

# Financial Markets and Institutions

*Sixth Edition*



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**Anthony Saunders**  
**Marcia Millon Cornett**

*sixth edition* \_\_\_\_\_

# Financial Markets *and* Institutions

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# Financial Markets *and* Institutions

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FINANCIAL MARKETS AND INSTITUTIONS, SIXTH EDITION

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To Ingo Walter: a mentor, co-author, and friend.

—TONY SAUNDERS

To my parents, Tom and Sue.

—MARCIA MILLON CORNETT



## ABOUT THE AUTHORS

### Anthony Saunders

Anthony Saunders is the John M. Schiff Professor of Finance and former Chair of the Department of Finance at the Stern School of Business at New York University. Professor Saunders received his Ph.D. from the London School of Economics and has taught both undergraduate and graduate level courses at NYU since 1978. Throughout his academic career, his teaching and research have specialized in financial institutions and international banking. He has served as a visiting professor all over the world, including INSEAD, the Stockholm School of Economics, and the University of Melbourne.



Professor Saunders holds or has held positions on the Board of Academic Consultants of the Federal Reserve Board of Governors as well as the Council of Research Advisors for the Federal National Mortgage Association. In addition, Dr. Saunders has acted as a visiting scholar at the Comptroller of the Currency and at the International Monetary Fund. He is editor of the *Journal of Financial Markets, Instruments and Institutions*, as well as the associate editor of a number of other journals. His research has been published in all of the major finance and banking journals and in several books. He has just published a new edition of his textbook, with Dr. Marcia Millon Cornett, *Financial Institutions Management: A Risk Management Approach* for McGraw-Hill (eighth edition) as well as a third edition of his book on credit risk measurement for John Wiley & Sons. Professor Saunders was ranked the most prolific author out of more than 5,800 who have published in the seven leading Finance academic journals from 1959–2008 (“Most Prolific Authors in the Financial Literature, 1959–2008,” Jean Heck and Philip Cooley).

### Marcia Millon Cornett

Marcia Millon Cornett is the Robert A. and Julia E. Dorn Professor of Finance at Bentley University. She received her B.S. degree in economics from Knox College in Galesburg, Illinois, and her M.B.A. and Ph.D. degrees in finance from Indiana University in Bloomington, Indiana. Dr. Cornett has written and published several articles in the areas of bank performance, bank regulation, corporate finance, and investments. Articles authored by Dr. Cornett have appeared in such academic journals as the *Journal of Finance*, the *Journal of Money, Credit, and Banking*, the *Journal of Financial Economics*, *Financial Management*, and the *Journal of Banking and Finance*. In 2008, she was ranked the 124th most published out of more than 17,600 authors and the number five female author in finance literature over the last 50 years. Along with Anthony Saunders, Dr. Cornett has recently completed work on the eighth edition of *Financial Institutions Management* (McGraw-Hill/Irwin). With Troy A. Adair, Jr. (Harvard University) and John Nofsinger (University of Alaska, Anchorage), she has also recently completed work on the third edition of *Finance: Applications and Theory* and the second edition of *M: Finance* (McGraw-Hill/Irwin). Professor Cornett serves as an associate editor for the *Journal of Banking and Finance*, the *Journal of Financial Services Research*, *Review of Financial Economics*, *Financial Review*, and *Multi-national Finance Journal*. Dr. Cornett has served as a member of the Board of Directors, the Executive Committee, and the Finance Committee of the SIU Credit Union. Dr. Cornett has also taught at Southern Illinois University at Carbondale, the University of Colorado, Boston College, Southern Methodist University, and Boston University.




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he last 25 years have been dramatic for the financial services industry. In the 1990s and 2000s, boundaries between the traditional industry sectors, such as commercial banking and investment banking, broke down and competition became increasingly global in nature. Many forces contributed to this breakdown in interindustry and intercountry barriers, including financial innovation, technology, taxation, and regulation. Then in 2008–2009, the financial services industry experienced the worst financial crisis since the Great Depression. Even into the mid-2010s, the U.S. and world economies have not recovered from this crisis. It is in this context that this book is written.

As the economic and competitive environments change, attention to profit and, more than ever, risk become increasingly important. This book offers a unique analysis of the risks faced by investors and savers interacting through both financial institutions and financial markets, as well as strategies that can be adopted for controlling and better managing these risks. Special emphasis is also put on new areas of operations in financial markets and institutions such as asset securitization, off-balance-sheet activities, and globalization of financial services.

While maintaining a risk measurement and management framework, *Financial Markets and Institutions* provides a broad application of this important perspective. This book recognizes that domestic and foreign financial markets are becoming increasingly integrated and that financial intermediaries are evolving toward a single financial services industry. The analytical rigor is mathematically accessible to all levels of students, undergraduate and graduate, and is balanced by a comprehensive discussion of the unique environment within which financial markets and institutions operate. Important practical tools such as how to issue and trade financial securities and how to analyze financial statements and loan applications will arm students with the skills necessary to understand and manage financial market and institution risks in this dynamic environment. While descriptive concepts, so important to financial management (financial market securities, regulation, industry trends, industry characteristics, etc.) are included in the book, ample analytical techniques are also included as practical tools to help students understand the operation of modern financial markets and institutions.

## INTENDED AUDIENCE

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*Financial Markets and Institutions* is aimed at the first course in financial markets and institutions at both the undergraduate and M.B.A. levels. While topics covered in this book are found in more advanced textbooks on financial markets and institutions, the explanations and illustrations are aimed at those with little or no practical or academic experience beyond the introductory level finance courses. In most chapters, the main relationships are presented by figures, graphs, and simple examples. The more complicated details and technical problems related to in-chapter discussion are provided in appendixes to the chapters (available through McGraw-Hill *Connect Finance* or your course instructor).

