financial institutions to specialize in financing this area of activity through the creation of Federal Farm Credit Banks.[15]

**DO YOU UNDERSTAND?**

6. *The three major reasons that suppliers of funds would not want to directly purchase securities?*
7. *What the asset transformation function of FIs is?*
8. *What delegated monitoring function FIs perform?*
9. *What the link is between asset diversification and the liquidity of deposit contracts?*
10. *What maturity intermediation is?*
11. *Why the need for denomination intermediation arises?*
12. *The two major sectors that society has identified as deserving special attention in credit allocation?*
13. *Why monetary policy is transmitted through the banking system?*
14. *The payment services that FIs perform?*

**Intergenerational Wealth Transfers or Time Intermediation.** The ability of savers to transfer wealth from their youth to old age as well as across generations is also of great importance to a country's social well-being. Because of this, special taxation relief and other subsidy mechanisms encourage investments by savers in life insurance, annuities, and pension funds. For example, pension funds offer savings plans through which fund participants accumulate tax exempt savings during their working years before withdrawing them during their retirement years.

**Payment Services.** Depository institutions such as banks and thrifts are also special in that the efficiency with which they provide payment services directly benefits the economy. Two important payment services are check-clearing and wire transfer services. For example, on any given day, over $3 trillion of payments are directed through Fedwire and CHIPS, the two largest wholesale payment wire network systems in the United States. Any breakdowns in these systems would likely produce gridlock to the payment system, with resulting harmful effects to the economy.


## Risks Incurred by Financial Institutions

As financial institutions perform the various services described above, they face many types of risk. Specifically, all FIs hold some assets that are potentially subject to default or credit risk (such as loans, stocks, and bonds). As FIs expand their services to non-U.S. customers or even domestic customers with business outside the United States, they are exposed to both foreign exchange risk and country or sovereign risk as well. Further, FIs

[14]The Federal Reserve is the U.S. central bank charged with promoting economic growth in line with the economy's potential to expand, and in particular, stable prices.

[15]The Farm Credit System was created by Congress in 1916 to provide American agriculture with a source of sound, dependable credit at low rates of interest.

**TABLE 1–7 Risks Faced by Financial Institutions**

1. **Credit Risk**—risk that promised cash flows from loans and securities held by FIs may not be paid in full.
2. **Foreign Exchange Risk**—risk that exchange rate changes can affect the value of an FI's assets and liabilities located abroad.
3. **Country or Sovereign Risk**—risk that repayments from foreign borrowers may be interrupted because of interference from foreign governments.
4. **Interest Rate Risk**—risk incurred by an FI when the maturities of its assets and liabilities are mismatched.
5. **Market Risk**—risk incurred in trading assets and liabilities due to changes in interest rates, exchange rates, and other asset prices.
6. **Off-Balance-Sheet Risk**—risk incurred by an FI as the result of activities related to contingent assets and liabilities.
7. **Liquidity Risk**—risk that a sudden surge in liability withdrawals may require an FI to liquidate assets in a very short period of time and at low prices.
8. **Technology Risk**—risk incurred by an FI when its technological investments do not produce anticipated cost savings.
9. **Operational Risk**—risk that existing technology or support systems may malfunction or break down.
10. **Insolvency Risk**—risk that an FI may not have enough capital to offset a sudden decline in the value of its assets.

tend to mismatch the maturities of their balance sheet assets and liabilities to a greater or lesser extent and are thus exposed to interest rate risk. If FIs actively trade these assets and liabilities rather than hold them for longer-term investments, they are further exposed to market risk or asset price risk. Increasingly, FIs hold contingent assets and liabilities off the balance sheet, which presents an additional risk called off-balance-sheet risk. Moreover, all FIs are exposed to some degree of liability withdrawal or liquidity risk, depending on the type of claims they have sold to liability holders. All FIs are exposed to technology risk and operational risk because the production of financial services requires the use of real resources and back-office support systems (labor and technology combined to provide services). Finally, the risk that an FI may not have enough capital reserves to offset a sudden loss incurred as a result of one or more of the risks they face creates insolvency risk for the FI.[16] Chapters 19 through 24 provide an analysis of how FIs measure and manage these risks. We summarize the various risks in Table 1–7.


