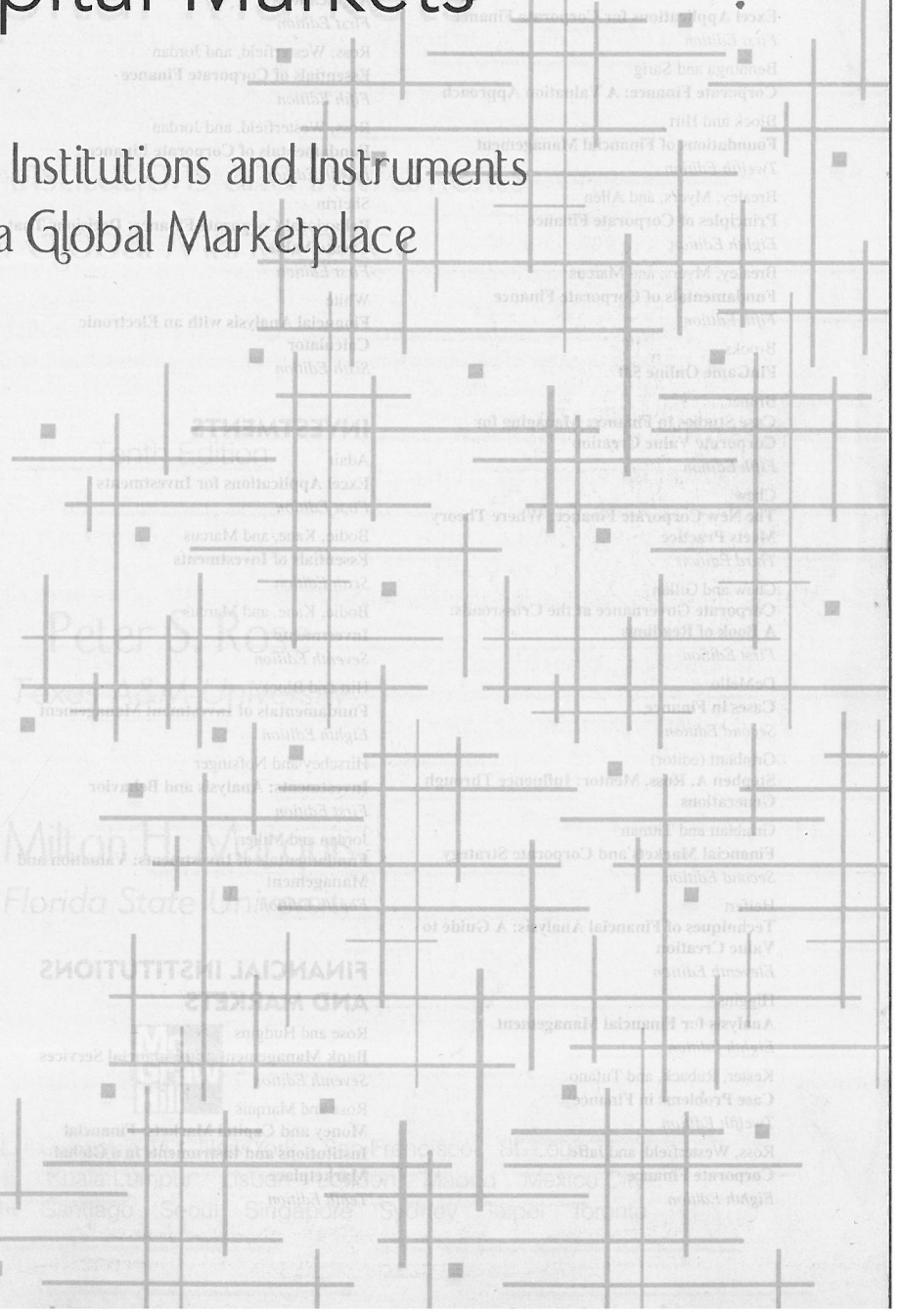
Money and Capital Markets

Financial Institutions and Instruments in a Global Marketplace



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Stephen A. Ross
Franco Modigliani Professor of Finance and Economics
Sloan School of Management
Massachusetts Institute of Technology
Consulting Editor

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Money and Capital Markets

Financial Institutions and Instruments in a Global Marketplace

Tenth Edition

Peter S. Rose
Texas A&M University

Milton H. Marquis
Florida State University

Mc Graw Hill

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MONEY AND CAPITAL MARKETS: FINANCIAL INSTITUTIONS AND INSTRUMENTS IN A GLOBAL MARKETPLACE
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About the Authors

Peter S. Rose

In his professional career Peter S. Rose has served as a professor of finance, as a financial economist with the Federal Reserve System, as an author, and as an advisor for a wide variety of different financial institutions. He has published more than 200 articles in journals and proceedings in the United States, Canada, Great Britain, France, Brazil, India, and Mexico. He has served as author, co-author, or editor for numerous books, including *Money and Capital Markets* (McGraw-Hill/Irwin) now in its tenth edition, *Banking and Financial Services* (McGraw-Hill/Irwin) now in its seventh edition, *Financial Institutions* (Richard D. Irwin, Inc.) which passed through five editions, *Banking Across State Lines* (Quorum Books), *The Changing Structure of American Banking* (Columbia University Press), and *Japanese Banking and Investment in the United States* (Quorum Books). Some of these texts have been translated into Chinese, Russian, and other languages and used in classrooms around the globe.

Milton H. Marquis

Milton H. Marquis received a Bachelor of Science degree from Purdue University in Mechanical Engineering in 1972 and subsequently worked as a project engineer for American Electric Power. He received a Master of Arts degree in Economics in 1982 and a Ph.D. in Economics in 1985 from Indiana University. He has taught economics and finance at St. Olaf College in Northfield, MN and at Florida State University, where he has been a member of the faculty since 1985. He worked as an Economist in the Monetary Affairs Division of the Federal Reserve Board from 1993 to 1995, and as a Senior Economist in the Research Department of the Federal Reserve Bank of San Francisco from 2000 to 2003. He was also a Visiting Scholar at the Bank of Japan in 1997. Mr. Marquis has authored a textbook in 1996 entitled *Monetary Theory and Policy,* and has published over thirty articles on monetary theory, monetary policy, and macroeconomic theory in academic journals, including the *Journal of Monetary Economics, Economica,* the *Review of Economics and Statistics,* and the *Economic Journal.*

Preface to the Tenth Edition

The twenty-first century is still young as its opening decade moves toward closure. Yet we can begin to see the broad outlines of this new millennium and have at least a sense of what the world may look like as this new era gradually unfolds. Sadly, the new millennium has not yet ushered in an era of peace, mutual respect, and rising living standards for all as many of us had hoped.

The Cold War between superpowers has been replaced by a war on terror, spearheaded by the tragedy of 9/11 and punctuated by ongoing wars in Iraq, Afghanistan, and in Africa and other portions of the Middle East. Scores are hurt or killed every day and the struggle threatens to spread into other nations. The awesome threat posed by the great nuclear face-off between the former Soviet Union and the United States has been largely supplanted by nuclear proliferation in which more nations, large and small, are either armed with destructive nuclear weapons or seem to be working toward that goal.

Somehow, the world of friendly economic competition between nations that we thought the new millennium might usher in appears instead to be pockmarked by disease, drought, military confrontation, and abject poverty for millions. Many of us had hoped that the rapidly evolving technology of communications—satellites, personal computers, cell phones, and the like—would bring us all closer together. Instead, the fundamental values we cherish—personal freedom, liberty, respect for law and the rights of others—seem to be under assault in many parts of the globe at levels not seen in decades.

Now we find ourselves wondering if our most important institutions, those that have served us well for generations, can continue to function well and provide us the benefits they have brought us before. One of the most important of these institutions is the *financial system*—the vast complex of banks, security dealers, mutual funds, insurance and finance companies, and thousands of other financial-service providers and the dynamic money and capital markets that surround them. The great financial marketplace today encircles the globe and may look solid and secure. But, it too faces great uncertainty and the pressures of ongoing turmoil. As we learned from the tragedy of 9/11, the global financial system like the rest of the economy is vulnerable in a tumultuous world, and we must find ways to ensure its soundness and guarantee that the financial services it provides are available as demanded every single day.

No other institution on our planet provides us with as many critically important services as the global financial system. Every day of our existence the great system of money and capital markets:

- *Supplies us with credit* when we require borrowed funds to supplement our incomes and enhance our standard of living.
- *Encourages our saving,* enabling us to set extra funds aside in popular savings instruments (such as bank deposits and mutual funds) and add to those funds in order to meet future financial needs (such as education and retirement).
- *Transforms our savings into investments* that include building new plants and equipment, construction of new office buildings and shopping centers, stocking the shelves of businesses with new goods to sell, and, ultimately, providing new jobs and a better standard of living.

- *Provides a channel for payments* through which flow trillions of currency units (dollars, euros, pounds, yen, yuan, rupees, etc.) every day in order to make payments for purchases of goods and services possible, so that spendable funds move rapidly and safely between buyers and sellers.
- *Creates liquidity in the economy* so that each of us can convert our assets (stocks, bonds, etc.) into spendable cash to help satisfy our immediate spending needs.
- *Supplies risk protection for individuals and institutions* in the guise of insurance policies, derivative contracts, and other financial services aimed at protecting our well-being and shielding that which we value highly from loss.
- *Provides a channel for public policy to promote growth and prosperity* as governments and central banks work through the financial system to regulate the condition of their economies and fulfill important economic objectives, such as maximum employment, price stability with low or nonexistent inflation, and sustainable economic growth.

If you scan the foregoing list of vital tasks performed by modern financial systems, you will get at least a feel for how awesome the system of money and capital markets and financial institutions must be. How truly fortunate we are to be living in an era where this one sector of our economy rises daily to meet so many critical needs for us, personally and professionally—credit, savings, investments, payments, liquidity, risk protection, and public policy aimed at providing jobs, protecting us from the ravages of inflation, and promoting a growing economy.

Indeed, how utterly different our circumstances would be if the system of financial markets and institutions were seriously disrupted and suddenly did not function as efficiently as we have experienced in the past. A dramatic example of the extreme consequences that could occur if our financial system is significantly damaged occurred on September 11, 2001, when New York's World Trade Center was destroyed as a consequence of terrorist attacks. It was terrible enough that more than 3,000 people lost their lives from terrorist violence in New York City and Washington, D.C., but adding to the chaos and distress were the number of financially oriented businesses—principally security dealers, credit-card and check clearing systems, and banks—that were destroyed or damaged. Thousands of customers suddenly became concerned about whether their savings were adequately protected and about the credit and cash balances they required to carry out daily transactions. Major institutions like the New York Stock Exchange briefly shut down their operations. Soon the pubic began to curtail its spending and jobs disappeared as the economy slipped into a recession.

Following these terrible events, our system of money and capital markets recovered rapidly (for most individuals and institutions, in a matter of hours or days). Records were reconstructed, vital operations were transferred to new locations, and additional cash quickly flowed through the banking system with the aid of the Federal Reserve System. The money and capital markets and the financial institutions within them recovered with amazing speed, beyond anything we imagined possible, restoring the flow of critical financial services to thousands of financial-service customers.

And, we were supplied with an important lesson we dare not forget. Our financial system today is so deeply integrated with our economy and with the rest of the world that when it stumbles, for whatever reason, it affects the whole planet—individuals, families, businesses, governments, and institutions on every continent.

Indeed, that is one of the reasons the authors wrote this book. We need to understand and appreciate what the money and capital markets and the financial system that

surrounds them do for us, both personally and professionally. We must learn how vital it is to preserve and protect our global system of financial markets and institutions and how we can contribute to the task of improving the functioning of that system for the public's benefit. In short, through the pages of this book there is an adventure that lies in front of us. We are asked to take the challenge and learn as much as possible about our vital money and capital markets and the great financial system that embraces them.

Key Features of the Tenth Edition of Money and Capital Markets

Money and Capital Markets remains one of the most comprehensive texts covering the entire financial system, including all major types of financial institutions and instruments.

As in previous editions, the new tenth edition is extensively updated from front to back, including new financial data and new laws and regulations reshaping the financial system as well as new financial scandals and identity theft affecting millions of consumers.

Numerous new end-of-chapter problems, including the addition of EXCEL-based problems in many chapters.

Expanded treatment of URLs with key Web addresses placed in the chapter margins near the locations where related topics are presented.

Numerous new boxes, including discussions of ethical issues (such as backdating stock options), behavioral finance, and market microstructure.

Expanded discussion of the rapid rise of China, India, and the European Union as global forces in the financial system and the economy.

Inclusion of major new changes in financial-sector laws and regulations, including the Pension Protection Act of 2006, the FDIC Reform and Deficit Reduction Act, the Financial Services Regulatory Relief Act of 2006, the USA Patriot Act, and the Bankruptcy Abuse Prevention and Consumer Protection Act.

New reference materials listed at each chapter's end to provide readers with in-depth, updated material for further study and allow them to pursue deeper research on semester and term projects.

New presentation on the history of financial panics around the globe.

Expanded discussion of new financial instruments and institutions, such as new housing futures and option contracts, hedge funds, and subprime loans that have recently led to serious credit quality problems.

Expanded discussion of advances in electronic technology, especially in the transfer of financial information via computer, Web sites, direct deposits, cell phones, radio frequency transactions, and so on.

Different Approaches to Teaching about the Financial System Using This Book

Money and Capital Markets: Financial Institutions and Instruments in a Global Marketplace, now in its tenth edition, discusses all of the major financial marketplaces, instruments, and institutions that belong to our financial system. This book is arranged to be flexible in order to accommodate the needs of different instructors, students, and other readers who often approach the financial marketplace from unique perspectives. In short, this book offers multiple ways to tackle this important subject and master our understanding of the global financial system.

Readers may choose to orient their course of study in their own way, creating quite different approaches to a study of the financial marketplace each term or semester. To illustrate:

Teaching a Financial Institutions' Course with This Book

Some teachers and other readers may choose to use this text as the basis for a course on *financial institutions,* focusing principally on the leading financial-service providers in our financial system—commercial and investment banks, mutual and pension funds, life and property-casualty insurers, finance companies, and security brokers and dealers, to name a few key examples. Parts of the new edition useful for such a course include:

- Part 1, including Chapters 1 through 4 on the current and emerging financial system, including a discussion of the critical roles played by financial intermediation and financial assets in the money and capital markets.
- Part 3, including Chapters 10 through 13, dealing with financial firms operating in the money market and the great central banks at work to regulate the economy around the globe.
- Part 4, including Chapters 14 through 17 that examine significant features of all major financial institutions, accompanied by a detailed discussion of the regulations that surround the financial institutions' sector.
- Part 5, including Chapters 18 through 20 that focus on businesses and governments operating in the money and capital markets.
- Part 6, including Chapters 21 and 22 on the most important consumer lending institutions in the financial sector.
- Part 7, especially Chapter 24 that explores recent trends in international banking.

Teaching a Security Markets Course with This Book

Other instructors and readers may prefer a course oriented mainly around the leading *security markets and the trading of key financial instruments,* such as bonds, stocks, and shares in mutual funds. Key sections of the book useful to support such a course include:

- Part 1, especially Chapters 2–4 on the creation of financial assets, the key sources of financial information, and trends unfolding in the security markets.
- Part 2, including Chapters 5 through 9 on interest rate determination and asset pricing for both short- and long-term security markets.
- Part 3, especially Chapters 10 through 13 on trading Treasury bills and other money market instruments and the role of the Federal Reserve and other central banks and security dealer firms in influencing security market conditions.
- Part 4, particularly Chapter 16 dealing with mutual funds and investment bankers.
- Part 5, including Chapters 18–20 on the issuance and trading of corporate and government securities.
- Part 6, especially Chapter 22 focusing on the operations of the largest of all domestic security markets—the residential mortgage market.
- Part 7, particularly Chapter 23 that focuses on the biggest of all global financial marketplaces—the currency or foreign-exchange market.