## ORGANIZATION

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Since our focus is on return and risk and the sources of that return and risk in domestic and foreign financial markets and institutions, this book relates ways in which a modern financial manager, saver, and investor can expand return with a managed level of risk to achieve the best, or most favorable, return–risk outcome.

**Part 1** provides an introduction to the text and an overview of financial markets and institutions. Chapter 1 defines and introduces the various domestic and foreign financial markets and describes the special functions of FIs. This chapter also takes an analytical look at how financial markets and institutions benefit today’s economy. In Chapter 2, we



provide an in-depth look at interest rates. We first look at factors that determine interest rate levels, as well as their past, present, and expected future movements. We then review the concept of time value of money. Chapter 3 then applies these interest rates to security valuation. In Chapter 4, we describe the Federal Reserve System and how monetary policy implemented by the Federal Reserve affects interest rates and, ultimately, the overall economy.

**Part 2** of the text presents an overview of the various securities markets. We describe each securities market, its participants, the securities traded in each, the trading process, and how changes in interest rates, inflation, and foreign exchange rates impact a financial manager's decisions to hedge risk. These chapters cover the money markets (Chapter 5), bond markets (Chapter 6), mortgage markets (Chapter 7), stock markets (Chapter 8), foreign exchange markets (Chapter 9), and derivative securities markets (Chapter 10).

**Part 3** of the text summarizes the operations of commercial banks. Chapter 11 describes the key characteristics and recent trends in the commercial banking sector. Chapter 12 describes the financial statements of a typical commercial bank and the ratios used to analyze those statements. This chapter also analyzes actual financial statements for representative commercial banks. Chapter 13 provides a comprehensive look at the regulations under which these financial institutions operate and, particularly, the effect of recent changes in regulation.

**Part 4** of the text provides an overview describing the key characteristics and regulatory features of the other major sectors of the U.S. financial services industry. We discuss other lending institutions (savings institutions, credit unions, and finance companies) in Chapter 14, insurance companies in Chapter 15, securities firms and investment banks in Chapter 16, investment companies in Chapter 17, and pension funds in Chapter 18.

**Part 5** concludes the text by examining the risks facing a modern FI and FI managers and the various strategies for managing these risks. In Chapter 19, we preview the risk measurement and management chapters in this section with an overview of the risks facing a modern FI. We divide the chapters on risk measurement and management along two lines: measuring and managing risks on the balance sheet, and managing risks off the balance sheet. In Chapter 20, we begin the on-balance-sheet risk measurement and management section by looking at credit risk on individual loans and bonds and how these risks adversely impact an FI's profits and value. The chapter also discusses the lending process, including loans made to households and small, medium-size, and large corporations. Chapter 21 covers liquidity risk in financial institutions. This chapter includes a detailed analysis of the ways in which FIs can insulate themselves from liquidity risk and the key role deposit insurance and other guarantee schemes play in reducing liquidity risk.

In Chapter 22, we investigate the net interest margin as a source of profitability and risk, with a focus on the effects of interest rate risk and the mismatching of asset and liability maturities on FI risk exposure. At the core of FI risk insulation is the size and adequacy of the owner's capital stake, which is also a focus of this chapter.

The management of risk off the balance sheet is examined in Chapter 23. The chapter highlights various new markets and instruments that have emerged to allow FIs to better manage three important types of risk: interest rate risk, foreign exchange risk, and credit risk. These markets and instruments and their strategic use by FIs include forwards, futures, options, and swaps.

Finally, Chapter 24 explores ways of removing credit risk from the loan portfolio through asset sales and securitization.

## NEW FEATURES

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Key changes to this edition include the following:

- Tables and figures in all chapters have been revised to include the most recently available data.
- New boxes highlighting significant events occurring “After the Crisis” have been added to chapters throughout the book.
- Major changes proposed for the regulation of financial institutions have been included and updated where appropriate.
- How financial markets and institutions continue to recover from the financial crisis is discussed throughout the book. Virtually every chapter includes new material detailing how the financial crisis has affected risk management in financial institutions.
- New end-of-chapter questions and problems have been added to all chapters.
- Several chapters include a discussion of the European debt crisis and how it has affected the risk and return for investors and financial institutions.
- Chapter 1 includes a new section on shadow banks. The chapter also provides an update on the implementation of the Wall Street Reform and Consumer Protection Act, which was enacted as a result of the financial crisis.
- Chapter 4 provides an update on the Federal Reserve’s actions intended to strengthen the U.S. economy, including the various quantitative easing programs instituted by the Fed.
- Chapter 5 includes coverage of the Fed’s new Treasury auction process, as well as a discussion of the LIBOR scandal.
- Chapter 7 provides an update of the status of Fannie Mae and Freddie Mac.
- Chapter 8 includes coverage of the merger of NYSE Euronext and ICE.
- Chapter 13 includes a discussion of Basel III capital adequacy rules. The major changes are described in detail. Many in-chapter examples and end-of-chapter problems have been added to illustrate the many complex changes to capital adequacy calculations.
- Chapter 16 includes a discussion of the losses incurred by J. P. Morgan Chase from derivatives trading by the “London Whale,” as well as various other scandals plaguing investment banks.
- Chapter 17 has been retitled “Investment Companies” to capture the broader nature of the investment fund industry.
- Chapter 21 includes a detailed discussion and examples of the new international liquidity standards enacted as a result of the financial crisis.