## Regulation of Financial Institutions

The preceding section showed that financial institutions provide various services to sectors of the economy. Failure to provide these services, or a breakdown in their efficient provision, can be costly to both the ultimate suppliers of funds and users of funds as well as to the economy overall. For example, bank failures may destroy household savings and at the same time restrict a firm's access to credit. Insurance company failures may leave household members totally exposed in old age to the cost of catastrophic illnesses and to sudden drops in income on retirement. In addition, individual FI failures may create doubts in savers' minds regarding the stability and solvency of FIs and the financial system in general and cause panics and even withdrawal runs on sound institutions. FIs are regulated in an attempt to prevent these types of market failures and the costs they would impose on the economy and society at large. Although regulation may be socially beneficial, it also imposes private costs, or a regulatory burden, on individual FI owners and managers. Consequently, regulation is an attempt to enhance the social welfare benefits and mitigate the costs of the provision of FI services.

[16] As discussed in Chapter 12, the capital reserves of an FI insulate it against the losses that may occur as a result of its risk exposure.

While many regulations restrict competition among industry participants or restrict activities FIs may undertake, recent U.S. regulatory changes have been deregulatory in nature. That is, they have expanded the activities and degree of competition allowed to FIs. As a result, the traditional activities of various institutions have been eroding and many FIs are altering and refining their range of activities. Chapter 13 describes the regulations (past and present) that have been imposed on U.S. financial institutions.

## GLOBALIZATION OF FINANCIAL MARKETS AND INSTITUTIONS

Financial markets and institutions in the United States have their counterparts in many foreign countries. Table 1–8 lists U.S. dollar equivalent values of money market and debt securities outstanding in countries throughout the world from 1996 through 2007. Notice that U.S. markets dominate the world debt markets. For example, in 2007 over 24 percent of the world's debt securities were issued in the United States. The next two most active issuers combined (Germany and the United Kingdom) had fewer debt securities outstanding than the U.S. market. While U.S. financial markets have historically been much larger in value size and trading volume than any foreign market, financial markets became truly global in the 1980s as technological improvements resulted in more immediate and cheaper access to real-time data worldwide by domestic and international investors. As a result the volume and values of stocks and other securities traded in foreign markets soared. For

**TABLE 1–8 World Financial Markets, International Debt Outstanding, by Issuer** *(in billions of dollars)*

| | Long-Term Debt | | | Money Market Securities | |
|---|---|---|---|---|---|
| Country | 1996 | 1999 | 2007* | 1999 | 2007* |
| Argentina | $ 29.0 | $ 62.6 | $ 60.8 | $ 0.4 | $ 0.1 |
| Australia | 77.4 | 90.0 | 375.6 | 13.1 | 47.8 |
| Austria | 62.5 | 75.6 | 290.0 | 4.5 | 21.4 |
| Belgium | 42.1 | 61.5 | 370.2 | 5.6 | 28.4 |
| Brazil | 23.1 | 42.9 | 111.9 | 3.4 | 3.3 |
| Canada | 177.8 | 217.1 | 368.9 | 5.1 | 5.5 |
| China | n.a. | 17.9 | 30.4 | n.a. | 0.6 |
| France | 204.4 | 298.0 | 1,239.2 | 10.4 | 53.4 |
| Germany | 319.8 | 623.7 | 2,559.3 | 60.1 | 146.6 |
| Hong Kong | 15.9 | 25.5 | 65.3 | 12.3 | 0.2 |
| Ireland | 20.0 | 26.3 | 282.3 | 2.9 | 58.5 |
| Italy | 88.6 | 147.9 | 923.9 | 7.9 | 31.1 |
| Japan | 325.6 | 332.3 | 312.2 | 6.0 | 16.3 |
| Luxembourg | 8.4 | 13.9 | 87.6 | 4.4 | 4.6 |
| Mexico | 41.5 | 61.2 | 94.5 | 1.8 | 0.9 |
| Netherlands | 112.2 | 196.3 | 921.2 | 23.5 | 72.9 |
| Norway | 19.5 | 32.4 | 116.5 | 0.8 | 5.7 |
| South Korea | 38.9 | 49.0 | 96.7 | 0.7 | 5.4 |
| Spain | 44.2 | 107.7 | 1,151.5 | 9.4 | 26.1 |
| Sweden | 99.6 | 93.4 | 200.7 | 4.7 | 24.2 |
| Switzerland | 39.5 | 80.9 | 321.3 | 4.4 | 30.6 |
| United Kingdom | 258.7 | 436.7 | 1,977.8 | 33.6 | 196.7 |
| United States | 372.4 | 1,286.7 | 4,588.4 | 24.1 | 156.1 |
| Total private sector debt | $2,982.5 | $5,105.5 | $18,548.0 | $260.0 | $1,019.1 |