Teaching a Public Policy or Regulations-Oriented Course with This Book

For instructors and other readers interested in *public policy issues* and *government regulation of the financial sector,* key sections of the text for such a public policy–oriented course would include:

- Part 1, especially Chapters 3 and 4 on laws shaping the financial system and unfolding trends in government regulation.
- Part 2, particularly Chapters 5 and 7 dealing with government policies that mold the structure of interest rates and Chapter 8 which, among other topics, focuses on security tax law.
- Part 3, including Chapters 10–13 on central banking policy and government rules for conducting trading in the money market.
- Part 4, especially Chapter 17 that provides a detailed explanation of the philosophy and scope of government regulations affecting all major financial institutions.
- Part 6, particularly Chapter 21 on privacy and financial disclosure issues in the consumer finance sector and Chapter 22 that looks at the massive structure of regulation surrounding the trading of residential mortgages.
- Part 7, including Chapter 23 that discusses government policy applying to foreign exchange rates, and Chapter 24 that explores the rules governing international banks and other multinational financial-service providers.

Teaching an Internationally Focused Course Using This Book

For teachers and others looking for a global view of the financial marketplace *an internationally focused or global finance course* could be put together using the following text parts and chapters:

- Part 1, especially Chapters 3 and 4 on domestic and global information sources and unfolding trends in financial markets across continents.
- Part 2, particularly Chapters 5, 7, and 9 where the determinants of market interest rates, the structure of yield curves, inflation, and futures and options exchanges all over the globe are discussed.
- Part 3, including Chapters 10–13 focusing on the money market with its substantial international component as well as the goals and operations of leading central banks that span Asia, Europe, and the United States.
- Part 4, especially Chapters 14 and 17 on banking, security firms, insurance companies, pension funds, and finance companies and the regulation of financial firms around the globe.
- Part 7, including Chapters 23 and 24 on international transactions, foreign currency prices, and international banking services.

Teaching a Financial Market Theory Course Using This Book

For those instructors and other users of this book seeking basic *theoretical concepts and research findings* about the financial marketplace the following sections would appear to be on target for such a theory-based course:

- Part 1, especially Chapters 1–3 that explore such concepts as saving, investment, financial asset creation and destruction, intermediation and disintermediation, the efficient markets hypothesis, and the debate over asymmetric market influences within the financial system.
- Part 2, especially Chapters 5, 7, 8, and 9 on conceptual issues surrounding the determinants of interest rates, asset prices, and the risk structure of rates and prices.
- Part 3, especially Chapters 10, 12, and 13 dealing with the theory of money market trading and monetary policy.
- Part 5, especially Chapters 18 and 20 on the theoretical impact of government borrowing on the economy and financial system and on the controversial issue of stock market anomalies.
- Part 7, particularly Chapter 23 that unfolds the theory of exchange rate determination and international currency standards.

Clearly this book offers several different approaches to a study of the money and capital markets. Instructors and other readers can pick and choose the particular direction they wish to take in maximizing the opportunity to learn about the powerful forces that are reshaping the structure and functioning of modern financial systems.

Learning Tools in the New Tenth Edition

Money and Capital Markets: Financial Institutions and Instruments in a Global Marketplace in this new edition contains several important learning tools for its readers. Specifically:

- Each chapter opens with a list of its *learning objectives*—a few brief sentences that let the reader know what he or she is about to explore and understand in the chapter that follows.
- Placed alongside the learning objectives on the opening page of each chapter is a box labeled *What's in This Chapter? Key Topics Outline,* alerting the reader about the most important subjects he or she will encounter in the chapter.
- Following the initial listing of learning objectives and key topics the text material in each chapter is divided up into *numbered sections,* each accompanied by a descriptive title of the topics discussed therein. This feature permits instructors to easily designate which numbered sections they want their classes to read and which parts should be omitted or postponed.
- Every chapter contains *key terms* that appear in bold in the text and also appear in the left-hand margin, also in bold, near the point where first discussed. Finally, due to their importance to the book and its readers these same key terms are listed near each chapter's end in a section entitled *Key Terms Appearing in This Chapter,* together with the page numbers where they first emerge in text discussion.
- To give readers one last crack at the key terms, there is a *Money and Capital Markets Dictionary* at the back of the book, where each term is briefly defined and the chapter(s) where it appears cited.
- *Exhibits, graphs, and examples* appear throughout in an effort to reinforce key points and principles and help the reader remember the central ideas the book works hard to develop and communicate.

- Numerous *information boxes* appear in nearly all chapters. These boxes are titled *Financial Developments, Ethics in the Money and Capital Markets,* and *E-Commerce in the Financial Marketplace.* Boxes focusing on ethical issues deal with several of the most notorious scandals recently affecting financial-services businesses. E-Commerce sections concentrate on the rapidly growing role of electronic equipment and electronic networks that store and convey financial information and direct flows of funds between buyers and sellers of financial services.
- Web sites appear in the text margins along the left side of many chapter pages, labeled *Key URLs,* and placed parallel to the text's discussion of financial-service issues and institutions. These URLs offer readers clues as to where to look in the Web's domain for additional information on important topics presented within each chapter.
- At selected key points within each chapter the text pauses to assess whether the reader is learning what each chapter presents through boxes marked *Questions to Help You Study.* The reader is encouraged to reread any section where he or she has difficulty in answering the study questions posed.
- At the conclusion of each chapter appears an important section entitled *Summary of the Chapter's Main Points* in which the central ideas and concepts are restated in bullet-point format. These summary points aid readers in quickly determining if they missed any key ideas while exploring a chapter, offering a useful review for exams and giving instructors an outline for the preparation of lecture material.
- Following the summary, readers will find two sections labeled *Problems and Issues* and *Web-Based Problems.* These particular sections carry over many of the best problems from earlier editions as well as numerous new problems constructed specially for this tenth edition. Web-based problems typically contain multiple parts and often guide the reader into multiple areas on the World Wide Web.
- At the ultimate conclusion of every chapter are *Selected References to Explore* which contain several of the most up-to-date articles and research studies bearing on selected chapter topics. These sources provide excellent material for research projects and term papers, giving readers an excellent opportunity to expand their knowledge beyond what is already contained in each chapter of this new edition.

Supplements to Maximize Your Learning Experience with This Text

Supplementary learning tools help improve the effectiveness and efficiency of *Money and Capital Markets* as a channel through which to understand how the financial marketplace operates and how it is put together, The supplements help to make both students' and instructors' experience with this text more enjoyable and rewarding.

These important supplements include:

Instructor's Manual and Test Bank

The Instructor's Manual is one of the most effective and sought-after tools for teachers, providing an outline of each chapter and supplying hundreds of questions and problems useful for class presentation, class discussion, or the construction of exams.

Text Web Site (www.mhhe.com/rose10e08)

The text Web site provides problems, questions, and solutions for instructors and, indeed, for all those who read this book. An *Updates* section on the Web site attempts to track new developments since publication of the previous edition.

Power Point Presentations

This supplementary tool provides a collection of slides for each chapter, suitable for class lectures, giving explanations of key ideas, usually in outline form for display on a screen. The slides encompass numerous graphs, charts, examples, and bullet-point outlines. Teachers and other users can easily edit or rearrange each slide to satisfy the needs of each reader and each class.

New and Expanded Discussions of Issues in the Financial Marketplace and Emerging Concepts in the Tenth Edition of *Money and Capital Markets*

A large number of new issues as well as expanded discussions of continuing controversies and concepts are included in this new edition of *Money and Capital Markets.* Examples include:

- The rapid rise of *China* as a global force in trade and finance and the struggle to remedy weaknesses in the Chinese economy and financial system, including more effective regulatory controls over China's financial institutions. (See in particular, Chapters 23 and 24.)
- The continuing growth of the *European Union* and its newest members from Eastern Europe and around the Mediterranean region, offering a strong competitive challenge to the economies and financial systems of Asia and United States. (See especially Chapters 23 and 24.)
- The growing use of *interest-only* and other types of *option mortgages* that pose new opportunities for would-be home buyers and mortgage banks, but also present more daunting risks to both lenders and borrowers as interest rates and loan default records surge. (See, in particular, Chapter 22.)
- The nature and role of *behavioral finance research* in designing, testing, and sometimes challenging financial theory and concepts. (See especially Chapter 3.)
- The *declining U.S. household savings rate* and the possible reasons the United States has such a low personal-savings-to-income ratio, potentially decreasing future investment activity and productivity that might otherwise increase American living standards in the long run. (See, in particular, Chapters 1 and 21.)
- The *decline of checks and other paper-based means of payment* for purchases of goods and services, increasingly replaced with credit and debit cards, cell phones, direct deposits, point-of-sale terminals, radio-frequency noncontact payments devices, and Web-based payments channels, especially in Europe, the United States, and Asia. (See especially Chapters 1, 2, 14, 15, 18, and 21.)
- The exploration of *new housing futures and options contracts* designed to protect housing values and stimulate the growth of residential construction. (See in particular, Chapter 22.)
- Expanded discussion of *domestic and foreign stock indexes* and the differences in their composition, behavior, and interpretation. (See especially Chapters 3 and 20.)

- Recent discussion surrounding the drafting and eventual passage of the *FDIC Reform and Deficit Reduction Act of 2005* has raised public awareness of the controversy over indexing deposit insurance coverage to inflation and increasing overall insurance coverage for each deposit account (including qualified retirement accounts whose insurance protection was increased from $100,000 to $250,000 in 2006). (See in particular, Chapters 4, 14, and 17.)
- An exploration of the *history of financial panics around the globe,* including problems in the early Roman financial system and historic European financial schemes and their implications for today's market for financial information. (See especially Chapter 3.)
- The *differences between market-dominated and bank-dominated financial systems* and why that distinction can be important today. (See, in particular, Chapter 2.)
- The new tougher banking regulations beginning in 2007 that are designed to provide *greater protection for customer privacy through more stringent authentication procedures for customers seeking access to their financial accounts.* (See, especially, Chapters 14, 17, and 21.)
- A new discourse on the reasons behind recent *historically low long-term interest rates* and how the Federal Reserve views and deals with this "conundrum" concerning the relative behavior of long- and short-term interest rates. (See in particular, Chapter 7.)
- New numerical examples explaining *how security dealers can ride the yield curve.* (See especially Chapter 7.)
- Updates on the *cross-border consolidation of international security exchanges* and recent *technological advances in the price discovery process.* (See in particular, Chapters 9 and 20.)
- Expanded and more complete explanation of *convexity* and numerical examples on how to measure and interpret the convexity concept. (See, in particular, Chapter 7.)
- Expanded discussion of the *characteristics and impact of credit-rating agencies (CRAs),* including the Securities and Exchange Commission's recent regulation of their activities. (See especially Chapter 8.)
- An expanded discussion of controversial *cash-balance pension plans* and the new Pension Protection Act of 2006 which demands stronger and more complete funding of future pension claims and promotes improved employee retirement education programs. (See in particular, Chapters 16 and 17.)
- New presentation on the ethical issues surrounding the practice of *backdating stock options* to enhance corporate managerial compensation. (See especially Chapters 3 and 20.)
- Expanded discussion of *hedge funds,* their growth, recent challenges they present to regulators, and occasional hedge fund failures. (See, in particular, Chapters 16 and 17.)
- Added material on the *history of savings and loans and savings banks.* (See especially Chapter 15.)
- A new exposition covering *loan risk and loan-loss allowances* in the banking community. (See, in particular, Chapter 14.)

- An expanded overview of *economies of scale in the credit union industry*—the results of recent research. (See especially Chapter 15.)
- Exploration of the nature and changing roles of *financial holding companies (FHCs)* in the United States. (See, in particular, Chapter 14.)
- Expanded discussion of the problems and the rapid growth of the *Pension Benefit Guarantee Corporation* (PBGC), known as *Penny Benny* or the federal pension insurance fund, and the issues raised by recent Congressional action to strengthen PBGC. (See especially Chapters 16 and 17.)
- Opening of a new presentation on *government-sponsored enterprises* (GSEs), their programs, problems, and recent regulatory issues. (See, in particular, Chapters 16, 17, and 22.)
- Expanded discussion of *Basel II*—the current worldwide standard for determining the volume of required bank capital—and its implications for the future growth and profitability of small banks versus large banks around the globe. (See especially Chapter 17.)
- Greater exploration of the *Treasury auction process,* the when-issued market, and U.S. Treasury marketing techniques. (See, in particular, Chapter 18.)
- New material on the differences between "*on-the-run*" *and* "*off-the-run*" *Treasury securities* and their importance to investors. (See especially Chapters 6 and 18.)
- Expanded discussion of *the role of U.S. Treasury securities as global benchmarks for loans and fixed-income securities worldwide.* (See, in particular, Chapters 18 and 22.)
- Exploration of the provisions and probable impact of the *2005 Bankruptcy Abuse Prevention and Consumer Protection Act*—the most comprehensive set of revisions in the U.S. bankruptcy code in more than a generation, limiting consumers' access to more lenient parts of the bankruptcy code and raising the average cost of bankruptcy relief. (See especially Chapter 21.)
- An expanded presentation on the *federal mortgage agencies,* their performance problems and changing roles in the residential mortgage market. (See, in particular, Chapter 22.)
- Greater analysis and a clearer explanation of the *wealth effect* and its probable impact on household consumption spending and savings behavior. (See especially Chapter 5.)
- Major revisions in the presentation of the *unbiased expectations theory of the yield curve* along with new numerical yield-curve problems to unravel. (See, in particular, Chapter 7.)

Many more fascinating and important topics are also new to this edition, but the above list gives you some idea concerning the scope of concepts, ideas, and financial behavior in the tenth edition of *Money and Capital Markets: Financial Institutions and Instruments in a Global Marketplace.*

Thanks to the Numerous Professionals Who Have Worked to Make This Text Better over the Years

The authors want to express their profound gratitude to the many teachers, researchers, and other professionals in the financial markets field who have criticized and offered

suggestions in an effort to strengthen this book. Indeed, there have been so many professional comments and contributions as the book has passed through its ten editions that the authors are especially concerned they may have misplaced or forgotten the identities of some of those who have made significant contributions to the quality and breadth of this book. We hope our readers will understand in case we have omitted the names of one or more deserving professionals in the financial field and promise to make corrections as we become aware of those deserving individuals accidentally left off our list of important contributors.

Among the leading contributors to this book include James C. Baker of Kent State University; Ivan T. Call of Brigham Young University; Eugene F. Drzycimski of the University of Wisconsin System; Mona J. Gardner of Illinois Wesleyan University; David Mills of Illinois State University; Richard Rivard of the University of South Florida; Paul Bolster, Colleen C. Pantalone, and Rick Swasey of Northeastern University; John O. Olienyk of Colorado State University; Robert M. Crowe formerly of the American College at Bryn Mawr; Joseph P. Ogden of SUNY-Buffalo; Donald A. Smith of Pierce College; Oliver G. Wood, Jr., and Timothy Koch of the University of South Carolina; Larry Lang of the University of Wisconsin—Oshkosh; Jeffrey A. Clark of Florida State University; James F. Gatti of the University of Vermont; Gloria P. Bales of Hofstra University; Ahmed Sohrabian of California State Polytechnic University at Pomona; Thomas A. Fetherston of the University of Alabama at Birmingham; Mary Piotrowski of Northern Arizona University; Owen K. Gregory of the University of Illinois at Chicago; Thomas Dziadosz of The American College; Tom Potter of the University of North Dakota; Lester Hadsell of the State University of New York, Albany; John Hysom of George Mason University; Frank Ohara of the University of San Francisco; Robert Sweitzer of the University of Delaware; Donald J. Smith and Jack Aber of Boston University; Bonnie Buchanan of the University of Georgia; Samuel Bulmash of Stockton College; Krishnan Dandapani of Florida International University; John Halstead of Southern Connecticut State University; Bento Lobo of the University of Tennessee at Chattanooga; Tim Michael of James Madison University; and Walter Perlick of California State University at Sacramento.