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**Anthony Saunders**

**Marcia Millon Cornett**

## Chapter Features

The following special features have been integrated throughout the text to encourage student interaction and to aid students in absorbing and retaining the material.

### CHAPTER-OPENING OUTLINES

These outlines offer students a snapshot view of what they can expect to learn from each chapter's discussion.

O U T L I N E
Interest Rate Fundamentals: Chapter Overview
Loanable Funds Theory
Supply of Loanable Funds
Demand for Loanable Funds
Equilibrium Interest Rate
Factors That Cause the Supply and Demand Curves for Loanable Funds to Shift
Movement of Interest Rates

- LG 4-1** Understand the major functions of the Federal Reserve System.
- LG 4-2** Identify the structure of the Federal Reserve System.
- LG 4-3** Identify the monetary policy tools used by the Federal Reserve.
- LG 4-4** Appreciate how monetary policy changes affect key economic variables.
- LG 4-5** Understand how central banks around the world adjusted their monetary policy during the recent financial crisis.

### LEARNING GOALS

Learning goals (LGs) appear at the beginning of each chapter to provide a quick introduction to the key chapter material. These goals are also integrated with the end-of-chapter questions and problems, which allows instructors to easily emphasize the learning goal(s) as they choose.

### Federal Open Market Committee (FOMC)

The major monetary policy-making body of the Federal Reserve System.

The **Federal Open Market Committee (FOMC)** is the primary body of the Federal Reserve System, consisting of the seven members of the Federal Reserve Board of Governors and five members of the Board of Directors of the Federal Reserve Bank of New York, and the four regional Federal Reserve Bank presidents (on a rotating basis). The chairman of the FOMC is required to meet at least four times a year at regularly scheduled meetings. The main responsibilities of the FOMC include: (1) employment, economic growth, and price stability; (2) monetary policy. The FOMC seeks to achieve its goals through open market operations. **Open market operations**—the purchase and sale of general agency securities—is the primary tool used to achieve the FOMC's targets (although the operation of the discount rate and the reserve requirements also play a role).

### open market operations

Purchases and sales of U.S. government and federal agency securities.

[www.occ.treas.gov](http://www.occ.treas.gov)

[www.fdic.gov](http://www.fdic.gov)

The Federal Reserve Board regulates (1) all bank holding companies and their subsidiaries, (2) state-chartered banks that are members of the Federal Reserve System (state-chartered member banks), and (3) U.S. banks that conduct foreign currency transactions. The Board has regulatory responsibilities with state-chartered banks, including overseeing both the operations of state-chartered banks in the United States and the establishment, expansion, and operation of their foreign subsidiaries, and representing the United States in international financial institutions. The Board approves member bank mergers and acquisitions, and the activities of bank holding companies. The Board also administers the administration of regulations under the Truth in Lending Act, the Equal Credit Opportunity Act, and the Equal Housing Lending Act and the Consumer Protection Act of 1968.

### BOLD KEY TERMS AND A MARGINAL GLOSSARY

The main terms and concepts are emphasized throughout the chapter by bold key terms called out in the text and defined in the margins.

### PERTINENT WEB ADDRESSES

Website addresses are referenced in the margins throughout each chapter, providing additional resources to aid in the learning process.

# Pedagogical Features

## DO YOU UNDERSTAND:

1. What the main functions of Federal Reserve Banks are?
2. What the main responsibilities of the Federal Reserve Board are?
3. How the FOMC implements monetary policy?
4. What the main assets and liabilities of the Federal Reserve are?

backed by Fannie Mae, Freddie Mac. In the program, the FOMC called for the purchase activity began. Thus, the Fed expanded its markets.

**Gold and Foreign Exchange** holds Treasury gold certificates and foreign gold. The Fed also holds securities denominated assets to assist

## "DO YOU UNDERSTAND" BOXES

These boxes allow students to test themselves on the main concepts presented within each major chapter section. Solutions are provided in Connect.

## "IN THE NEWS" BOXES

These boxes demonstrate the application of chapter material to real current events.

## IN-CHAPTER EXAMPLES

These examples provide numerical demonstrations of the analytical material described in many chapters.

### EXAMPLE 2-1 Calculations of Real Risk-Free Rates

The one-year Treasury bill rate in 2007 averaged 4.53 percent and inflation by the consumer price index) for the year was 4.10 percent. If investors expect the same inflation rate as that actually realized (i.e., 4.10 percent), then according to the real risk-free rate for 2007 was:

$$4.53\% - 4.10\% = 0.43\%$$

The one-year T-bill rate in 2012 was 0.17 percent, while the CPI change was 1.53 percent, then the real risk-free rate for 2012 was:

## IN THE NEWS

### Banks Flock to Discount Window

As a result, the federal funds rate regularly fell well below the target rate of 5.25 percent. The Fed also

officials are expected to cut the federal funds rate for the first time in four years. Markets widely expect at least a quarter point cut to 5 percent, though some analysts say a half point cut is possible. The smaller cut might have less effect on financial markets because it would simply bring the new target down to where interest rates had been

## AFTER THE CRISIS

### Traders Manipulated Key Rate

Several banks are being investigated by Canada's Competition Bureau (CCB) after the discovery of a plan designed to manipulate interest rates internationally. According to a court filing in Ottawa, one of several banks currently under investigation stated

pay to borrow from banks for different periods of time. Thomson Reuters then discards the top bottom four rate quotes, and the eight remaining quotes are used to average the LIBOR. According to the court documents, a group of traders

## "AFTER THE CRISIS" BOXES

These boxes use articles pertaining to events caused or affected by the 2008–2009 financial crisis to elaborate on chapter material.