*As of the end of the first quarter.

**Source:** Bank for International Settlements, "International Banking and Financial Market Developments," *Quarterly Review,* various issues. **www.bis.org**

**Eurodollar bond**

Dollar-denominated bonds issued mainly in London and other European centers such as Luxembourg.

example, the value of stocks traded in the Japanese stock market has, at times, exceeded that of stocks traded in the United States. Likewise, foreign bond markets have served as a major source of international capital. For example, **Eurodollar bonds** are dollar-denominated bonds issued mainly in London and other European centers such as Luxembourg. Since they are issued outside U.S. territory, Eurodollar bonds are not required to be registered with the U.S. SEC (the regulator of domestic securities' issues). Eurodollar bonds account for over 80 percent of new issues in the international bond market. Globalization of financial markets is also evident in the derivative securities markets (discussed in Chapter 10). Eurodollar futures and options contracts (futures and options in which the underlying index is the three-month Eurodollar deposit rate or the LIBOR rate) are major contributors to these markets, often dominating in terms of the number of contracts and notional value outstanding.[17]

The significant growth in foreign financial markets is the result of several factors. First is the increase in the pool of savings in foreign countries (e.g., the European Union). Second, international investors have turned to U.S. and other markets to expand their investment opportunities and improve their investment portfolio risk and return characteristics. This is especially so as the retirement value of public pension plans has declined in many European countries and investors have turned to private pension plans to boost their long-term savings. Third, information on foreign investments and markets is now more accessible and thorough—for example, via the Internet. Fourth, some U.S. FIs—such as specialized mutual funds—offer their customers opportunities to invest in foreign securities and emerging markets at relatively low transaction costs. Fifth, while the euro has had a significant effect throughout Europe, it is also having a notable impact on the global

**TABLE 1–9 Financial Market Securities Holdings** *(in billions of dollars)*

| | 1992 | 1996 | 2000 | 2007* |
|---|---|---|---|---|
| **U.S. Financial Market Instruments Held by Foreign Investors** | | | | |
| Open market paper | $ 12.9 | $ 57.9 | $ 111.0 | $ 222.6 |
| U.S. government securities | 595.0 | 1,293.9 | 1,772.4 | 3,441.9 |
| U.S. corporate bonds | 251.5 | 453.2 | 1,003.9 | 2,853.6 |
| Loans to U.S. corporate businesses | 129.9 | 126.2 | 117.3 | 163.6 |
| Total | 989.3 | 1,931.2 | 3,004.6 | 6,681.7 |
| U.S. corporate equities held | 329.0 | 656.8 | 1,748.3 | 2,925.4 |
| Total financial assets held | $2,247.0 | $4,133.2 | $7,369.1 | $12,931.4 |
| **Foreign Financial Market Instruments Held by U.S. Investors** | | | | |
| Commercial paper | $ 78.4 | $ 67.5 | $ 120.9 | $ 459.2 |
| Bonds | 147.2 | 347.7 | 504.7 | 1,187.2 |
| Bank loans | 23.9 | 43.7 | 70.7 | 66.5 |
| U.S. government loans | 55.1 | 50.1 | 47.3 | 25.5 |
| Acceptance liabilities to banks | 11.3 | 9.9 | 3.1 | 0.2 |
| Total | 315.8 | 518.8 | 746.7 | 1,738.6 |
| Foreign corporate equities held | 314.3 | 876.8 | 1,787.0 | 4,109.8 |
| Total financial assets held | $1,712.3 | $3,117.0 | $5,286.5 | $ 9,548.7 |