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In addition, the authors want to extend their deep appreciation to the professionals at McGraw-Hill/Irwin Publishers, especially Harvey Yep, Dan Wiencek, Michelle Driscoll, Elizabeth Hughes, Katherine Mau, and Executive Editor Michele Janicek. Their guidance and effort throughout the revision and production processes have been invaluable. Literally they made this newest edition possible.

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Finally, the authors gratefully acknowledge the support and, ultimately, the extreme patience of friends and family who made the preparation and ultimate completion of this latest edition feasible. The shortcomings that still persist are attributable to the authors alone who continue to work at improving this learning tool.

Note to the Readers of This Textbook in Its Tenth Edition

The money and capital markets and the financial system that surrounds them are an exciting and important area for study. What goes on every day in the financial marketplace has a powerful effect on our lives. Indeed, our ability to function as human beings and as professionals in our chosen fields is shaped in so many different ways by the functioning of the global financial system. Moreover, the money and capital markets are constantly changing. Broad changes are constantly in motion, leading to the rise of new financial institutions, new financial methods, new problems to solve, and new financial services.

The rapidity of change that characterizes our financial system today gives us no choice but to work vigilantly to keep up with our unfolding financial world. Reading this book will get you started, but it cannot be the end of the road. A great American poet, Robert Frost, once declared that we "cannot stop here" for we have "promises to keep" and "miles to go before we sleep." For the sake of your own future success, personally and professionally, plan to enjoy what you discover in the pages that follow, but view this book as only the *first step* in what must be a lifetime journey of learning about the financial system and its effects on our everyday existence.

As you tackle each new chapter and section of *Money and Capital Markets: Financial Institutions and Instruments in a Global Marketplace* set your sights on true *mastery* of the subject. Make the most of the time you spend with this text. Plan for success and hit your target with determination and well-organized study techniques. How can you do this? How can you learn what you need to know in today's complex financial world?

First, begin with the *Learning Objectives* and the *Key Topics Outline* that open each chapter. These are road signs, alerting you to the key questions and issues that each chapter will address. They tell you what you should *expect to learn* in the pages that follow. It is a useful idea to review the list of Learning Objectives and the Key Topics Outline as you sit down to tackle each new chapter and then to revisit them when you are finished reading.

Have you touched base with each learning objective and each key topic as you explore the material? If you are not sure about one or more of them, please go back and review the relevant portions of the chapter that apply to that particular topic or objective. Ask yourself if the learning objective or key topic you are focusing upon makes sense to you and if you now feel better informed about it.

Next, examine the list of *Key Terms* at the close of each chapter. There are page numbers telling you where each key term is defined and discussed. Return to the pages where any key terms appear that still seem a mystery to you. We suggest that you make a list of these key terms in your PC or notebook and accumulate them as the assigned chapters and sections roll by. This is much more than an act of memorizing terms. Rather, this is reaching out to learn the "language" of the financial marketplace.

Your aim is to make the "lingo" of the money and capital markets second nature to you so, for everything you subsequently read and hear about the financial system, you will understand and be able to make that new information work for you. You may even want to write out or type into your PC a definition of each key term and then double-check that definition or explanation against the meaning that appears in the *Money and Capital Markets Dictionary* at the end of this book.

Every chapter contains *Questions to Help You Study*. These study questions encourage you to pause briefly after reading several pages and ask yourself: Do I really understand what I just read? Please try to answer each of these study questions, either verbally or by writing out a brief answer in your PC and then double-checking the accuracy of your answers by referring back to the relevant portion of the chapter. You may wish to store the answers you develop for future reference, especially as you approach the time for an exam.

In each chapter of this new tenth edition several useful Web sites appear in the left-hand margins, labeled *Key URLs*. These Web sites offer you the opportunity to go beyond what the textual material gives you to the far more detailed world of the World Wide Web. Check out these sites and learn as much as possible about the subject matter of the chapter from a different perspective—from the point of view of the authors of each suggested Web site. Thus, by reading both the text and the material in many of the associated Web sites, you are following one of the most famous ideas about how we learn—that *repetition is the key to learning.*

At the end of each chapter there are two sets of problems to unravel—one set titled *Problems and Issues*—exercises that are relatively short in most cases and frequently call for calculating numerical answers—and a second set marked *Web-Based Problems,* which are generally longer, multipart problems that ask you to explore the World Wide Web, gather new information, and come to some conclusions. These two problem sets will add another important dimension to your learning experience. Finance is about problem solving and the better and more accomplished you become at this skill, the greater your chances for success in this field. As you work through each problem consider saving the solution and the conclusions you reach for future reference, either in your PC or in some other convenient file.

On the last page of every chapter is a section entitled *Selected References to Explore.* This section supplies up-to-date reference materials in the form of publicly accessible articles and research studies that explore some of the issues raised in each chapter. Many of the articles listed are printed on the World Wide Web at sites maintained by a publishing house or publishing agency. These readings frequently provide greater depth than is available in this book on a given topic and present a different viewpoint on what you have been studying. The *Selected References* represent an excellent way to help you achieve mastery over your subject area.

Finance in general and the money and capital markets in particular are moderately difficult disciplines to master. Yet, finance does have its challenges. Therefore, *group study sessions* are often helpful in tackling its hardest issues and problems. See if you can form a study group that periodically meets and goes over some of the more difficult concepts and problems. Resolve to be a contributor to these sessions and take the lead in explaining and helping others. *Teaching others* is one of the best ways to learn a new subject for yourself.

Remember that this text has two fundamental purposes: (1) to give you an arsenal of *analytical tools* that you can apply to any financial problem so as to make better financial decisions; and (2) to make you feel more comfortable with the *language of the financial marketplace* so you can speak this language with comfort and maximum understanding. A truly successful course of study will develop *both* the tools and the language of the financial system and get you started along the road to mastery and personal success.

This course can be a foundation stone for many promising future careers. Perhaps you have considered becoming a financial manager or CFO of a large corporation; the head of the financial division of an important unit of government; a member of the legislature or of Congress where financial issues are nearly always among the main topics of discussion; a trader (dealer or broker) in securities or derivative contracts; a consultant or adviser to those who wish to enter the global financial marketplace; or an active investor in your own right, striving to build up your own personal wealth and to prepare for a rewarding lifestyle. Wherever your career path leads you, superior knowledge and understanding of the financial marketplace will be an essential companion on your journey.

However, as you probably already know from prior experience with other challenging fields of study, mastering the money and capital markets and the financial system that surrounds them will *not* be easy. In the words of Robert Frost, your future success in keeping the "promises" you have made and traveling successfully the many "miles to go" before you reach your goals will depend crucially upon the energy and enthusiasm, the commitment to excellence, and the hard work that you bring to this subject. By any measure it is a challenge worthy of your best efforts. Good luck and good fortune on your journey!

Peter S. Rose
Professor Emeritus of Finance
Texas A&M University

Milton H. Marquis
Professor of Economics and Finance
Florida State University

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Part 1

The Global Financial System in Perspective

Try to imagine living in a world in which there are no financial institutions, no financial markets, and no financial assets. In such a world, there would be no opportunity to borrow against future income in order to purchase a home or an automobile, or to finance an education. Nor would you be able to save some of your current income (and, thereby, accumulate wealth over time) to handle the future expenses of a growing family or retirement. Businesses could not come up with the resources needed to produce the goods and services you like to consume. There would be no way to acquire insurance against sickness and death. Even the simple act of buying food would become extremely difficult, requiring you to barter simply to survive.

The financial system has emerged to fill these and many other critical needs that require some separation in time between the use of resources (such as capital and labor), the production of goods and services, and the actual consumption of those goods and services desired. Financial markets and institutions deal with these issues and provide for the smooth functioning of modern economies, enabling resources to find their way to their most highly valued use. In so doing, the financial system dramatically enhances the efficiency of the economy and raises our standard of living.

In order to set the stage for our study of the global financial system, Part 1 of *Money and Capital Markets* takes up essential topics—the linkage between financial and nonfinancial markets, the mechanism by which financial assets are created, valued, and traded, and the critical importance of public and private information in determining the value of a financial asset. Finally, any study of the financial system would be hopelessly ill-informed if it were not conducted against the backdrop of the fast-paced, ever-changing world of finance. Spurred on by technology and the creativity of those working in the financial marketplace, the financial system has rapidly evolved to better perform its traditional roles and meet new challenges. This rapid pace of financial innovation is unlikely to slow in the future, requiring all of us to learn how to adapt to a dynamic and changing financial marketplace.

Chapter 1

Functions and Roles of the Financial System in the Global Economy

What's in This Chapter? Key Topics Outline

How the Financial System Interfaces with the Economy

The Importance of Savings and Investment

The Nature of Financial Claims and Money and Capital Markets

Functions of the Money and Capital Markets: Savings, Wealth, Liquidity, Credit, Payments, Risk Protection, and Pursuing Public Policy

Types of Financial Markets within the Global Financial System

Factors Tying All Financial Markets Together

The Dynamic Financial System: Key Emerging Trends

Learning Objectives in This Chapter

- You will understand the functions performed and the roles played by the system of financial markets and financial institutions in the global economy and in our daily lives.
- You will discover how important the money and capital markets and the whole financial system are to increasing our standard of living, generating new jobs, and building our savings to meet tomorrow's financial needs.

1.1 Introduction to the Financial System

financial system

This book is devoted to the study of the **financial system**—the collection of markets, institutions, laws, regulations, and techniques through which bonds, stocks, and other securities are traded, interest rates are determined, and financial services are produced and delivered around the world. The financial system is one of the most important creations of modern society. *Its primary task is to move scarce loanable funds from those who save to those who borrow to buy goods and services and to make investments in new equipment and facilities so that the global economy can grow and increase the standard of living enjoyed by its citizens.* Without the global financial system and the loanable funds it supplies, each of us would lead a much less enjoyable existence.

The financial system determines both the cost and the quantity of funds available in the economy to pay for the thousands of goods and services we purchase daily. Equally important, what happens in this system has a powerful impact upon the health of the global economy. When funds become more costly and less available, spending for goods and services falls. As a result, unemployment rises and the economy's growth slows as businesses cut back production and lay off workers. In contrast, when the cost of funds declines and loanable funds become more readily available, spending in the economy often increases, more jobs are created, and the economy's growth accelerates. In truth, the global financial system is an integral part of the global economic system. We cannot understand one of these systems without understanding the other.

1.2 The Global Economy and the Financial System

Flows within the Global Economic System

To better understand the role played by the financial system in our daily lives, we begin by examining its position within the global economy.

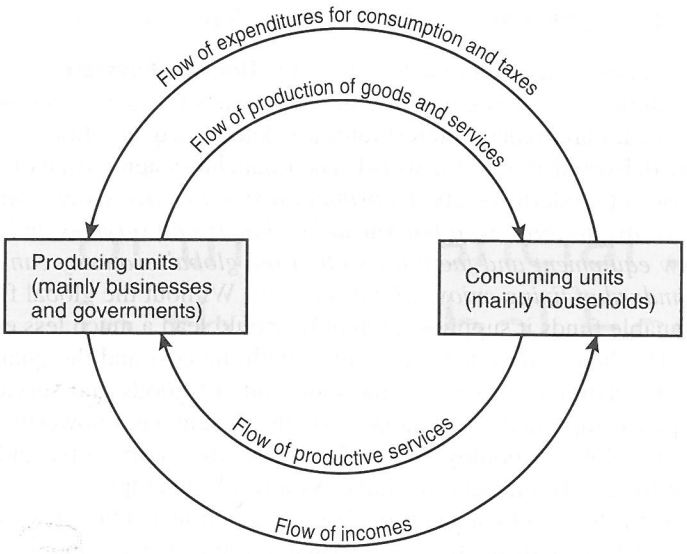
Key URLs:
If you are interested in following the financial system on a daily basis, consider following such sites as **money.cnn.com/markets**; **ftbusiness.com**; and **money.aol.com/**

The basic function of the global economic system is to allocate scarce resources—land, labor, management skill, and capital—to their most highly valued use, producing the goods and services needed by society. The high standard of living most of us enjoy today depends on the ability of the global economy to turn out each day an enormous volume of food, shelter, and other essentials of modern living. This is an exceedingly complex task because scarce resources must be procured in just the right amounts to provide the raw materials of production and combined at just the right time with labor, management, and capital to generate the products and services demanded by consumers. In short, any economic system must combine inputs—land and other natural resources, labor and management skill, and capital equipment—to produce output—goods and services. The global economy generates a flow of production in return for a flow of payments.

We can depict the flows of payments and production within the global economic system as a *circular flow* between producing units (mainly businesses and governments) and consuming units (principally households). (See Exhibit 1.1.) In the modern economy, households provide labor, management skill, and natural resources to business firms and governments in return for income in the form of wages, salaries, and other payments. Most of the national income that is generated by the economy—which averaged more than $11.6 trillion in 2006—is spent on consumption of goods and services. The remainder—nearly $2 trillion of the $11.6 trillion—is saved. The

EXHIBIT 1.1

Circular Flow of Income, Payments, and Production in the Global Economic System



result of this spending is a flow of funds back to the producing units as income, which stimulates them to produce more goods and services by modernizing and expanding their production facilities. The circular flow of production and income is interdependent and never ending.

The Role of Markets in the Global Economic System

Most economies around the world rely principally upon *markets* to carry out this complex task of allocating scarce resources, making possible the production and sale of goods and services that are in demand by businesses and households. What is a **market**? It is an institution through which buyers and sellers meet to exchange goods, services, and productive resources. This exchange determines what goods and services will be produced and in what quantity.

market

The marketplace is *dynamic.* It must respond continuously not only to changes in consumers' tastes, but also to the introduction of new goods and services, often associated with new technology. Today, cell phones and DVDs are part of our everyday lives, yet they barely existed a few years ago. How did the resources of the economy get redeployed to produce those new goods?

This shift in production was accomplished in the marketplace through changes in the *prices* of goods and services being offered. If the price of an item rises, for example, this stimulates business firms to produce and supply more of it to consumers. In the long run, new firms may enter the market to produce those goods and services experiencing increased demand and rising prices. A decline in price, on the other hand, usually leads to reduced production of a good or service, and in the long run some less-efficient suppliers may leave the marketplace.

Markets also distribute *income.* In a pure market system, the income of an individual or a business firm is determined solely by the contribution each makes to producing goods and services demanded by the marketplace. Markets reward superior productivity and sensitivity to consumer demands with increased profits, higher wages, and other economic benefits. Of course, in all economies, government policies also affect the distribution of income and the allocation of other economic benefits.