## INTERNATIONAL COVERAGE

An international icon appears in the margin to easily communicate where international material is being introduced.

## INTERNATIONAL MONETARY POLICIES AND STRATEGIES




Central banks guide the monetary policy in various countries. The European Central Bank (ECB) is the central bank for the Eurozone. The Bank of England is the central bank of the United Kingdom. Other independent central banks whose decisions do not affect other countries include the Reserve Bank of India and the Bank of Japan. In contrast, the People's Bank of China, the Reserve Bank of Brazil, and the Central Bank of Russia are less independent in that the governments of these countries influence the operations of these central banks. Independent central banks are free from pressure from politicians.

## End-of-Chapter Features

### EXCEL PROBLEMS

Excel problems are featured in selected chapters and are denoted by an icon. Spreadsheet templates are available in Connect.

In 8 years	54,143	$54,143 \times 0.05 \times 28 = \$78,800$
In 10 years	55,231	$55,231 \times 0.05 \times 30 = \$82,847$

5.  **Using a Spreadsheet to Calculate Pension Benefit Payments:** Your employer uses a final pay formula to determine retirement payments to its employees. You have 20 years of service at the company and are considering retirement some time in the next 10 years. Your employer uses a final pay formula by which you receive an annual benefit payment of 4 percent of your average salary over the last three years of service times the number of years employed. Calculate the annual benefit if you retire now, in 2 years, 5 years, 8 years, and 10 years using the estimated annual salary during the last three years of service listed below. (LG 18-2)

### QUESTIONS

1. Who are the suppliers of loanable funds? (LG 2-1)
2. Who are the demanders of loanable funds? (LG 2-2)
3. What factors cause the supply of funds curve to shift? (LG 2-4)
4. What factors cause the demand for funds curve to shift? (LG 2-4)
5. What are six factors that determine the fair interest rate on a security? (LG 2-6)
6. What should happen to a security's fair interest rate as the security's liquidity risk increases? (LG 2-6)
7. Discuss and compare the three explanations for the shape of the yield curve. (LG 2-7)

### PROBLEMS

1. A particular security's equilibrium rate of return is 8 percent. For all securities, the inflation risk premium is 1.75 percent and the real risk-free rate is 3.5 percent. The security's liquidity risk premium is 0.25 percent and maturity risk premium is 0.85 percent. The security has no special covenants.

### END-OF-CHAPTER QUESTIONS AND PROBLEMS

The questions and problems in the end-of-chapter material appear in separate sections, allowing instructors to choose whether they prefer students to engage in quantitative or qualitative analysis of the material. Selected problems also appear in McGraw-Hill's *Connect Finance* online assessment product.

### SEARCH THE SITE

Featured among the end-of-chapter material in most chapters, these Internet exercises weave the web, real data, and practical applications with concepts found in the book.

**Search the Site**

Go to the United States Treasury website and find the latest information available on the size of the U.S. national debt.

Go to the U.S. Treasury's Treasury Direct website at [www.treasurydirect.gov](http://www.treasurydirect.gov). Click on "Debt to the Public" and find the size of the national debt as of June 7, 2013. The size of the national debt was \$16.74 trillion.

**Questions**

1. What is the most recent dollar value of the U.S. national debt?
2. Calculate the percentage change in the U.S. national debt since June 7, 2013.



## FOR THE INSTRUCTOR

Instructors will have access to teaching support such as electronic files of the ancillary materials, described below, available within Connect.

- **Instructor's Manual** Prepared by Tim Manuel, University of Montana, the Instructor's Manual includes detailed chapter contents and outline, additional examples for use in the classroom, and extensive teaching notes.
- **Test Bank** Prepared by Arthur Guarino, Rutgers University, the Test Bank includes nearly 1,000 additional problems to be used for test material.
- **EZ Test Online** A comprehensive bank of test questions is provided within a computerized test bank powered by McGraw-Hill's flexible electronic testing program EZ Test Online ([www.eztestonline.com](http://www.eztestonline.com)). EZ Test Online allows you to create tests or quizzes in this easy to use program.

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- **Solutions Manual** Prepared by coauthor Marcia Millon Cornett, this manual provides worked out solutions to the end-of-chapter questions. Author involvement ensures consistency between the approaches presented in the text and those in the manual.
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# Introduction

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# 1

### OUTLINE

## Learning Goals

- LG 1-1** Differentiate between primary and secondary markets.
- LG 1-2** Differentiate between money and capital markets.
- LG 1-3** Understand what foreign exchange markets are.
- LG 1-4** Understand what derivative security markets are.
- LG 1-5** Distinguish between the different types of financial institutions.
- LG 1-6** Know the services financial institutions perform.
- LG 1-7** Know the risks financial institutions face.
- LG 1-8** Appreciate why financial institutions are regulated.
- LG 1-9** Recognize that financial markets are becoming increasingly global.