*As of the end of the first quarter.

**Source:** Federal Reserve Board, "Flow of Fund Accounts," *Statistical Releases,* various issues. **www.federalreserve.gov**

[17]For example, on August 15, 2007, 1,227,654 Eurodollar futures contracts were traded on the Chicago Mercantile Exchange, each with a face value of $1 million.

**TABLE 1–10 The Largest (in Total Assets) Banks in the World**
*(in billions of dollars)*

| Bank | Country | Total Assets |
|---|---|---|
| **1.** UBS Group | Switzerland | $1,963.9 |
| **2.** Barclays Bank | United Kingdom | 1,956.8 |
| **3.** BNP Paribas | France | 1,896.9 |
| **4.** Citigroup | United States | 1,882.6 |
| **5.** HSBC Holdings | United Kingdom | 1,860.8 |

**Source:** *The Banker*, July 1, 2007. **www.thebanker.com**

financial system. Given the size of the "euro-economies," the euro is fast becoming the world's most important currency for international transactions, challenging the U.S. dollar's traditional role in international trade. Finally, deregulation in many foreign countries has allowed international investors greater access and allowed the deregulating countries to expand their investor bases (e.g., until 1997, foreign investors faced severe restrictions on their ability to buy Korean stocks). As a result of these factors, the overall volume of investment and trading activity in foreign securities is increasing, as is the integration of U.S. and foreign financial markets.

Table 1–9 shows the extent of the growth in foreign investment in U.S. financial markets. From 1992 through 2007, foreign investors' holdings of U.S. financial market debt securities outstanding increased 575 percent, from $989.3 billion to $6,681.7 billion, while foreign financial market debt securities held by U.S. investors increased 451 percent, from $315.8 billion to $1,738.6 billion. From these data it should be evident that while U.S. financial markets dominate world markets, the growth of U.S. financial markets depends more and more on the growth and development of other economies. In turn, the success of other economies depends to a significant extent on their financial market development.

For the same reasons discussed earlier (i.e., monitoring costs, liquidity risk, and price risk), financial institutions are of central importance to the development and integration of markets globally. However, U.S. FIs must now compete not only with other domestic FIs for a share of these markets but increasingly with foreign FIs. Table 1–10 lists the five largest banks in the world, measured by total assets, as of 2007. Only one of these banks is a U.S. bank. Figure 1–7 shows foreign bank offices' assets and liabilities held in the United States from 1992 through 2007. Total foreign bank assets over this period increased from $509.3 billion to $801.4 billion in 2007.