Types of Markets

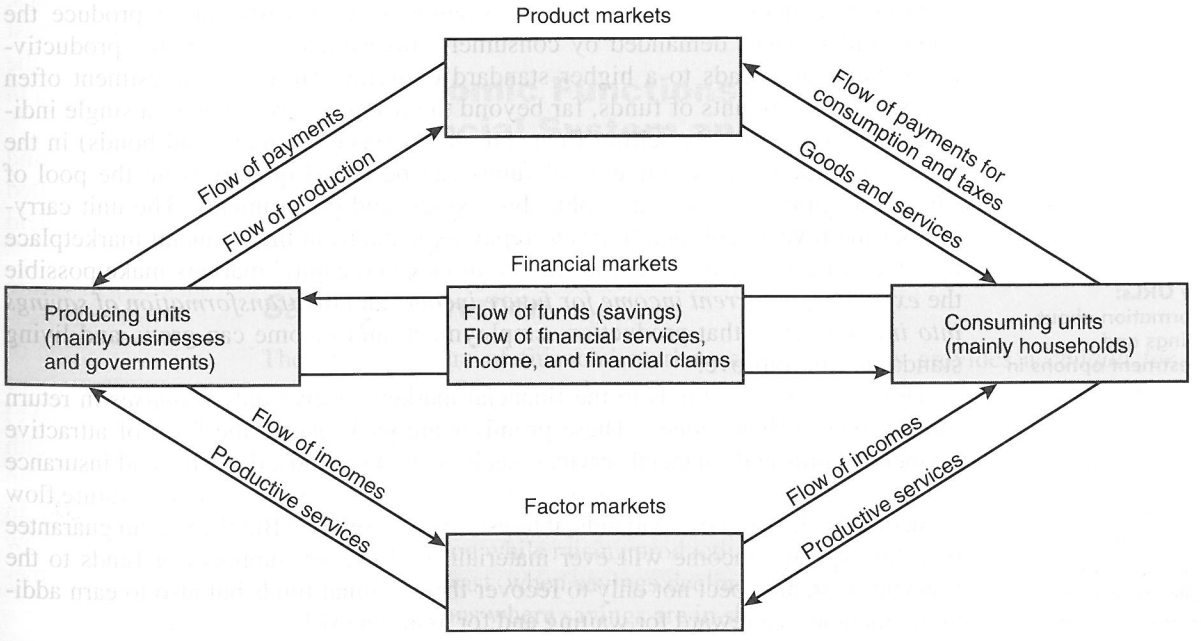
There are essentially three *types of markets* at work within the global economic system: (1) factor markets, (2) product markets, and (3) financial markets (see Exhibit 1.2). In factor markets, consuming units sell their labor and other resources to those producing units offering the highest prices. The *factor markets* allocate factors of production—land, labor, managerial skills, and capital—and distribute income—wages, salaries, rental payments, and so on—to the owners of productive resources.

Consuming units use most of their income from factor markets to purchase goods and services in *product markets.* Food, shelter, automobiles, theater tickets, and clothing are among the many goods and services sold in product markets.

The Financial Markets and the Financial System: Channel for Savings and Investment

Of course, households' consumption of goods and services seldom matches their factor income. In most years a portion of after-tax income received by households is earmarked for *personal savings.* However, households will sometimes have zero or even negative savings, in which case they must have either sold off some of their assets and/or gone into debt to maintain their standard of living. For example, personal savings for 2006 averaged a *negative* $102 billion. Historically, this negative figure for personal savings is very unusual and would be a major impediment to the economy's ability to invest in updating and expanding its production facilities to support continued economic growth *if* households were the only source of savings in the economy. Fortunately, this is not the case. Businesses are also a major source of savings. For example, in 2006 U.S. corporations earned slightly more than $1.3 trillion on an annualized basis, of which about half (about $700 billion) was set aside (undistributed) for possible future needs as *business savings.*

EXHIBIT 1.2 Three Types of Markets in the Global Economic System



financial market

It is here that the third kind of market, the **financial market**, performs a vital function within the global economic system. The financial markets channel savings to those individuals and institutions needing more funds for spending than are provided by their current incomes. The financial markets are the heart of the global financial system, attracting and allocating savings and setting interest rates and the prices of financial assets (stocks, bonds, etc.).

savings

Nature of Savings The definition of **savings** differs depending on what type of unit in the economy is doing the saving. For households, savings are what is left from current income after current consumption expenditures and tax payments are made. In the business sector, savings include current earnings retained inside business firms after payment of taxes, stockholder dividends, and other cash expenses. Government savings arise when there is a surplus of current revenues over current expenditures in a government's budget.

investment

Nature of Investment Most of the funds set aside as savings flow through the global financial markets to support **investment** by business firms, governments, and households. Investment generally refers to the acquisition of capital goods, such as buildings and equipment, and the purchase of inventories of raw materials and goods to sell. The makeup of investment varies with the particular unit doing the investing. For a business firm, expenditures on *capital goods* (fixed assets, such as buildings and equipment) and *inventories* (consisting of raw materials and goods offered for sale) are investment expenditures. In contrast to businesses, for *households,* current accounting procedures in the United States stipulate that only the purchase of a home may be counted as an *investment.* All other household expenditures on durable goods (such as autos and furniture), as well as expenditures on nondurable goods (for example, food and fuel) and services (such as having your hair styled) are lumped together as *consumption spending* (i.e., expenditures on current account), rather than investment spending. Government spending to build and maintain public facilities (such as buildings, monuments, and highways) is another form of investment.

Key URL:
To learn more about savings and investment see Bankrate.com at **bankrate.com/brm**

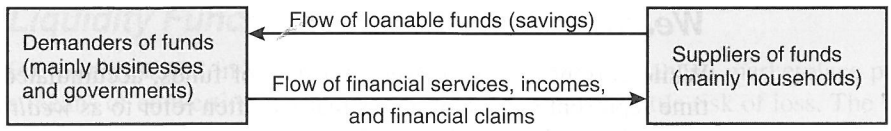
Modern economies require enormous amounts of investment to produce the goods and services demanded by consumers. Investment increases the productivity of labor and leads to a higher standard of living. However, investment often requires huge amounts of funds, far beyond the resources available to a single individual or institution. By selling financial claims (such as stocks and bonds) in the financial markets, large amounts of funds can be raised quickly from the pool of savings accumulated by households, businesses, and governments. The unit carrying out the investment then hopes to repay its loans from the financial marketplace by generating future income. Indeed, the money and capital markets make possible the *exchange of current income for future income* and the *transformation of savings into investment* so that production, employment, and income can grow, and living standards can improve.

Key URLs:
Information about savings and investment options in the money and capital markets may be found in such popular Web sites as **businessweek.com**; **forbes.com**; **fortune.com**; **moneyline.com**; **kiplinger.com**; and **smartmoney.com**

Those who supply funds to the financial markets receive only *promises* in return for the loan of their money. These promises are packaged in the form of attractive financial claims and financial services, such as stocks, bonds, deposits, and insurance policies (see Exhibit 1.3). *Financial claims* promise the supplier of funds a future flow of income in the form of dividends, interest, or other returns. But there is no guarantee that the expected income will ever materialize. However, suppliers of funds to the financial system expect not only to recover their original funds but also to earn additional income as a reward for waiting and for assuming risk.

EXHIBIT 1.3

The Global Financial System



The role of the financial markets in channeling savings into investment is absolutely essential to the health of the economy. Indeed, countries with better-developed financial systems tend to grow faster. However, if households set aside savings and those funds are not returned to the spending stream through investment by businesses and governments, the economy will begin to contract. The amount of income paid out by business firms and governments will *not* be matched by funds paid back to those same sectors by households. As a result, income payments will decline, leading, in turn, to reduced consumption spending. The public's standard of living will fall. Moreover, with less spending, the need for labor will be curtailed, resulting in fewer jobs and rising unemployment.

QUESTIONS TO HELP YOU STUDY

1. Why is it important for us to understand how the global financial system works?
2. What are the principal links between the financial system and the economy? Why is each important to the other?
3. What are the principal functions or roles of the global financial system? How do the money and capital markets fulfill those roles or functions?
4. What exactly is *savings*? *Investment*? Are these terms often misused by people on the street? Why do you think this happens?
5. How and why are savings and investment important determinants of economic growth? Do they impact our standard of living? How?

1.3 Economic Functions Performed by the Global Financial System and the Financial Markets

The great importance of the financial system in our daily lives can be illustrated by reviewing the different functions that it performs. The global financial system has *seven* basic economic functions that create a need for the money and capital markets.

Savings Function

The global system of financial markets and institutions provides a *conduit for the public's savings.* Bonds, stocks, and other financial claims sold in the money and capital markets provide a profitable, relatively low-risk outlet for the public's savings. By acquiring these financial assets, households may choose to forego consumption today in order to increase their consumption opportunities in the future. In the process, this flow of savings through the financial markets into investment allows the economy to increase production while raising productivity, thereby increasing the world's standard of living. In contrast, when savings decline, investment and living standards begin to fall in those nations where savings are in short supply.

Wealth Function

While current savings represent a *flow* of funds, accumulated savings built up over time represent a *stock* of assets that we often refer to as *wealth.* For those businesses and individuals choosing to save, the financial instruments sold in the money and capital markets provide an excellent way to *store wealth* (i.e., preserve the value of assets we hold) until funds are needed for spending. Although we might choose to store our wealth in "things" (e.g., automobiles), such items are subject to depreciation and often carry great risk of loss. However, bonds, stocks, and other financial instruments do *not* wear out over time and usually generate income; moreover, their risk of loss often is much less than for many other forms of stored wealth.

wealth

Incidentally, what specifically is **wealth**? For any individual, business firm, or government, wealth is the sum of the values of all assets we hold at any point in time. Thus, our wealth at the moment equals the combined value of the automobiles, homes, clothing, and hundreds or thousands of other assets we have managed to accumulate and hold up to the present day.

Our wealth is built up over time (unless we make bad decisions and squander it away!) by a combination of current savings plus income earned from all our previously accumulated wealth. The increase (or decrease) in the total wealth we own in the current time period equals our current savings plus the value of all previously accumulated wealth multiplied by the average rate of return on all previously accumulated wealth. For example, suppose our wealth (accumulated assets) at the end of the previous period was $1,000. In the current time period we manage to save an additional $50 and also earn an average rate of return on our previously accumulated wealth of 10 percent or $100 (that is, $1,000 × 0.10). Then our wealth will increase from $1,000 in the previous period to $1,150 in the current period (that is, $1,000 + $50 + $100).

financial wealth

The portion of wealth held by society in the form of stocks, bonds, and other financial assets—that is, **financial wealth**—is created by the financial system and the money and capital markets within that system. The volume of financial wealth is huge and growing nearly every year. For example, in 2006 nearly $60 trillion in securities, deposits, and other financial assets were held by domestic nonfinancial businesses, households, and governments in the United States, while foreign investors held just over $12 trillion in financial instruments issued inside the United States during the same year. Individuals and families (households) alone held more than $42 trillion in stocks, bonds, and other financial assets.

net financial wealth

If we subtract total debts owed by U.S. nonfinancial businesses, households, and governments, which amounted to about $37 trillion in 2006, we obtain what is called **net financial wealth**. The total *net* financial wealth (Financial assets − Debts) held by U.S. individuals and nonfinancial institutions was about $22 trillion in 2006.

Wealth holdings represent *stored purchasing power* that will be used in future periods as income to finance purchases of goods and services and to increase society's standard of living. Therefore, income is generated from the wealth function of the global financial system. Income emerges from the average rate of return that our current wealth holdings (including any marketable skills—*human capital*—we have) generate for us times the amount of our current wealth. For example, if our wealth totals $1,000 at the moment and yields an average rate of return of 10 percent, we can expect our current wealth holdings to generate $100 in income in the current period. In turn, wealth-created income leads to *both* increased consumption spending and to new savings, resulting in a higher standard of living for those who hold wealth in income-generating forms.

Liquidity Function

liquidity

For wealth stored in financial instruments, the global financial marketplace provides a means of converting those instruments into cash with little risk of loss. The world's financial markets provide **liquidity** (immediately spendable cash) for savers who hold financial instruments but are in need of money. In modern societies, *money* consists mainly of currency and spendable deposits held in banks, credit unions, and other depository institutions, amounting to almost $1.4 trillion in the United States in 2006, and is the only financial instrument possessing *perfect liquidity.* Money can be spent as it is without the necessity of converting it into some other form. However, money generally earns the lowest rate of return of all assets traded in the financial system, and its purchasing power is seriously eroded by inflation. That is why savers generally minimize their holdings of money and hold other, higher-yielding financial instruments until they really need spendable funds. Of course, money is not the only means of making purchases of goods and services. In many lesser-developed economies, simple bartering—exchanging one good or service for another—performs many of the same services that money provides in a developed economy.

Credit Function

credit

In addition to providing liquidity and facilitating the flow of savings into investment to build wealth, the global financial markets furnish **credit** to finance current consumption and investment spending by pledging future income, thus reducing spending opportunities in the future. It thus represents the flipside of savings. Credit consists of a loan of funds in return for a promise of future payment. Consumers need credit to purchase a home, buy groceries, repair the family automobile, and retire outstanding debts. Businesses draw on their lines of credit to stock their shelves with inventory, construct new buildings, meet payrolls, and grant dividends to their stockholders. State, local, and federal governments borrow to construct buildings and other public facilities and to cover daily cash expenses until tax revenues flow in.

The volume of credit extended by the money and capital markets today is huge and growing. In the United States alone total credit funds raised in U.S. financial markets in 2006 amounted to more than $3.5 trillion—more than double the amount raised in the money and capital markets only a decade before. Growth of the economy, inflation, and the tax deductibility of some interest payments all appear to have fueled this rapid growth in credit usage by businesses, households, and governments.

Payments Function

The global financial system also provides *a mechanism for making payments for purchases of goods and services.* Certain financial assets—including *currency, noninterest-bearing checking accounts (referred to as demand deposits), and interest-bearing checking accounts (often referred to as negotiable order of withdrawal or NOW accounts)*—still serve as a popular medium of exchange in making payments all over the globe (especially in the United States).

Also high on the payments list and growing rapidly are debit and credit cards issued by banks, credit unions, and retail stores. In the case of *debit cards,* a customer pays immediately for purchases by electronically debiting his or her account in a depository institution. On the other hand, in the case of *credit cards* the customer receives instant access to short-term credit when contracting for purchases of goods and services.

FINANCIAL DEVELOPMENTS

Assault on the Financial System—Terror and Its Aftermath

On September 11, 2001, the United States experienced one of the most devastating tragedies in its history when hijackers took control of four commercial airliners and crashed two of the four into the World Trade Center in New York City and one into the Pentagon in Washington, D.C. More than 3,000 people lost their lives.

The assault on the World Trade Center was an attack on a key trading center within the financial system—a place where major dealers in securities, large banks, and other financial-service institutions served clients around the globe. When the trade center collapsed, several financial firms faced severe disruption, losing their communications links and suffering death or serious injury to their employees.

Still the flexibility and resilience of the money and capital markets in adjusting to this terrible tragedy proved to be remarkable. Within a handful of days the New York Stock Exchange was reopened and major security, banking, and insurance firms found new space from which to serve their customers.

Of course, even with the remarkable "bounce back" of the financial system from terror, significant damages to the economy and financial system were felt. Lenders and investors became more concerned about *risk*. Stock prices around the globe fell for a time as investors sold riskier securities and fled into government bonds and insured bank deposits. Insurance companies braced for an unprecedented volume of financial claims related to deaths and destruction. Layoffs of workers rose and business sales fell.

These tragic events remind us of several key points. First, the economy and the financial system are intimately connected to each other—an external shock that affects one affects the other. Second, though a great institution, the money and capital markets are fragile and need the support of governments and the confidence of the public to operate efficiently and perform their essential functions. Third, the financial marketplace is now unquestionably global rather than belonging to a single nation—significant events in any nation, either good or bad, quickly spread around the world and eventually affect all markets.