## WHY STUDY FINANCIAL MARKETS AND INSTITUTIONS? CHAPTER OVERVIEW

In the 1990s, financial markets in the United States boomed. As seen in Figure 1–1, 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) fell back to below 13,000 within a month of hitting the all-time high. By 2008, problems in the subprime mortgage market escalated to a full blown financial crisis and the worst recession in the United States since the Great Depression. The Dow Jones Industrial Average (DJIA) fell to 6,547 in March 2009 before recovering, along with the economy, to over 11,000 in April 2010. However, it took

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

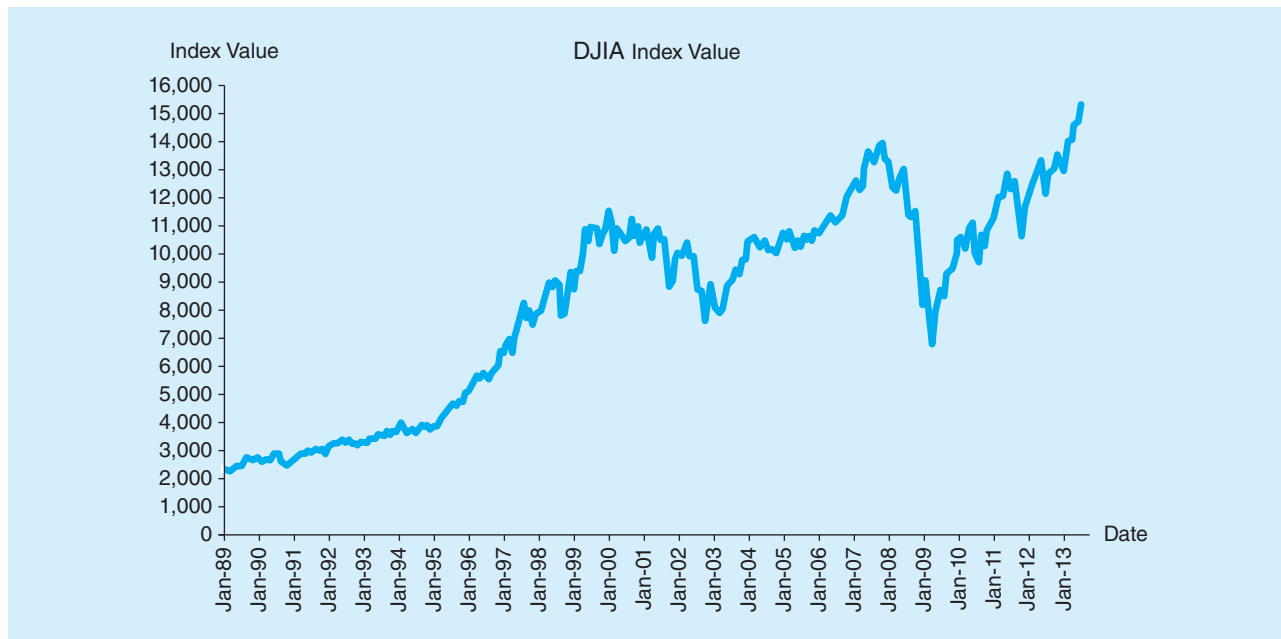
Regulation of Financial Institutions

Trends in the United States

Globalization of Financial Markets and Institutions

Appendix 1A: The Financial Crisis: The Failure of Financial Institutions' Specialness (available through Connect or your course instructor)



**Figure 1-1** The Dow Jones Industrial Average, 1989–2013

until March 5, 2013, for the DJIA to surpass its pre-crisis high of 14,164.53, closing at 14,253.77 for the day.

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, as U.S. markets surged in value, 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. During the financial crisis of 2008–2009, however, market swings seen in the United States quickly spread worldwide. Stock markets saw huge swings in value as investors tried to sort out who might survive and who would not (and markets from Russia to Europe were forced to suspend trading as stock prices plunged). Finally, as U.S. markets recovered in 2010–2013 and, as mentioned earlier, surpassed their pre-crisis highs, European stock markets struggled as Greece battled with a severe debt crisis that eventually spread to other European nations with fiscal problems, such as Portugal, Spain, and Italy.

Meanwhile, the financial institutions (FIs) 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.

The last 25 years, however, have seen a reversal of these trends. In the 1990s and 2000s, regulatory barriers, technology, and financial innovation changes were such that a full set of financial services could again be offered by a single financial service firm under the umbrella of a financial services holding company. For example, J. P. Morgan Chase operates a commercial bank (J. P. Morgan Chase Bank), an investment bank (J. P. Morgan Securities, which also sells mutual funds), and an insurance company (J. P. Morgan Insurance Agency). Not only did the boundaries between traditional industry sectors change, but competition became global in nature as well. For example, J. P. Morgan Chase is the world's ninth largest bank holding company, operating in 60 countries.

The financial crisis produced another reshaping of all FI sectors and the end of many major FIs (e.g., Bear Stearns and Lehman Brothers), with the two most prominent investment banks in the world, Goldman Sachs and Morgan Stanley, converting to bank holding company status. Indeed, as of 2010, all the major U.S. investment banks have either failed, been acquired by a commercial bank, or become bank holding companies. Further, legislation enacted as a result of the financial crisis represents an attempt to again separate FI activities. For example, the “Volcker rule” provision of the Wall Street Reform and Consumer Protection Act prohibits bank holding companies from engaging in proprietary trading and limits their investments in hedge funds, private equity, and related vehicles. Despite these most recent changes, many FIs operate in more than one FI sector.

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, this 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. Further, as the United States and the world continue to recover from the collapse of the financial markets, this book highlights and discusses the impact of this crisis on the various financial markets and the financial institutions that operate in them.

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. As part of this discussion, we briefly examine how changes in the way FIs deliver services played a major part in the events leading up to the severe financial crisis of the late 2000s. A more detailed discussion of the causes of, the major events during, and the regulatory and industry changes resulting from the financial crisis is provided in Appendix 1A to the chapter (available through Connect or your course instructor).