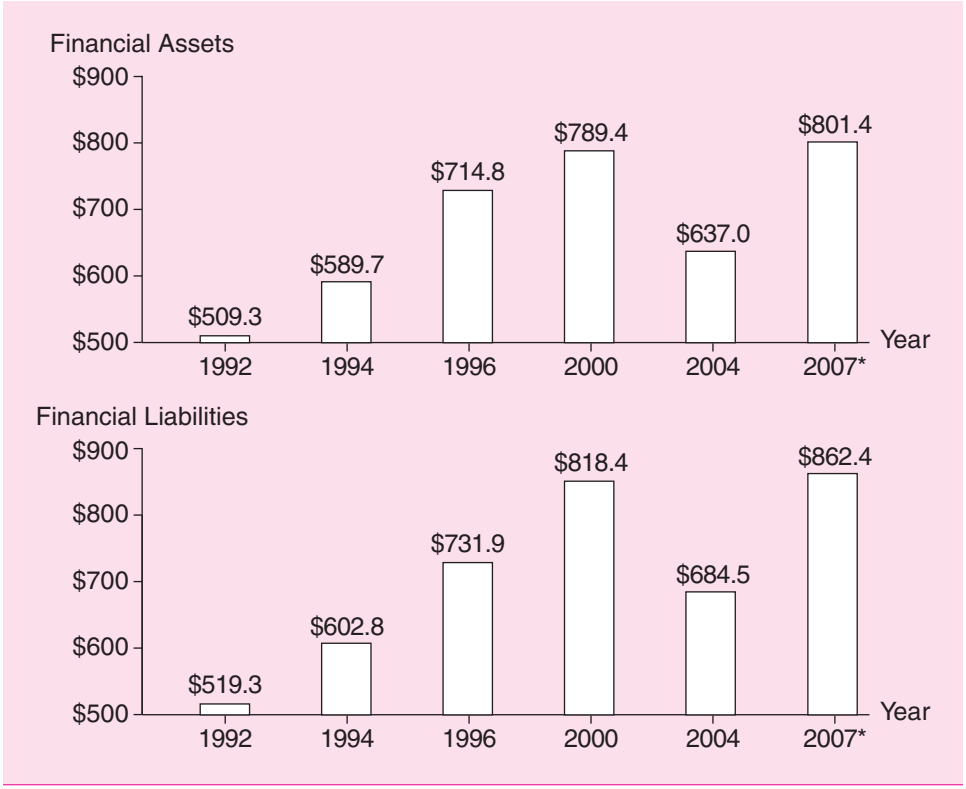
**DO YOU UNDERSTAND?**

**15.** *What the trends are in the growth of global financial markets since the 1980s?*

**16.** *What a Eurodollar bond is?*

As a result of the increased globalization of financial markets and institutions, U.S. financial market movements now have a much greater impact on foreign markets than historically. For example, in mid-August, 2007 overseas markets experienced dramatic selloffs as a result of increasing concern among investors that the credit market problems in the United States could trigger a slowdown in global economic growth. What started as a major decline in the U.S. bond markets led to fears of a wider credit crunch that could affect economies from South Korea to Mexico to China. The global selloff began late Wednesday August 15, 2007, in the United States as credit market worries hit Countrywide Financial Corp., one of the country's biggest mortgage lenders. The selloff continued on to hit worldwide markets in Asia, where the Japanese stock market fell 2 percent, Hong Kong stock market fell 3.3 percent, and South Korean stock market fell 6.9 percent. European stock markets followed, with U.K stock markets falling 4.1 percent and German markets by 2.4 percent. The selling continued in the United States, with the Dow Jones Industrial Average falling more than 300 points at the beginning of trading on Thursday, August 16.

**Figure 1–7** **Foreign Bank Offices Assets and Liabilities Held in the United States** *(in billions of dollars)*




*As of the end of the first quarter.

**Source:** Federal Reserve Board, "Flow of Fund Accounts," *Statistical Releases,* various issues. **www.federalreserve.gov**

## SUMMARY

This introductory chapter reviewed the basic operations of domestic and foreign financial markets and institutions. It described the ways in which funds flow through an economic system from lenders to borrowers and outlined the markets and instruments that lenders and borrowers employ to complete this process. In addition, the chapter discussed the need for FI managers to understand the functioning of both the domestic as well as the international markets in which they participate.

The chapter also identified the various factors impacting the specialness of the services FIs provide and the manner in which they improve the efficiency with which funds flow from suppliers of funds to the ultimate users of funds. Currently, however, some forces—such as technology and especially the Internet—are so powerful that in the future FIs that have historically relied on making profits by performing traditional special functions such as brokerage will need to expand the array of financial services they sell as well as the way that such services are distributed or sold to their customers.