Also on the rise are *stored-value cards* that many workers now receive on payday instead of a payroll check; *direct deposits* in which funds are transferred electronically from the payor's account to the account of the payee (now representing close to two-thirds of all payments to employees in the United States); *ATM cards* that give the holder access to cash machines and the ability to check account balances and transfer funds to cover any payments due; *contactless payment devices* that communicate purchases and payments through radio frequencies without physical contact; *electronic bill presentment* in which a purchaser is issued a bill online and can make payments online at the purchaser's convenience; and *preauthorized debits,* permitting a customer to authorize automatic funds transfers from his or her account on a specific date each month to pay recurring bills (including payments due on home mortgages, auto loans, and utility bills).

If present trends continue, electronic means of payment, including *computer terminals in homes, offices, and stores* and *digital cash* (accessed by an encoded plastic card) eventually may completely replace checks and other pieces of paper as the principal means of paying in the future. Indeed, electronic means of payment are growing rapidly today (especially in Europe), while checks and other paper-based means of payment are declining in volume.

Risk Protection Function

The financial markets offer businesses, consumers, and governments *protection against life, health, property, and income risks.* This is accomplished, first of all, by the sale of insurance policies. Policies marketed by life insurance companies indemnify a

Key URLs:
For further exploration of the many risks often present in the financial system and markets, see, for example, **Standardandpoor.com**; **moodys.com**; and **cbot.com**

family against possible loss of income following the death of a loved one. Property-casualty insurers protect their policyholders against an incredibly wide array of personal and property risks, ranging from ill health and storm damage to negligence on the highways. In addition to making possible the sale of insurance policies, the money and capital markets have been used by businesses and consumers to "self-insure" against risk; that is, holdings of wealth are built up as protection against future losses.

The financial system permits individuals and institutions to engage in both *risk sharing* and *risk reduction.* Risk sharing occurs when an individual or institution transfers risk exposure to someone willing to accept that risk (such as an insurance company), while risk reduction usually takes place when we diversify our wealth across a wide variety of different assets so that our overall losses are likely to be more limited.

Overall, the risk protection business is huge. In the United States, for example, life insurance and pension fund reserves to protect individuals and families against loss due to death and old age tallied more than $13 trillion in 2006.

Policy Function

Finally, in recent decades, the financial markets have been *the principal channel through which government has carried out its policy of attempting to stabilize the economy and avoid inflation.* By manipulating interest rates and the availability of credit, government can affect the borrowing and spending plans of the public, impacting the growth of jobs, production, and prices. As we will see later on, this task of economic stabilization has been given largely to central banks, such as the Federal Reserve System in the United States, the Bank of England, the Bank of Japan, and the new European Central Bank (the ECB).

QUESTIONS TO HELP YOU STUDY

6. What seven vital *functions* does the financial system of money and capital markets perform?
7. Why is each function of the financial system important to households, businesses, and governments? What kinds of lives would we be living today if there were no financial system or no financial markets?
8. What exactly do we mean by the term *wealth*? Why is it important?
9. What is *net financial wealth*? What does it reveal about each of us?
10. Can you explain what factors determine the current volume of financial wealth and net financial wealth each of us has?

1.4 Types of Financial Markets within the Global Financial System

The global financial system fulfills its various roles mainly through *markets* where financial claims and financial services are traded (though in some lesser-developed economies government dictation and even barter are used). These markets may be viewed as *channels* through which moves a vast flow of loanable funds that is continually being drawn upon by demanders of funds and continually being replenished by suppliers of funds.

The Money Market versus the Capital Market

The flow of funds around the world may be divided into different segments, depending on the characteristics of financial claims being traded and the needs of different investors. One of the most important divisions in the financial system is between the *money market* and the *capital market.*

money market

The **money market** is designed for the making of short-term loans. It is the institution through which individuals and institutions with *temporary* surpluses of funds meet the needs of borrowers who have *temporary* funds shortages (deficits). Thus, the money market enables economic units to manage their liquidity positions. By convention, a security or loan maturing within one year or less is considered to be a money market instrument. One of the principal functions of the money market is to finance the working capital needs of corporations and to provide governments with short-term funds in lieu of tax collections. The money market also supplies funds for speculative buying of securities and commodities.

capital market

In contrast, the **capital market** is designed to finance long-term investments by businesses, governments, and households. Trading of funds in the capital market makes possible the construction of factories, highways, schools, and homes. Financial instruments in the capital market have original maturities of *more than one year* and range in size from small loans to multimillion dollar credits.

Who are the principal suppliers and demanders of funds in the money market and the capital market? In the money market, commercial banks are the most important institutional supplier of funds (lender) to both business firms and governments. Nonfinancial business corporations with temporary cash surpluses also provide substantial short-term funds to the money market. On the demand-for-funds side, the largest borrower in the U.S. money market is the Treasury Department, which borrows billions of dollars weekly. Other governments around the world are often among the leading borrowers in their own domestic money markets. The largest and best-known corporations and securities dealers are also active borrowers in money markets around the world. Due to the large size and strong financial standing of these well-known money market borrowers and lenders, money market instruments are considered to be high-quality, "near money" IOUs.

In contrast, the principal suppliers and demanders of funds in the capital market are more varied than those in the money market. Families and individuals, for example, tap the capital market when they borrow to finance a new home. Governments rely on the capital market for funds to build schools and highways and provide essential services to the public. The most important borrowers in the capital market are businesses of all sizes that issue long-term debt instruments representing claims against their future revenues in order to cover the purchase of equipment and the construction of new facilities. Ranged against these many borrowers in the capital market are financial institutions, such as insurance companies, mutual funds, security dealers, and pension funds, which supply the bulk of capital market funds.

Divisions of the Money and Capital Markets

The money market and the capital market may be further subdivided into smaller markets, each important to selected groups of demanders and suppliers of funds. Within the money market, for example, is the huge *Treasury bill* market. Treasury bills—short-term IOUs issued by many governments around the world—are a safe and popular investment medium for financial institutions, corporations of all sizes, and wealthy individuals.

FINANCIAL DEVELOPMENTS

The Financial System of Money and Capital Markets Viewed as a Supplier of Financial Services to the Public

The financial system performs the economic functions described in this section by providing financial services to the public. Therefore, it can be viewed as a collection of financial-service firms (FSFs) that produce and sell those financial services most in demand by the public. Among the financial services most widely sought by the public and distributed by the money and capital markets are:

- ***Payments services,*** **providing payments accounts against which the customer can write checks, wire funds, or use encoded cards or cell phones to pay for purchases of goods and services.**
- ***Thrift services,*** **providing attractive financial instruments with adequate safety and yield to encourage people, businesses, and governments to save for their future financial needs.**
- ***Insurance services,*** **providing protection from loss of income or property in the event of death, disability, negligence, or other adverse developments.**
- ***Credit services,*** **providing loanable funds to supplement current income through borrowing in order to sustain current living standards.**
- ***Hedging services,*** **providing protection against loss due to unfavorable movements in market prices or interest rates through such devices as futures, options, and other hedging instruments.**
- ***Agency services,*** **acting on behalf of a customer in managing retirement funds or other property (as a bank trust department or security dealer might do).**

Key URL:
An interesting source of information on ongoing trends in financial services and the financial marketplace is *The Economist* from London at **economist.com**

Somewhat larger in volume is the market for *certificates of deposit* (CDs) issued by banks and other depository institutions to raise funds in order to carry on their lending activities. Two other important money market instruments that arise from large corporations borrowing money are *bankers' acceptances* and *commercial paper.* In another corner of the money market, *federal funds*—the reserve balances of banks plus other immediately transferable monies—are traded daily in huge volume. Another segment of the money market reaches around the globe to encompass suppliers and demanders of short-term funds in Europe, Asia, and the Middle East. This is the vast, largely unregulated *Eurocurrency market,* in which deposits denominated in the world's major trading currencies—for example, the dollar and the euro—are loaned to corporations and governments around the globe.

The capital market, too, is divided into several sectors, each having special characteristics. For example, one of the largest segments of the capital market is devoted to residential and commercial *mortgage loans* to support the building of homes and business structures, such as factories and shopping centers. In the United States, state and local governments sell their *tax-exempt (municipal) bonds* in another sector of the capital market. Households borrow in yet another segment, using *consumer loans* to make purchases ranging from automobiles to home appliances. There is also an international capital market for borrowing by large corporations represented by *Eurobonds* and *Euronotes.*

Probably the best-known segment of the capital market is the market for *corporate stock* represented by the major exchanges, such as the New York Stock Exchange (NYSE) and the Tokyo Exchange, and a vast over-the-counter (OTC) market, including electronic stock trading over the Internet. No matter where it is sold, however, each share of stock (equity) represents a certificate of ownership in a corporation, entitling the holder to receive any dividends paid out of current company earnings and to lay claim to any residual value left in the firm's assets after all its obligations are met. Businesses also sell a huge quantity of *corporate notes* and *bonds* in the capital

market each year to raise long-term funds. These securities, unlike shares of stock, are pure IOUs, evidencing a debt owed by the issuing company. Each of these financial instruments will be examined in detail in the chapters that lie ahead.

Open versus Negotiated Markets

open markets
negotiated markets

Another distinction between markets in the global financial system focuses on **open markets** versus **negotiated markets.** For example, some corporate bonds are sold in the open market to the highest bidder and are bought and sold any number of times before they mature and are paid off. In contrast, in the negotiated market for corporate bonds, securities generally are sold to one or a few buyers under private contract.

Key URLs:
For interesting and often useful information about corporate stocks and bonds, see such sites as **finance.yahoo.com**; **wsj.com**; **financenter.com**; and **bloomberg.com**

An individual who goes to his or her local banker to secure a loan for new furniture enters the negotiated market for personal loans. In the market for corporate stocks there are the major stock exchanges, which represent the open market. Operating at the same time, however, is the negotiated market for stock, in which a corporation may sell its entire stock issue to one or a handful of buyers.

Primary versus Secondary Markets

primary markets
secondary markets

The global financial markets also may be divided into **primary markets** and **secondary markets.** The primary market is for the trading of *new* securities. Its principal function is raising financial capital to support new investment in buildings, equipment, and inventories. You engage in a primary-market transaction when you purchase shares of stock just issued by a company or borrow money through a new mortgage to purchase a home.

Key URLs:
For further discussion of the importance of savings see **bankrate.com/brm** and **frbsf.org/publications/economics/letter/2002/e/2002-09.html**

In contrast, the secondary market deals in securities previously issued. Its chief function is to provide *liquidity* to security investors—that is, provide an avenue for converting financial instruments into cash. If you sell shares of stock or bonds you have been holding for some time to a friend or call a broker to place an order for shares currently being traded on the American, London, or Tokyo stock exchanges, you are participating in a secondary-market transaction.

The volume of trading in the secondary market is far larger than in the primary market. However, the secondary market does *not* support new investment. Nevertheless, the primary and secondary markets are closely intertwined. For example, a rise in security prices in the secondary market usually leads to a similar rise in prices on primary-market securities, and vice versa. This happens because many investors readily switch from one market to another in response to differences in price or yield.

Spot versus Futures, Forward, and Option Markets

We may also distinguish between *spot markets, futures* or *forward markets,* and *option markets.* A spot market is one in which assets are traded for immediate delivery (usually within one or two business days). If you pick up the telephone and instruct your broker to purchase Telecon Corporation stock at today's price, this is a spot market transaction. You expect to acquire ownership of Telecon shares today.

A *futures* or *forward market,* on the other hand, is designed to trade contracts calling for the *future delivery* of financial instruments. For example, you may call your broker and ask to purchase a contract calling for delivery to you of $1 million in government bonds six months from today. The purpose of such a contract would be to shift risk to some individual or institution willing to bear that risk by agreeing upon a delivery price today rather than waiting six months when government bonds might cost a lot more.

FINANCIAL DEVELOPMENTS

The Low Savings Rate in the U.S. Economy

Saving is vital to support the growth of *investment* in new capital equipment and new technologies so that economies can grow and increase the standard of living of their citizens. Unfortunately, the United States (along with Australia and New Zealand) posts one of the lowest personal savings rates in the world, with a savings-to-gross-domestic-product ratio well below that of Germany, France, and Japan, for example. In 2005 and 2006 the personal savings rate was *negative* for the first time in U.S. history since the Great Depression of the 1930s, and the percentage of U.S. families saving any funds at all dropped significantly. We should note too that several other nations (including Britain, Italy, Japan, and South Korea), while posting higher savings rates than the United States, are likewise experiencing declining personal savings ratios.

One reason for these lower savings rates may simply be changing public attitudes toward saving itself. Older generations remember the Great Depression when millions of people were out of work. Younger savers, however, are more likely to have experienced extended periods of prosperity and low unemployment and see less need for the protection savings offer. At the same time the values of new homes—the principal asset of most individuals and families—have risen substantially in recent periods, making homeowner households feel wealthier with less pressure to save.

Then, too, the U.S. government's Social Security and Medicare systems promise workers at least a minimal level of retirement income, reducing the apparent need for maximizing personal savings, at least in the minds of many savers. Moreover, when inflation rises, many consumers prefer to buy *now* rather than add to their savings. Further encouraging the "buy now" philosophy have been the comparatively low rewards for saving as nominal interest rates have recently been among the lowest in history.

Unfortunately, the current low U.S. savings rate may come back to haunt Americans in the future. For example, should a relatively low personal savings rate translate into a low investment rate in the economy, then the capacity to produce goods and services would be impaired and the living standards of individuals and families would likely grow more slowly in the future, or even decline.

However, many economists believe our measures of savings fail to adequately capture the *total* volume of savings actually carried out by businesses, households, and governments. For example, the U.S. Department of Commerce derives personal savings of households by deducting personal consumption spending from after-tax disposable income. But this measure of household savings doesn't figure in any market-value appreciation in the public's holdings of securities or in its housing values. Yet, American business and household wealth is rising rapidly in value, indicating that total savings volume in the United States may be more adequate than many realize. Then, too, some economists argue, the U.S. personal savings rate may *rise* in the future as the population *ages* because there will be more Americans concerned about building their savings for retirement. Let's hope they are right!

Finally, *options markets* also offer investors in the money and capital markets an opportunity to reduce risk. These markets make possible the trading of contracts that give an investor the right to either buy designated securities from or sell designated securities to the writer of the option at a guaranteed price at any time during the life of the contract. Options make it possible to lock in prices of assets no matter which way those prices move before the options expire. We will see more clearly how and why such transactions take place when we explore the financial futures and options markets in Chapter 9 and the forward markets for foreign currencies in Chapter 23.

1.5 Factors Tying All Financial Markets Together

Each corner of the financial system represents a market segment with its own special characteristics. Each segment is insulated from the others to some degree by investor preferences and by rules and regulations. Yet when interest rates and security prices change in one corner of the financial system, *all* of the financial markets likely will be

affected eventually. This implies that, even though the financial system is split up into many different markets, there must be forces at work to tie all the financial markets together.

Credit, the Common Commodity

One unifying factor is the fact that the basic commodity being traded in most financial markets is *credit.* Borrowers can switch from one credit market to another, seeking the most favorable credit terms wherever they can be found. It is not uncommon, for example, for an oil company to finance the construction of a drilling rig through short-term loans from the money market when interest rates in the capital market are unusually high, but to seek long-term financing of the project later on when capital market conditions are more favorable. The shifting of borrowers between markets helps to weld the parts of the financial system together and to bring credit costs in different markets into balance with one another.