## OVERVIEW OF FINANCIAL MARKETS

### financial markets

*The arenas through which funds flow.*

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

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

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

## LG 1-1

**primary markets**

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

**Primary Markets versus Secondary Markets**

**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. Table 1–2 lists data on primary market sales of securities from 2000 through 2013. Note the impact the financial crisis had on primary market sales by firms. New issues fell to \$1,068.0 billion in 2008, during the worst of the crisis, from \$2,389.1 billion in 2007, pre-crisis. As of 2012, primary market sales had still not recovered as only \$1,401.0 billion new securities were issued for the year.

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.<sup>1</sup> Most primary market transactions in the United States are arranged through financial institutions called investment banks—for example, Morgan Stanley or Bank of America Merrill Lynch—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 1–2 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.

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 April 12, 2013, HD Supply Holdings, Inc. announced a \$1 billion IPO of its common stock. The company's stock was underwritten by several investment banks, including Bank of America Merrill Lynch and J. P. Morgan. Primary market securities also include the issue of additional equity or debt instruments of an already publicly traded firm. For example, on March 27, 2013, Dollar General announced the sale of an additional 30 million shares of common stock underwritten by investment banks such as Citigroup and Goldman Sachs.

**initial public offerings (IPOs)**

*The first public issue of financial instruments by a firm.*

**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 May 28, 2013, 15.2 million shares of ExxonMobil were traded in the secondary stock market. Buyers of secondary market securities are economic agents (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.

**secondary market**

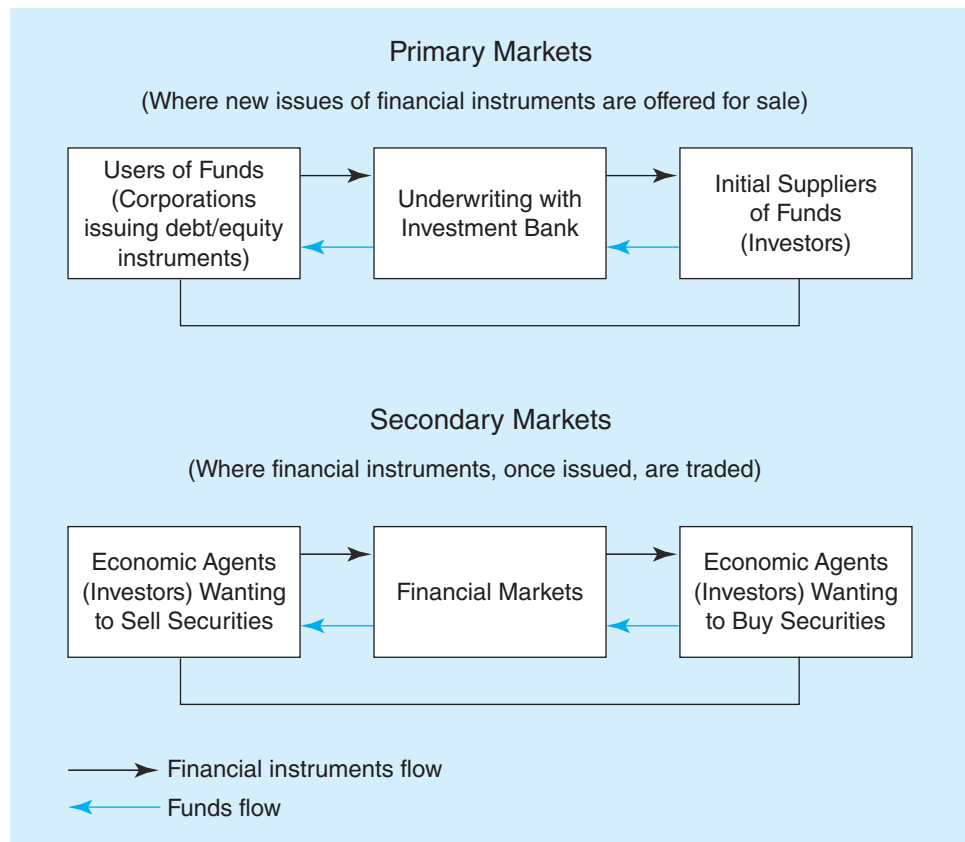
*A market that trades financial instruments once they are issued.*

**TABLE 1–2 Primary Market Sales of Securities (in billions of dollars)**

Security Type	2000	2005	2007	2008	2010	2012	2013*
All issues	\$1,256.7	\$2,439.0	\$2,389.1	\$1,068.0	\$1,024.7	\$1,401.0	\$394.9
Bonds	944.8	2,323.7	2,220.3	861.2	893.7	1,242.5	347.2
Stocks	311.9	115.3	168.8	206.8	131.0	129.5	47.7
Private placements	196.5	24.6	20.1	16.2	22.2	21.4	n.a.
IPOs	97.0	36.7	46.3	26.4	37.0	40.9	8.5

\*Through first quarter.