## QUESTIONS

1. Classify the following transactions as taking place in the primary or secondary markets:
   **a.** IBM issues $200 million of new common stock.
   **b.** The New Company issues $50 million of common stock in an IPO.
   **c.** IBM sells $5 million of GM preferred stock out of its marketable securities portfolio.
   **d.** The Magellan Fund buys $100 million of previously issued IBM bonds.
   **e.** Prudential Insurance Co. sells $10 million of GM common stock.

2. Classify the following financial instruments as money market securities or capital market securities:
   **a.** Bankers Acceptances
   **b.** Commercial Paper
   **c.** Common Stock
   **d.** Corporate Bonds
   **e.** Mortgages
   **f.** Negotiable Certificates of Deposit
   **g.** Repurchase Agreements
   **h.** U.S. Treasury Bills
   **i.** U.S. Treasury Notes
   **j.** Federal Funds
3. How does the location of the money market differ from that of the capital market?
4. Which of the money market instruments has grown fastest since 1990?
5. What are the major instruments traded in capital markets?
6. Why did public confidence in the integrity of the IPO process erode in the early 2000s? What did regulators do to try to reestablish trust?
7. STANDARD &POOR'S Go to the S&P Educational Version of Market Insight Web site at **www.mhhe.com/edumarketinsight.** Use the following steps to identify the dollar amount of common stock outstanding for ExxonMobil (XOM). Click on "Educational Version of Market Insight." Enter your Site ID and click on "Login." Click on "Company." In the box marked "Ticker" enter XOM and click on "Go!" Click on "Financial Hlts." This brings up a file that contains the relevant data.
8. If a U.S. bank is holding Japanese yen in its portfolio, what type of exchange rate movement would the bank be most concerned about?
9. What are the different types of financial institutions? Include a description of the main services offered by each.
10. How would economic transactions between suppliers of funds (e.g., households) and users of funds (e.g., corporations) occur in a world without FIs?
11. Why would a world limited to the direct transfer of funds from suppliers of funds to users of funds likely result in quite low levels of fund flows?
12. How do FIs reduce monitoring costs associated with the flow of funds from fund suppliers to fund investors?
13. How do FIs alleviate the problem of liquidity risk faced by investors wishing to invest in securities of corporations?
14. How do financial institutions help individuals to diversify their portfolio risks? Which financial institution is best able to achieve this goal?
15. What is meant by maturity intermediation?
16. What is meant by denomination intermediation?
17. What services do FIs provide to the financial system?
18. Why are FIs regulated?
19. STANDARD &POOR'S Go to the S&P Educational Version of Market Insight Web site at **www.mhhe.com/edumarketinsight.** Use the following steps to identify the Industry Description and Industry Constituents for the following industries: Diversified Banks, Investment Banking & Brokerage, Life & Health Insurance, and Property & Casualty Insurance. Click on "Educational Version of Market Insight." Enter your Site ID and click on "Login." Click on "Industry." From the Industry list, select (one at a time) "Diversified Banks," "Investment Banking & Brokerage," "Life & Health Insurance," and "Property & Casualty." Click on "Go!" Click on "Industry Profile" and, separately, "Industry Constituents." How do the number of firms and the assets sizes of firms vary by industry?
20. What countries have the most international debt securities outstanding?
21. What countries have the largest commercial banks?

## SEARCH THE SITE

Go to the New York Stock Exchange Web site at **www.nyse.com** and find the latest figures for top NYSE volume days.

Click on "Equities." Click on "NYSE Equities." Click on "NYSE Data Library". Click on "NYSE Statistics Archive". Under "NYSE Group Daily Share Volume," click on the most recent date. Click on "Interactive Viewer." Click on "Market Activity." Click on "NYSE Group Volume Records—Top 10 Days." This brings up a file that contains the relevant data.

### Questions

1. What is the largest number of daily shares traded on the NYSE? On what day did this occur?
2. Calculate the percentage change in daily trading volume since the 2.8 billion shares traded on August 15, 2007.