Speculation and Arbitrage

Another unifying element is profit seeking. *Speculators* are continually on the lookout for opportunities to profit from their forecasts of future market developments. The speculator in the financial marketplace gambles that security prices or interest rates will move in a direction that will result in quick gains due to his or her ability to outguess the market's collective judgment. Speculators perform an important function in the markets by leveling out the prices of assets, buying those they believe are underpriced and selling those thought to be overpriced.

arbitrage

KEY URL:
For an overview of the concept of arbitrage, see especially **finpipe.com/derivglossary.htm**

Still another unifying force in the financial markets comes from investors who watch for profitable opportunities to **arbitrage** funds—moving funds from one market to another whenever the prices of assets in different markets appear to be out of line with each other. *Arbitrageurs* often buy assets in markets where assets seem to be undervalued and sell in those markets where assets appear to be overvalued. They help to maintain *consistent prices between markets,* aiding other buyers in finding the best prices with minimal effort.

1.6 The Dynamic Financial System

There is an old saying: "You cannot step into the same river twice, for rivers are ever flowing onward." That statement can be applied to the global financial system—it is rapidly changing into a *new* financial system powered by *innovation,* as new financial services and instruments continually appear to attract customers. Major trends are under way to convert smaller national financial systems into an integrated global system, at work 24 hours a day to attract savings, extend credit, and fulfill other vital roles. Satellites, computers, and other automated systems now tie together financial-service trading centers as widely dispersed as London, New York, Tokyo, Singapore, and Sydney. This process of integrating financial systems globally has been aided by gradual deregulation of financial institutions and services on the part of leading industrialized nations (such as the United States, Japan, and members of the European Economic Union). Many of these countries have begun to "harmonize" their regulations so that financial-service firms operate under similar rules no matter where they are located. Nonfinancial companies (such as Wal-Mart, GE, and Toyota) are invading the financial-services field in growing numbers, tying the performance of the economy even more closely to the performance of the financial marketplace. The results

ETHICS IN THE MONEY AND CAPITAL MARKETS

The Mutual Fund Scandal

Unethical behavior—the violation of a written or unwritten moral code—is nearly everywhere in our world, even in the money and capital markets. A prime example emerged recently among some prominent *mutual funds* that attract money from millions of investors and invest in stocks, bonds, and other assets having income or growth potential. They are among the simplest of businesses, consisting of shareholders and a board of directors and with most of their daily operations—portfolio management, recordkeeping, and the like—handled by outsiders. Sadly, this loose organizational structure can lead to unethical behavior.

Mutual funds have a reputation for being "customer friendly," especially to small investors with limited knowledge of the financial marketplace. Recently, many customers were in shock, not really believing that their fund manager might take part in such questionable games as "front running" (placing an order for stock just ahead of an order for the same shares from a customer, hoping to benefit from a price change) or "after hours trading" (allowing favorite clients to trade *after* the closing bell but at the previously established closing price—a privilege not available to most customers).

In the wake of this kind of behavior, millions of customers suddenly realized that mutual funds are not as heavily scrutinized from stem to stern like banks, life insurers, and other financial intermediaries. Instead, the funds' principal regulators (e.g., the states and the U.S. Securities and Exchange Commission) have limited control and few investigatory resources. Ethics are a powerful moral force, however, and it seems likely that tougher rules will continue to unfold as a result of this recent scandal.

have been increasingly intense competition for customers, the development of many new financial services, and a wave of mergers among financial firms, many of which extend beyond national boundaries. One of the purposes of this book is to help you understand why these global trends are occurring and what they are likely to mean for all of us in the future.

QUESTIONS TO HELP YOU STUDY

11. Can you distinguish between the following institutions?
    Money market versus *capital market*
    Open market versus *negotiated market*
    Primary market versus *secondary market*
    Spot market versus *forward or futures market*
12. If we follow the money and capital markets around the world each day it soon becomes apparent that interest rates and asset prices in different markets tend to move together, albeit with leads and lags. Why do you think this is so?
13. What are some of the forces that appear to tie all the financial markets together and often result in common movements in prices and interest rates across the whole financial system?
14. What is meant by the *dynamic financial system*? What trends appear to be reshaping the system?

1.7 The Plan of This Book

This text is divided into seven parts, each devoted to a particular segment of the financial system. Part One provides an overview of the global financial system—its role in the world's economy and basic characteristics. The vital processes of saving and

investing and lending and borrowing are described. Part One surveys the principal sources of information available today on the workings of the worldwide financial marketplace and presents an overview of how the financial system is likely to look in the future.

Part Two examines forces that shape interest rates and the prices of financial instruments. Because the rate of interest is the key price in the financial system, this section begins in Chapter 5, with a presentation encompassing a variety of views about how interest rates are determined. Subsequent chapters address such important topics as the measurement of interest rates and financial asset prices, yield curves and duration, and the impact of inflation, the risk of default, and taxes, among other factors, on interest rates and asset prices. Part Two concludes with a review of methods for hedging against interest rate and asset price changes, including swaps, futures, and options.

Part Three draws our attention to the money market—its principal institutions and instruments—and to a government institution that often dominates the tone of the money market—the central bank. Chapters in this section examine the characteristics of Treasury bills, federal funds, repurchase agreements, certificates of deposit, commercial paper, federal agency securities, bankers' acceptances, and Eurocurrency deposits. Part Three also presents a thorough examination of the many roles and functions of a central bank within the financial system, including an in-depth look at the history, organizational structure, and policy tools of the Federal Reserve System as well as the policy tools used by other central banks around the world. Part Three concludes with a review of the goals and targets for implementing central bank monetary policy.

In Part Four, the spotlight turns to private financial institutions—commercial banks, credit unions, savings associations, money market funds, insurance companies, pension funds, mutual funds, investment banks, and other financial-service firms. The reader is presented with an overview of their characteristics, regulation, current problems, and management tools designed to deal with those problems.

Part Five turns to the role of governments (federal, state, and local) and business firms within the global financial system. The opening chapter of this section explores the fiscal and debt management policies of the U.S. government, followed by an overview of state and local government borrowing, spending, and taxation. Then Chapter 19 takes up the topic of business borrowing, including the pricing and marketing of corporate bonds and asset-backed securities. Part Five concludes with an exploration of the many facets of the corporate stock market.

The financial characteristics of consumers—individuals and families—are considered in Part Six. Chapter 21 looks at the types of consumer debt and savings instruments available today and reviews current laws that protect the financial-services consumer. This section closes with an overview of the residential mortgage market—one of the largest of all financial markets. Chapter 22 explores the array of different types of home loans that have appeared in recent years and how this huge market has expanded lately under the umbrella of government support and aggressive private innovation.

Finally, Part Seven focuses upon the international financial system and future trends in global finance. Topics covered include international trade and the balance of payments, the markets for foreign currencies, hedging against currency risk, and international banking.

Throughout this text there is a strong emphasis on the innovative character of modern financial systems and institutions. A veritable explosion of new services and trading techniques has occurred in recent years. Moreover, the pace of innovation in

financial services appears to be accelerating under the combined pressure of increased competition and rising costs. As we will see in the pages that follow, the forces of innovation, competition, cost, and other factors are profoundly reshaping the structure and the operations of our whole financial system today.

Summary of the Chapter's Main Points

The opening chapter of *Money and Capital Markets* presents us with an introduction to the global financial system in which the money and capital markets play central roles. It also highlights the principal institutions that shape the character and functioning of the world's financial marketplace.

- The *financial system* produces and distributes financial services to the public. Among its most important services is a supply of *credit* that allows businesses, households, and governments to invest and acquire assets they need to carry on daily economic activity. The financial system of money and capital markets determines both the amount and cost of credit available. In turn, the supply and cost of credit affect the health and growth of the global economy and our own economic welfare.
- Credit and other financial services are offered for sale in the institution we call a *market.* Markets price and allocate financial and physical resources that are scarce relative to demand.
- Another key role played by markets operating within the financial system is to generate an adequate volume of *savings* (i.e., funds left over after current consumption spending by households and earnings retained by businesses) and to transform those savings into an adequate volume of *investment* (i.e., the purchase of capital goods and the buildup of inventories of goods to sell). In turn, investment generates new products and services and creates new jobs and new businesses, resulting in faster economic growth and a higher standard of living. By determining interest rates within the financial system, the money and capital markets bring the volume of savings generated by the public into balance with the volume of investment in new plant and equipment and in inventories of goods and resources available for sale.
- One important way to view the financial system is by examining its seven key functions or roles in meeting the financial-service needs of individuals and institutions, including generating and allocating savings, stimulating the accumulation of wealth, providing liquidity for spending, providing a mechanism for making payments, supplying credit to aid in the purchase of goods and services, providing risk protection services, and supplying a channel for government policy in helping achieve the nation's economic goals (including maximum employment, low inflation, and sustainable economic growth).
- The markets that serve the financial system may be classified in several different ways, including *money markets,* supplying short-term loans (credit) of less than a year, and *capital markets,* supplying long-term loans (credit) lasting longer than a year. There are also *open markets* where anyone may participate as buyer or seller versus *negotiated markets* where only a few bidders seek

to trade assets. There are *primary* versus *secondary* markets; in the former, *new* financial instruments are traded in contrast to the latter where existing instruments are exchanged. Additional types of financial markets that make up the global financial system include markets that deal in the immediate purchase or sale of goods or services, called *spot markets,* and those that promise future delivery, known as *futures, forward,* or *option markets.*

- While many different segments make up the money and capital markets around the globe, all these markets share the common purpose of supplying credit to answer global demands for borrowed funds and all encourage saving to make investment (and, therefore, economic growth) possible. Funds flow easily and, for the most part, smoothly from one segment of the marketplace to another, spurred by such forces as *arbitrage* and *speculation.* For example, *arbitrage* causes credit, savings, and investment to flow toward those market segments that offer the most favorable returns, helping different markets to price resources more consistently and to eliminate price disparities for the same goods and services. Prices are also brought into balance from market to market by the force of *speculation,* which seeks out underpriced and overpriced services and assets.
- The financial system of money and capital markets is rapidly becoming a new financial system due to dynamic trends sweeping through the system. Among the most prominent trends are innovation, improvements in communications technology, deregulation to reduce the burden of government rules, and increasingly intense competition to find and hold new customers.

Key Terms Appearing in This Chapter

financial system, 3
market, 4
financial market, 6
savings, 6
investment, 6
wealth, 8
financial wealth, 8
net financial wealth, 8
liquidity, 9
credit, 9
money market, 12
capital market, 12
open markets, 14
negotiated markets, 14
primary markets, 14
secondary markets, 14
arbitrage, 16

Problems and Issues

1. *None* of the following statements are correct. In each case, identify the error and correct the statement.

   a. A household's current savings includes its current purchases of corporate stock as well as prior holdings of corporate stock and its current investment includes the equity it currently has in its house.

   b. The change in a household's wealth over a quarter is given by its wealth at the beginning of the quarter plus its savings during the quarter.

c. The ability of a household to borrow money from a bank to purchase a new PC is an example of the payments function of the financial markets, while the ability of the bank to make the loan is an example of the liquidity function.

d. The ability of Treasury bills to retain their value over time is an example of the savings function of the economy, while the ability of a household to sell a Treasury bill on short notice with little risk of loss is an example of the liquidity function.

e. The ability of the Federal Reserve to manipulate interest rates is an example of the policy function of the financial markets, while the ability of households to earn interest on those investments affected by the Fed's decision is an example of the risk-protection function of the financial markets.

2. George Wilkins checked the spreadsheet where he keeps track of his assets and liabilities. He discovered that (i) he owes $80,000 on his house, which he believes to be worth $150,000; (ii) his car is worth $20,000, against which there is $2,000 on the remaining bank loan; (iii) his stock portfolio has risen to $50,000; (iv) he has a $10,000 balance in his bank account, which is earning a 1.2 percent annual interest rate; and (v) the value of his other belongings is $45,000. He has just received his monthly paycheck for $6,000 and he is trying to decide about taking a vacation and whether or not to pay off his car loan. His monthly expenses are $3,000 which includes the interest expense on his auto loan. He has two possible vacation choices: the Bahamas for $2,000 or a local beach for $1,000. If he has any money left over at the end of the month, it will go into his bank account. If he doesn't have enough money to cover all of his expenses for the month, he will sell enough of his stock to cover the excess expenses.

a. Use a spreadsheet to input each of George's assets, (i) to (v), in the first column; the value of these assets in the second column; and the liabilities (if any) against those assets in the third column. In the fourth column compute the net asset value of each of the assets. Total the fourth column to determine George's net worth at the beginning of the month.

b. Compute the additional net income that George will have from his paycheck plus the interest on his bank account minus the monthly expenses. Use this information to answer parts (c) through (f) below.

c. Repeat part (a) for the end of the month assuming George does not take a vacation and pays off his auto loan.

d. Repeat part (a) for the end of the month assuming George takes the Bahamas vacation and only pays $1,000 on the principal of the auto loan.

e. Repeat part (a) for the end of the month assuming that George takes the local beach vacation and pays off his auto loan.

f. Repeat part (a) for the end of the month assuming George takes the Bahamas vacation and pays off the auto loan.

3. James Jenkins walks into a Big Box electronics store in search of a new HDTV. He finds exactly what he wants. The price is $2,000 and the HDTV has a $100 maintenance contract that ensures against component failures. He has $1,000 in cash, $3,500 in his checking account that pays 2 percent interest, a credit card with a 7 percent interest charge on unpaid balances, and a savings account

paying 5 percent (all annual rates). Discuss which of the functions that the money and capital markets perform are important to Jim Jenkins as he considers various options for purchasing the HDTV.

4. Roberto begins the year with $5,000 in a savings account earning a 6 percent interest return annually. He decides to add $1,000 to that savings account today and he assumes interest rates will not change in the future. He also owns a car whose market value is $20,000 but he expects it will depreciate by $5,000 over the course of the year. Based on these two items alone, describe his annual savings and his total wealth at the beginning and end of the year. How might your answers change if Roberto had to wait 6 months before he could add that $1,000 to his savings account?

5. Classify the *market* in which each of the following financial transactions takes place as: (a) money versus capital; (b) primary versus secondary; (c) open versus negotiated; and (d) spot versus futures/forward.

   a. A three-year auto loan from a bank.

   b. A share of Google stock bought at its initial public offering (IPO).

   c. A six-month CD purchased from your local credit union.

   d. A contract for the delivery of hog bellies six months from today.

   e. A municipal bond purchased from a broker.

6. At the end of the calendar year, a firm has total financial assets amounting to $3.78 billion, while its total liabilities are $3.63 billion. What is this firm's *net* financial wealth? If the firm saved $50 million dollars over the previous year, representing the amount by which its financial assets rose relative to its liabilities, and it had begun the year with $3.63 billion in total financial assets, how much did it earn on its previously accumulated assets?

7. One definition of *pure arbitrage* is to combine a series of investments with a series of debts such that the net dollar investment is zero, no risk is taken, and a profit is made. How does this differ from *pure speculation* in the financial markets? Do you think that arbitrage opportunities can really exist? If so, do you think the opportunities for pure arbitrage would be long-lived? Please explain.

Web-Based Problems

1. Your text defines the wealth of a business firm as the sum of all its assets. To determine its *net* wealth (or total equity) you have to subtract the firm's liabilities from its assets. Net wealth is the value of the firm and should be reflected in its market capitalization (or stock price times the number of shares outstanding). Firms in different industries will require different amounts of wealth to create the same market value (or market capitalization). In this problem you are asked to compare the wealth (total assets), net wealth (assets less liabilities), and market capitalization of a large firm in each of the following industries: Financial Services (Citigroup, ticker symbol C); Manufacturing (Caterpillar, CAT); and High Tech (Microsoft, MSFT). Using

the financial resources of the World Wide Web, key in each firm's ticker symbol and find its most recent balance sheet and market capitalization. Are you surprised by how different these firms are in terms of the dollar value of assets required to create $1 of market value?