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

**Figure 1-2** Primary and Secondary Market Transfer of Funds Time Line

These markets therefore save economic agents the search and other costs of seeking buyers or sellers on their own. Figure 1–2 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 Charles 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) and the National Association of Securities Dealers Automated Quotation (NASDAQ) system are two well-known examples of secondary markets for trading stocks. 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 or indexes of 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 1980s through 2000s. As major markets, therefore, the derivative securities markets are among the newest of the financial security markets. However, the financial crisis clearly illustrates the magnitude of the risk that derivatives can impose on a FI and even the world’s financial system. Indeed, at the very heart of the financial crisis were losses associated with off-balance-sheet derivative securities created and held by FIs. Losses resulted in the failure, acquisition, or bailout of some of the largest FIs (e.g., investment banks Lehman Brothers, Bears Stearns, and Merrill Lynch; savings institution Washington Mutual; insurance company AIG; commercial bank Citigroup; finance company Countrywide Financial; and government sponsored agencies Fannie Mae and Freddie Mac) and a near meltdown of the world’s financial and economic systems.

### derivative security

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

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. For example, on October 28, 1997, NYSE trading volume exceeded 1 billion shares for the first time ever and trading of this magnitude and higher has occurred several times since. Indeed, on October 10, 2008 (at the height of the financial crisis), trading volume topped 7.3 billion shares, the highest level to date. In contrast, during the mid-1980s, a NYSE trading day involving 250 million shares was considered to be heavy.

Secondary markets offer buyers and sellers **liquidity**—the ability to turn an asset into cash quickly at its fair market value—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.

### liquidity

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

### LG 1-2

### money markets

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

### 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 1–3). 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 their prices in the secondary markets in which they trade are usually quite small (see Chapters 3 and 22 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**.

### over-the-counter (OTC) markets

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

**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 1–3 lists and defines the major money market securities. Figure 1–4 shows outstanding amounts of money market instruments in the United States in 1990, 2000, and 2013. Notice that in 2013 Treasury bills, followed by

**Figure 1–3 Money versus Capital Market Maturities**

	Money Market Securities	Capital Market Securities		Maturity
		Notes and Bonds	Stocks (Equities)	
0	1 year to maturity	30 years to maturity	No specified maturity	

**TABLE 1-3 Money and Capital Market Instruments**

**MONEY 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**—agreements 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 deposits that specify an interest rate and maturity date and are negotiable (i.e., can be sold by the holder to another party).

**Banker's acceptances**—time drafts payable to a seller of goods, with payment guaranteed by a bank.

**CAPITAL MARKET INSTRUMENTS**

**Corporate stock**—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.

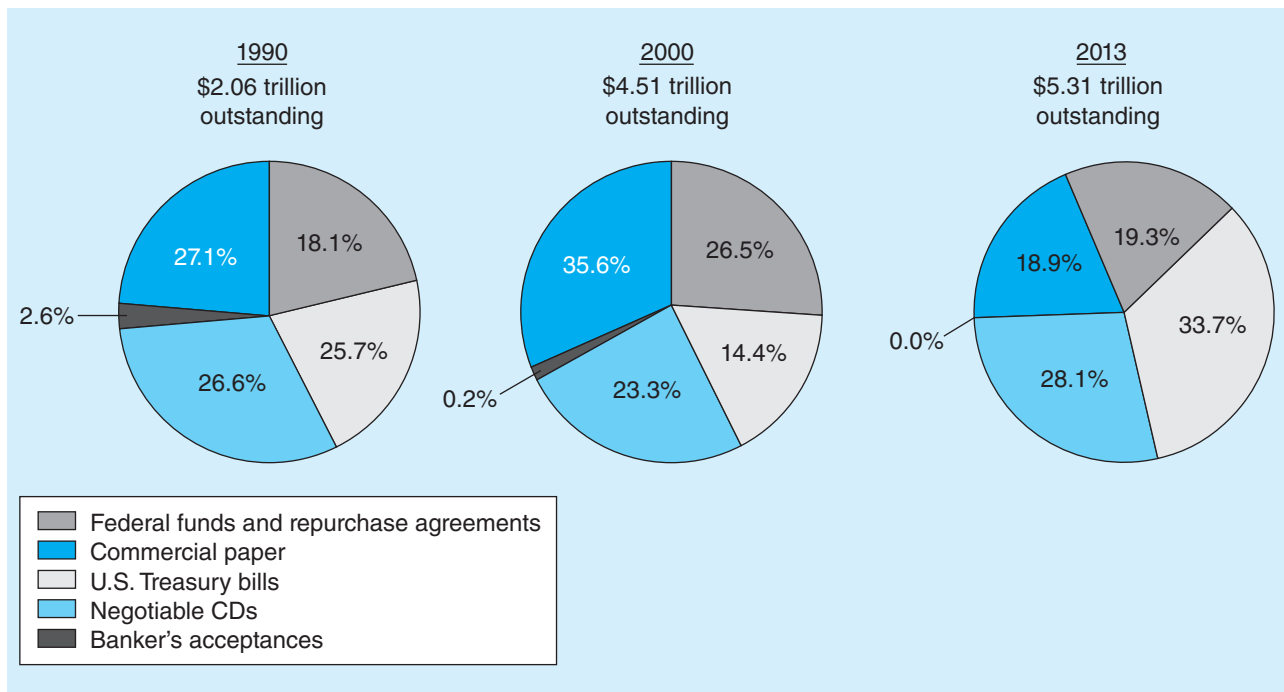
**Treasury bonds**—long-term bonds issued by the U.S. government.

**State and local government bonds**—long-term bonds issued by state and local governments.

**U.S. government agency bonds**—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 1-4 Money Market Instruments Outstanding**



Source: Federal Reserve Board, "Flow of Fund Accounts," *Statistical Releases*, Washington, DC, various issues. [www.frb.org](http://www.frb.org)



negotiable CDs, federal funds and repurchase agreements, and commercial paper, had the largest amounts outstanding. Money market instruments and the operation of the money markets are described and discussed in detail in Chapter 5.