2. A large share of household wealth is held in the form of corporate stock. How much wealth does the entire stock market represent? To find an approximate answer, go to the Web site for Wilshire Associates at **www.wilshire.com** and click Indexes from the menu. Locate the information that explains how the Wilshire 5000 Index is constructed. This index is weighted by the market capitalization of the firms included in it, such that if you add the right amount of zeros to the index, you obtain the total value of all the firms represented in the index. Why is this number a good approximation to the entire U.S. stock market? Now obtain a chart for the index. How much stock market wealth has been created or destroyed over the past 12 months? Determine how much stock market wealth was created or lost *per person* in the United States over this period. (Hint: You can find the U.S. population at **census.gov/main/www/popclock.html**). Compare this with the average after-tax annual income *per person* in the United States. Use the disposable personal income figure that can be found under "Selected NIPA Tables: Table 2.1" at **bea.gov/national/nipaweb/Index.asp** to make the comparison.
3. One of the world's most important financial markets that we will study throughout this book is the market for U.S. Treasury securities. It is important because it is one of the few default-free, highly liquid debt instruments available anywhere in the financial marketplace. To determine the size of this market go to the Treasury Department's Web site at **publicdebt.treas.gov** and find the *Monthly Statement of the Public Debt.* How much debt does the U.S. government owe *per person* in the United States? (See the previous problem on how to find the U.S. population figure.) How much of this debt is held by the public and how much by government agencies? Only a portion of this debt—termed "marketable"—is traded daily in the money and capital markets. The remainder is held by the buyer until it matures. How much of this public debt is "marketable"?

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Chapter 2

Financial Assets, Money, Financial Transactions, and Financial Institutions

Learning Objectives in This Chapter

- You will see the most important channels through which funds flow from lenders to borrowers and back again within the global system of money and capital markets.
- You will discover the nature and characteristics of *financial assets*—how they are created and destroyed by decision makers within the financial system.
- You will explore the critical roles played by *money* within the financial system and the linkages between money and inflation in the prices of goods and services.
- You will examine the important jobs carried out by *financial intermediaries* in lending and borrowing and in creating and destroying financial assets.

What's in This Chapter? Key Topics Outline

2.1 Introduction: The Role of Financial Assets

The financial system is the mechanism through which loanable funds reach borrowers. Through the operation of the financial markets, money is exchanged for financial claims in the form of stocks, bonds, and other securities. And through the exchange of money for financial claims, the economy's capacity to produce goods and services is increased. This happens because the global money and capital markets provide the financial resources needed for real investment. Although it is true that the financial markets deal mainly in the exchange of paper claims and computer entries evidencing the transfer of funds, these markets provide an indispensable conduit for the transformation of savings into investment, accelerating the economy's growth and developing new businesses and new jobs.

This chapter looks closely at the essential role played by the financial markets in converting savings into investment and how that role has changed over time. We begin by observing that nearly all financial transactions between buyers and sellers involve the creation or destruction of a special kind of asset: a *financial asset.* Moreover, financial assets possess a number of characteristics that make them unique among all assets held by individuals and institutions. In the next section, we consider the nature of financial assets and how they are created and destroyed through the workings of the global financial system.

2.2 The Nature and Characteristics of Financial Assets

financial asset

What is a **financial asset?** It is a *claim* against the income or wealth of a business firm, household, or unit of government, represented usually by a certificate, receipt, computer record file, or other legal document, and usually created by or related to the lending of money. Familiar examples include stocks, bonds, insurance policies, futures contracts, and deposits held in a bank or credit union.

Characteristics of Financial Assets

Financial assets do *not* provide a continuing stream of services to their owners as a home, an automobile, or a washing machine would do. These assets are sought after because they promise *future* returns to their owners and serve as a *store of value* (purchasing power). Their value rests on *faith* that their issuer will honor his or her contractual promise to pay.

A number of other features make financial assets unique. They *cannot be depreciated* because they do not wear out like physical goods. Moreover, their physical condition or form usually is *not* relevant in determining their market value (price). A stock certificate is not more or less valuable, for example, because of the size or quality of paper it may be printed on, because it may be frayed around the edges, or because of the type and format of the computer file in which it may appear.

Because financial assets are generally represented by a piece of paper (certificate or contract) or by information stored in a computer, they have little or no value as a commodity and their cost of transportation and storage is low. Indeed, the cost of the storage and transfer of funds and other bits of financial information declined sharply as the twenty-first century began due to rapid advances in computer and electronic technology, causing financial assets to grow faster than world trade and faster than

the economy as a whole. Finally, financial assets are *fungible*—they can be easily changed in form and substituted for other assets. Thus, a bond or share of stock often can be quickly converted into any other asset the holder desires.

Types of Financial Assets

Although there are thousands of different financial assets, they generally fall into four categories: money, equities, debt securities, and derivatives.

money

Any financial asset that is generally accepted in payment for purchases of goods and services is **money.** Thus, checkable accounts and currency are financial assets serving as payment media and, therefore, are forms of money. In the modern world, money— even the forms of money issued by the government—depends for its value only upon the issuer's pledge to pay as promised.

equities

Equities (more commonly known as *stock*) represent ownership shares in a business firm and, as such, are claims against the firm's profits and against proceeds from the sale of its assets. We usually further subdivide equities into *common stock,* which entitles its holder to vote for the members of a firm's board of directors and, therefore, determine company policy, and *preferred stock,* which normally carries no voting privileges but does entitle its holder to a fixed share of the firm's net earnings ahead of its common stockholders.

debt securities

Debt securities include such familiar instruments as *bonds, notes, accounts payable,* and *savings deposits.* Legally, these financial assets entitle their holders to a priority claim over the holders of equities to the assets and income of an individual, business firm, or unit of government. Usually, that claim is fixed in amount and time (maturity) and, depending on the terms of the *indenture* (contract) that accompanies most debt securities, may be backed up by the pledge of specific assets as collateral. Financial analysts usually divide debt securities into two broad classes: (1) *negotiable,* which can easily be transferred from holder to holder as a marketable security, and (2) *nonnegotiable,* which cannot legally be transferred to another party. Passbook savings accounts and U.S. savings bonds are good examples of nonnegotiable debt securities.

derivatives

Finally, **derivatives** are among the newest kinds of financial instruments that are closely linked to financial assets. These unique financial claims have a market value that is tied to or influenced by the value or return on a financial asset, such as stocks (equities) and bonds, notes, and other loans (debt securities). Examples include futures contracts, options, and swaps. As we will see in future chapters, these particular instruments are often employed to manage risk in the assets to which they are tied or related.

2.3 How Financial Assets Are Created

Key URL:
One of the most popular sites today for tracking the changing values of financial assets is *Money Magazine's*
money.cnn.com

How are financial assets created? We may illustrate this process using a rudimentary financial system in which there are only two economic units: a household and a business firm.

Assume that this financial system is *closed,* so no external transactions with other units are possible. Each unit holds certain assets accumulated over the years as a result of its saving out of current income. The household, for example, has accumulated furniture, an automobile, clothes, and other items needed to provide entertainment, food, shelter, and transportation. The business firm holds inventories of goods to be sold, raw materials, machinery and equipment, and other assets required to produce its product and sell it to the public.

EXHIBIT 2.1 Balance Sheets of Units in a Simple Financial System

HOUSEHOLD
Balance Sheet

Assets		Liabilities and Net Worth	
Accumulated uses of funds:		Accumulated sources of funds:	
Cash	$13,000	Net worth (accumulated savings)	$20,000
Furniture	1,000		
Clothes	1,500		
Automobile	4,000		
Other assets	500		
Total assets	$20,000	Total liabilities and net worth	$20,000

BUSINESS FIRM
Balance Sheet

Assets		Liabilities and Net Worth	
Accumulated uses of funds:		Accumulated sources of funds:	
Inventories of goods	$ 10,000	Net worth (accumulated savings)	$100,000
Machinery and equipment	25,000		
Building	60,000		
Other assets	5,000		
Total assets	$100,000	Total liabilities and net worth	$100,000

The financial position of these two economic units is presented in the form of balance sheets, shown in Exhibit 2.1. A balance sheet, of course, is a financial statement prepared as of a certain date, showing a particular unit's assets, liabilities, and net worth. *Assets* represent *accumulated uses of funds* made by an economic unit; *liabilities* and *net worth* represent the *accumulated sources of funds* that an economic unit has drawn upon to acquire the assets it now holds. The net worth (equity) account reflects total savings accumulated over time by each economic unit.

A balance sheet must balance. Total assets (accumulated uses of funds) must equal total liabilities plus net worth (accumulated sources of funds).

The household in our example holds total assets currently valued at $20,000, including an automobile, clothes, furniture, and cash. Because the household's financial statement must balance, total liabilities and net worth also add up to $20,000, all of which in this instance happens to come from net worth (accumulated savings). The business firm holds total assets amounting to $100,000, including a building housing the firm's offices, equipment, and inventory. The firm's only source of funds currently is net worth (accumulated savings), also valued at $100,000.

By today's standards, the two balance sheets shown in Exhibit 2.1 look very strange. Neither the household nor the business firm has any outstanding debt (liabilities). Each unit is entirely *self-financed,* because each has acquired its assets by saving and by spending within its current income, not by borrowing. In the terminology of finance, both the household and the business firm have engaged in **internal financing:** the use of current income and accumulated savings to acquire assets. In the case of the

internal financing

household, savings have been accumulated by taking some portion of each period's income and setting money aside rather than spending all income on current consumption. The business firm has abstained from paying out all of its current revenues in the form of expenses (including stockholder dividends), retaining some of its current earnings in its net worth account.

For most businesses and households, internally generated funds are still the most important resources for acquiring assets. For example, in the U.S. economy well over half of all investments in plant, equipment, and inventories carried out by business firms each year is financed internally rather than by borrowing. Households as a group may save substantially more than they borrow in a given year, with the savings flowing into purchases of real assets (such as homes and automobiles) and into purchases of financial assets (such as stocks, bonds, and bank deposits).

Suppose that the business firm in our rudimentary financial system wishes to purchase new equipment in the form of a drill press. Due to inflation and shortages of key raw materials, however, the cost of the new drill press has been increasing rapidly. Internal sources of funds are not sufficient to cover the equipment's full cost. What can be done? There are four likely alternatives: (1) postpone the purchase of the new equipment until sufficient savings can be accumulated, (2) sell off some existing assets to raise the necessary funds, (3) borrow all or a portion of the needed funds, or (4) issue new stock (equity).

Time is frequently a determining factor here. Postponement of the equipment purchase probably will result in lost sales and lost profits. A competing company may rush ahead to expand its operations and capture some share of this firm's market. Moreover, in an environment of inflation, the new drill press surely will cost even more in the future than it does now. Selling some existing assets to raise the necessary funds is a distinct possibility, but this may take time, and there is risk of substantial loss, especially if fixed assets must be sold. The third alternative—borrowing—has the advantage of raising funds quickly, and the interest cost on the loan is tax deductible.[1] The firm could sell additional stock if it hesitated to take on debt, but equity financing is often more expensive than borrowing and requires more time to arrange.

If the business firm decides to borrow, who will lend the funds it needs? Obviously, in this two-unit financial system, the household must provide the needed funds. The firm must engage in **external financing** by issuing to the household securities evidencing a loan of money. In general, if any economic unit wishes to add to its holdings of assets but lacks the necessary resources to do so, it can raise additional funds by issuing financial liabilities (borrowing)—provided that a buyer of those IOUs can be found. The buyer will regard the IOUs as an asset—a financial asset—that may earn income unless the borrower goes out of business and defaults on the loan.

external financing

Suppose that the business firm decides to borrow by issuing a liability (debt security) in the amount of $10,000 to pay for its new drill press. Because the firm is promising an attractive interest rate on the new IOU, the household willingly acquires it as a financial asset. This asset is *intangible:* a mere promise to pay $10,000 at maturity

[1] An added advantage associated with issuing debt is the *leverage effect.* If the firm can earn more from purchasing and using the new equipment than the cost of borrowing funds, the surplus return will flow to the firm's owners in the form of increased earnings, increasing the value of the company's stock. The result is positive financial leverage. Unfortunately, leverage is a two-edged sword. If the firm earns less than the cost of borrowed funds, the owners' losses will be magnified as a result of unfavorable (negative) financial leverage.

EXHIBIT 2.2 Unit Balance Sheets Following the Purchase of Equipment and the Issuance of a Debt Security (Financial Asset)

HOUSEHOLD
Balance Sheet

Assets		Liabilities and Net Worth	
Cash	$ 3,000	Net worth (accumulated savings)	$20,000
Financial asset	10,000		
Furniture	1,000		
Clothes	1,500		
Automobile	4,000		
Other assets	500		
Total assets	$20,000	Total liabilities and net worth	$20,000

BUSINESS FIRM
Balance Sheet

Assets		Liabilities and Net Worth	
Inventories of goods	$ 10,000	Liabilities	$ 10,000
Machinery and equipment	35,000	Net worth	100,000
Building	60,000		
Other assets	5,000		
Total assets	$110,000	Total liabilities and net worth	$110,000

plus a promised stream of interest payments over time. The borrowing and creation of this financial asset will impact the balance sheets of these two economic units. As shown in Exhibit 2.2, the household has purchased the firm's IOU by using up some of its accumulated cash. Its total assets are unchanged. Instead of holding $13,000 in noninterest-bearing cash, the household now holds an interest-bearing financial asset in the form of a $10,000 security and $3,000 in cash. The firm's total assets and total liabilities *increase* due to the combined effect of borrowing (*external finance*) and the acquisition of a productive real asset.

What would happen to the balance sheet shown in Exhibit 2.2 if the business firm in our small financial system decided to issue stock (*equities*), rather than debt, to finance the purchase of its new equipment? Selling stock is usually more expensive than borrowing and any dividend payments to stockholders are not usually a tax-deductible expense. While equity financing generally requires more time to arrange, it does have the advantage of making a business firm financially stronger because the owners (stockholders) are committing more of their funds to the firm, thereby giving it greater protection against failure. As Exhibit 2.3 shows, the household in our rudimentary financial system would record its purchase of the firm's newly issued stock as a financial asset in the amount of $10,000. And, on the business firm's balance sheet, net worth would rise to $110,000, from $100,000. There would *not* be a liability account on the business's balance sheet because the household in this particular case is not a creditor, but rather a shareholder (part owner) of the business firm.

EXHIBIT 2.3 Unit Balance Sheets Following the Purchase of Equipment and the Issuance of Stock (a Financial Asset) to Pay for That Purchase

HOUSEHOLD
Balance Sheet

Assets		Liabilities and Net Worth	
Cash	$ 3,000	Net worth (accumulated savings)	$20,000
Financial asset	10,000		
Furniture	1,000		
Clothes	1,500		
Automobile	4,000		
Other assets	500		
Total assets	$20,000	Total liabilities and net worth	$20,000

BUSINESS FIRM
Balance Sheet

Assets		Liabilities and Net Worth	
Inventories of goods	$ 10,000	Net worth (including the issuance of new stock in the amount of $10,000)	$110,000
Machinery and equipment	35,000		
Building	60,000		
Other assets	5,000		
Total assets	$110,000	Total liabilities and net worth	$110,000

2.4 Financial Assets and the Financial System

This simple example illustrates several important points concerning the operation and role of the financial system within the economy. First, the act of borrowing or of issuing new stock simultaneously gives rise to the creation of an equal volume of financial assets. In the foregoing example, the $10,000 financial asset held by the household lending money is exactly matched by the $10,000 liability of the business firm borrowing money. This suggests another way of defining a financial asset: *Any asset held by a business firm, government, or household that is also recorded as a liability or claim on some other economic unit's balance sheet is a financial asset.* As we have seen, many different kinds of assets satisfy this definition, including stocks, bonds, bank loans, and deposits held with a credit union.