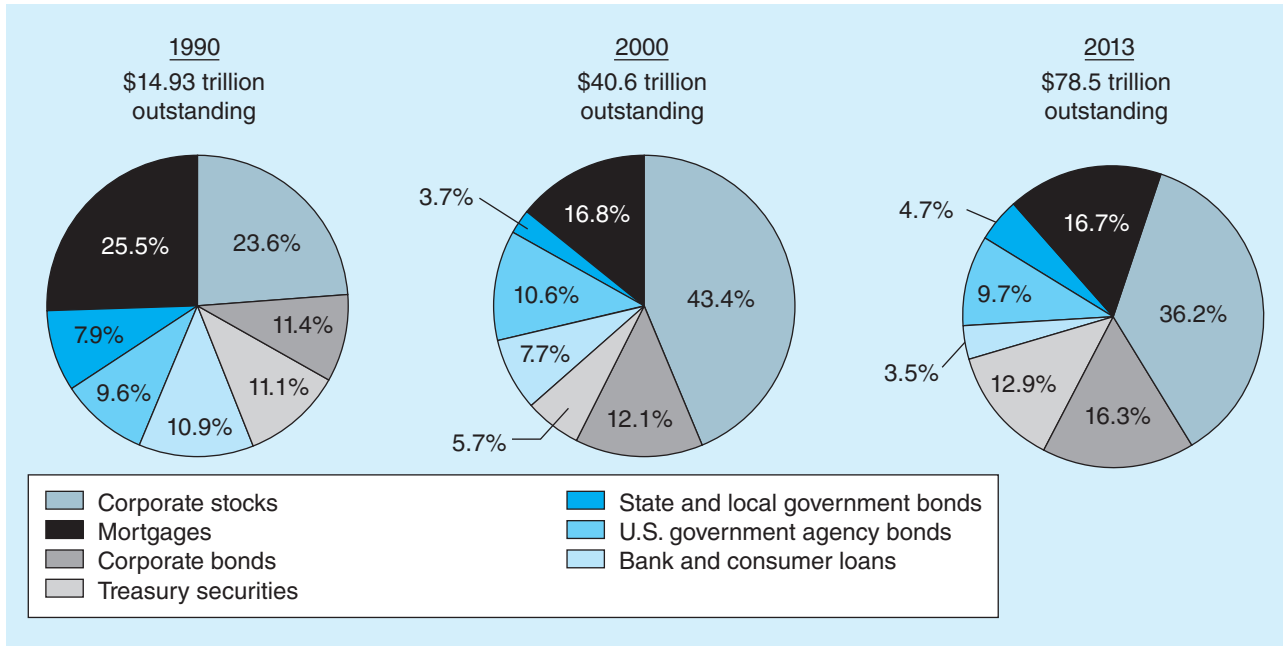
**capital markets**

*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 1–3). 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 they trade than do money market instruments. 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).

**Capital Market Instruments.** Table 1–3 lists and defines the major capital market securities. Figure 1–5 shows their outstanding amounts by dollar market value. Notice that in both 2000 and 2013, corporate stocks or equities represent the largest capital market instrument, followed by mortgages and corporate bonds. The relative size of the market value of capital market instruments outstanding depends on two factors: the number of securities issued and their market prices.<sup>2</sup> One reason for the sharp increase in the value of equities outstanding is the bull market in stock prices in the 1990s. Stock values fell in the early 2000s as the U.S. economy experienced a downturn—partly because of 9/11 and partly because interest rates began to rise—and stock prices fell. Stock prices in most sectors subsequently recovered and, by 2007, even surpassed their 1999 levels. Stock prices fell precipitously during the financial crisis of 2008–2009. As of mid-March 2009, the Dow Jones Industrial Average (DJIA) had fallen 53.8 percent in value in less than 1½ years, larger than the decline during the market crash of 1929 when it fell 49 percent. However, stock prices recovered, along with the economy, in the last half of 2009, rising 71.1 percent

**Figure 1-5 Capital Market Instruments Outstanding**



Source: Federal Reserve Board, "Flow of Fund Accounts," *Statistical Releases*, Washington, DC, various issues. [www.federalreserve.gov](http://www.federalreserve.gov)

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

between March 2009 and April 2010. Capital market instruments and their operations are discussed in detail in Chapters 6, 7, and 8.

## LG 1-3

## 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, in 2012 a strengthening dollar reduced profits for internationally active firms. IBM experienced a drop in its 2012 revenue of 3 percent due to foreign exchange trends. Coca-Cola, which gets the majority of its sales from outside the United States, saw 2012 revenues decrease by approximately 5 percent as the U.S. dollar strengthened relative to foreign currencies.

## 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 derivative security markets are?

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 for and supply of a 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.

## LG 1-4

## 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, swap contract, or mortgage-backed security) 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 1-4 shows the dollar (or notional) value of derivatives held by commercial banks from 1992 through 2013.

As major markets, the derivative security markets are the newest of the financial security markets. Derivative securities, however, are also potentially the riskiest of the financial securities. Indeed, at the center of the recent financial crisis were losses associated with off-balance-sheet mortgage-backed (derivative) securities created and held by FIs. Signs of significant problems in the U.S. economy first arose in late 2006 and the first half of 2007 when home prices plummeted and defaults by subprime mortgage borrowers began to affect the mortgage lending industry as a whole, as well as other parts of the economy. Mortgage delinquencies, particularly on subprime mortgages, surged in the last quarter