For the entire financial system, the sum of all financial assets held must equal the total of all financial liabilities (claims) outstanding. In contrast, real assets, such as automobiles, are not necessarily matched by liabilities (claims) somewhere in the financial system.

This distinction between *financial assets* and *liabilities,* on the one hand, and *real assets,* on the other, is worth pursuing with an example. Suppose that you borrow $10,000 from the bank to purchase an automobile. Your balance sheet will now contain a liability in the amount of $10,000. The bank from which you borrowed the funds will record the transaction as a loan—an interest-bearing financial asset—appearing

on the asset side of its balance sheet in the like amount of $10,000. On the asset side of your balance sheet appears the market value of the automobile—a real asset. The value of the real asset probably exceeds $10,000 since most banks expect a borrower to supply some of his or her own funds rather than borrowing the full purchase price. Let's say the automobile was sold to you for $15,000, with $5,000 of the cost coming out of your savings account and $10,000 from the bank loan. Then, your balance sheet will contain a new real asset (automobile) valued at $15,000, a liability (bank loan) of $10,000, and your savings account (a financial asset) will decline by $5,000.

Clearly, there are two equalities that hold not only for this transaction but whenever funds are loaned and borrowed in the financial system. First,

Volume of financial assets created for lenders	=	Volume of liabilities issued by borrowers	
In this case, a bank loan of $10,000	=	A borrower's IOU of $10,000	(2.1)

Second,

Total uses of funds	=	Total sources of funds	
Purchase of $15,000 automobile	=	Issuance of a $10,000 borrower IOU + $5,000 drawn from a savings account	(2.2)

Every financial asset in existence represents the lending or investing of funds transferred from one economic unit to another.

Because the sum of all financial assets created must always equal the amount of all liabilities (claims) outstanding, the amount of lending in the financial system must always equal the amount of borrowing going on. In effect, *financial assets and liabilities (claims) cancel each other out across the whole financial system.* We illustrate this fact by reference to the balance sheet of any unit in the economy—business firm, household, or government. The following must be true for *all* balance sheets:

$$\text{Total assets} = \text{Total liabilities} + \text{Net worth} \quad (2.3)$$

Then, because all assets may be classified as either real assets or financial assets, it follows that

$$\text{Real assets} + \text{Financial assets} = \text{Total liabilities} + \text{Net worth} \quad (2.4)$$

Because the volume of financial assets outstanding must always equal the volume of liabilities (claims) in existence, it follows that the aggregate volume of real assets held in the economy must equal the total amount of net worth. Therefore, for the economy and financial system *as a whole:*

$$\text{Total financial assets} = \text{Total liabilities} \quad (2.5)$$

$$\text{Total real assets} = \text{Net worth (i.e., accumulated savings)} \quad (2.6)$$

This means that the value of all buildings, machinery, and other real assets in existence matches the total amount of *accumulated savings* carried out by all businesses, households, and units of government. We *are not* made better off in real terms by the mere creation of financial assets and liabilities. These are only pieces of paper or blips

on a computer screen evidencing a loan or the investment of funds. Rather, society increases its wealth only by saving and increasing the quantity of its real assets, for these assets enable the economy to produce more goods and services in the future.

Does this suggest that the creation of financial assets and liabilities—one of the key functions of the global financial system—is a useless exercise? Not at all. The mere act of saving by one economic unit does not guarantee that those savings will be used to build or purchase real assets that add to society's stock of wealth. In modern economies, saving and investment usually are carried out by different groups of people. For example, most saving is usually carried out by households (individuals and families) and business firms account for the majority of investments in productive real assets. Some mechanism is needed to ensure that savings flow from those who save to those who wish to invest in real assets, and the system of money and capital markets is that mechanism.

The *financial system* provides the essential channel necessary for the creation and exchange of financial assets between savers and borrowers so that real assets can be acquired. Without that channel for savings, the total volume of investment in the economy surely would be reduced. All investment by individual economic units would have to depend on the ability of those same units to save (i.e., engage in internal financing). Many promising investment opportunities would have to be forgone or postponed due to insufficient savings. Society's scarce resources would be allocated less efficiently than is possible with a system of financial markets. Growth in society's income, employment, and standard of living would be seriously impaired without a vibrant financial system at work. In short, the financial system matters in reducing the barriers to external financing, lowering the cost of capital, and accelerating economic growth. Nations with more fully developed financial systems tend to grow faster and enjoy a higher standard of living.

QUESTIONS TO HELP YOU STUDY

1. Exactly what do we mean by the term *financial asset?*
2. How do financial assets come about within the functioning of the financial system?
3. Carefully explain why the volume of financial assets outstanding must always equal the volume of liabilities outstanding.
4. What is the difference between *internal finance* and *external finance?*
5. When a business, household, or unit of government is in need of additional funding, what are its principal alternatives? What factors should these different economic units consider when they have to choose among different sources of funds?
6. What is the relationship between the process of creating financial assets and liabilities and the acts of saving and investment? Why is that relationship important to your financial and economic well-being?

2.5 Lending and Borrowing in the Financial System

Business firms, households, and governments play a wide variety of roles in modern financial systems. It is quite common for an individual or institution to be a lender of funds in one period and a borrower in the next, or to do both simultaneously. Indeed,

financial intermediaries, such as banks and insurance companies, operate on *both sides* of the financial markets, borrowing funds from customers by issuing attractive financial claims and simultaneously making loans available to other customers. Virtually all of us at one point or another in our lifetimes will be involved in the financial system as both a borrower and a lender of funds.

A number of years ago, economists John Gurley and Edward Shaw [4] pointed out that each business firm, household, or unit of government active in the financial system must conform to the following identity:

$$R - E = \Delta FA - \Delta D \tag{2.7}$$

Current income receipts − Expenditures out of current income = Change in holdings of financial assets − Change in debt and equity outstanding

If, on the one hand, our current expenditures (E) exceed our current income receipts (R), we usually make up the difference by (1) reducing our holdings of financial assets ($\Delta FA < 0$) such as by drawing money out of a savings account; (2) issuing debt or stock ($\Delta D > 0$); or (3) using some combination of both. For example, suppose our expenditures this month exceed our current income receipts by $200. We can make up the difference by such steps as drawing down our savings account by $200, borrowing an additional $200, or doing a bit of each to cover the financial gap.

If, on the other hand, our receipts (R) in the current period are larger than our current expenditures (E), we can (1) build up our holdings of financial assets ($\Delta FA > 0$), for example, by placing money in a savings account or buying a few shares of stock; (2) pay off some outstanding debt or retire stock previously issued by our business firm ($\Delta D < 0$); or (3) do some combination of both of these steps. For example, if our receipts this month tally up to $200 more than our expenditures we now have the opportunity to increase our savings balance by $200 (perhaps because we are worried that next month will bring a budget deficit and we want to be ready), reduce any debt outstanding by $200, or elect to add some of the expected excess income to savings and the rest to debt repayment.

It follows that for any given period of time (e.g., day, month, or year), the individual economic unit must fall into one of three groups:

deficit-budget unit

Deficit-budget unit (DBU): (net borrower of funds) $E > R$; and so $\Delta D > \Delta FA$

surplus-budget unit

Surplus-budget unit (SBU): (net lender of funds) $R > E$; and thus $\Delta FA > \Delta D$

balanced-budget unit

Balanced-budget unit (BBU): (neither net lender nor net borrower) $R = E$; and, therefore, $\Delta D = \Delta FA$

A *net lender of funds (SBU) is really a net supplier of funds to the financial system.* He or she accomplishes this function by purchasing financial assets, paying off debt, or retiring equity (stock). In contrast, a *net borrower of funds (DBU) is a net demander of funds from the financial system,* selling financial assets, issuing new debt, or selling new stock to raise new money. The business and government sectors of the economy

EXHIBIT 2.4 Net Acquisitions of Financial Assets and Liabilities by Major Sectors of the U.S. Economy, 2006* ($ Billions)

Major Sectors of the Economy	Net Acquisitions of Financial Assets during the Year	Net Increase in Liabilities during the Year	Net Lender (+) or Net Borrower (−) of Funds
Households	$865.1	$1,411.1	$−546.0
Nonfinancial business firms	599.0	680.5	−81.5
State and local governments	80.0	144.0	−64.0
Federal government	−13.6	634.6	−648.2
International sector: Foreign investors and borrowers	1491.9	545.3	+946.6

Source: Board of Governors of the Federal Reserve System, *Flow of Funds Accounts.*

*Figures in the tables are for the first quarter of 2006.

tend to be net borrowers (demanders) of funds (DBUs) in most periods; the household sector, composed of all families and individuals, tends to be a net lender (supplier) of funds (SBU) in most (though not all) years.

Net lending and borrowing sectors in the U.S. economy early in 2006 reflected some of the patterns discussed above, but there were some important exceptions as well. For example, as shown in Exhibit 2.4, households during 2006 were significant net borrowers of funds in the financial system, declining to play their historic role as net lender. That is, U.S. households borrowed an amount from other sectors of the economy—recorded as their "Net Increase in Liabilities"—that was $546 billion *more* than the amount they loaned to other sectors—recorded as "Net Acquisitions of Financial Assets." The biggest borrowers in 2006 were governments. State and local governments were net borrowers to the tune of $64 billion, while the federal government sold off nearly $14 billion in previously acquired financial assets to raise new money and then borrowed nearly $635 billion on top of that! Nonfinancial businesses also joined the borrowing parade, issuing liabilities that exceeded the financial assets they purchased by nearly $82 billion.

If businesses, households, and governments were net borrowers in the money and capital markets in 2006, who loaned them the money? As Exhibit 2.4 clearly shows, it was foreign investors who supplied most of the funds these domestic borrowers were seeking. Foreign participants active in U.S. financial markets sought out U.S. dollar-denominated assets, buying up corporate stock, government bonds, and thousands of other American financial instruments, resulting in total net lending to U.S. domestic borrowers of more than $946 billion. Many of these overseas lenders of funds saw the United States as a relatively safe haven for their money, in contrast to the turmoil that characterized many foreign markets at the time.

Finally, if we look across all sectors in Exhibit 2.4 we note that early in 2006 total funds borrowed exceeded total funds loaned by about $393 billion. How could that be? Where did the extra funds borrowed come from? Some of those excess funds came from sectors not shown in the exhibit—for example, funds provided by the financial institutions' sector of the economy. Still other funds flowed in from "unrecorded transactions" (sometimes referred to as a "statistical discrepancy"). Many experts believe that some of these mysterious transactions probably reflect unreported money flows across national borders—money that is very hard to trace.

Of course, over any given period of time, any one household, business firm, or unit of government may be a deficit-, surplus-, or balanced-budget unit. In fact, from day to day and week to week, many households, businesses, and governments fluctuate from being deficit-budget units (DBUs) to surplus-budget units (SBUs) and back again. Consider a large corporation such as Ford or General Electric. Such a firm may be a net lender one week, supplying monies to deficit-budget units in the financial system for short periods of time through purchases of Treasury bills, bank Euro-deposits and CDs, and other financial assets. The following week, a dividend payment may be due company stockholders, bonds must be refunded, or purchases must be made to increase inventories and expand plant and equipment. At this point, the firm may become a net borrower of funds, drawing down its holdings of financial assets, securing loans by issuing liabilities, or selling equity (stock). Most of the large institutions that interact in the global financial marketplace continually fluctuate from one side of the market to the other. *One of the most important contributions of the global financial system to our daily lives is in permitting businesses, households, and governments to adjust their financial position from that of net borrower (DBU) to net lender (SBU) and back again, smoothly and efficiently.*

2.6 Money as a Financial Asset

What Is Money?

The most important financial asset in the economy is *money*—one of the oldest and most useful inventions in the history of the world. Metallic coins served as money for many centuries until paper notes (currency) first appeared in China during the Tang Dynasty over a thousand years ago (618–907 C.E.) and in Sweden in 1661. The federal government of the United States did not issue paper money until 1861 in the form of "greenbacks," named for the green ink on the back of each note. Many other assets besides currency and coin have served as money in earlier periods, including beads, seashells, cigarettes, and even playing cards.

All financial assets are valued in terms of money, and flows of funds between lenders and borrowers occur through the medium of money. Money itself *is* a financial asset, because all forms of money in use today are claims against some institution, public or private. For example, one of the largest components of the money supply today is the checking account, which is the debt of a depository institution (although today check-writing volume is declining relative to electronic payments). Another important component of the money supply is the sum of all currency and coin—pocket money—held by the public. The bulk of currency in use today in the United States, for example, consists of Federal Reserve notes, representing debt obligations of the 12 Federal Reserve banks. In fact, if the Federal Reserve ever closed its doors (a highly unlikely event!), Federal Reserve notes held by the public would be a first claim against the assets of the Federal Reserve banks. Other forms of money that are growing rapidly in popularity include credit and debit cards to allow instant borrowing or the withdrawal of funds from a bank deposit; stored-value ("smart") cards that are encoded via computer with a fixed amount of money available for spending; and digital cash available through the Internet computer network from a variety of financial-service providers. As we will see in the accompanying box on alternative definitions of the money supply, some concepts of what money is today include savings accounts at banks, credit unions, and money market funds—all forms of debt to their issuers, giving rise to financial assets.

FINANCIAL DEVELOPMENTS — Alternative Definitions of Money

Money performs multiple functions in the financial system, serving as a medium of exchange, a store of value (purchasing power), a standard for valuing goods and services (unit of account), and a source of liquidity (spending power). These different functions of money have given rise to a variety of different definitions of the actual money supply available to the public, with each definition reflecting a different function that money performs for those who hold it. For example, in the United States the principal definitions of money in use today are:

M1 = Currency and coin held by the public outside bank vaults, plus various kinds of payments accounts at depository institutions, such as checkable deposits and travelers' checks. M1 emphasizes the role of money as a medium of exchange. In 2006, M1 totaled close to $1.4 trillion in the United States.

M2 = M1 plus small savings and time deposits (less than $100,000) and share accounts at retail money market mutual funds. Thus, M2 adds in primarily short-term household savings to the money supply. In 2006, M2 amounted to just over $7 trillion.

MZM (money, zero maturity) = M2 minus small-denomination time deposits plus institutional money market funds (excluded from M2). In 2006 MZM, developed by the Federal Reserve Bank of St. Louis as a money measure close to the transactions demand for money, climbed in the vicinity of $7 trillion.

Clearly, each of the foregoing definitions reflects the many different roles money performs in the economy and financial system.

The Functions of Money

Key URLs:
Want to know more about the money supply and what makes it up? See especially **frbatlanta.org/publica** and **research.St Louisfed .org/fred 2/**

Money performs a wide variety of important services. It serves as a *standard of value* (or *unit of account*) for all the goods and services we might wish to trade. Without money, the price of every good or service would have to be expressed in terms of exchange ratios with all other goods and services—an enormous information burden for both buyers and sellers. We would need to know, for example, how many loaves of bread would be required to purchase a quart of milk, or what quantity of firewood might be exchanged for a suit of clothes. To trade just 12 different goods and services, we would have to remember 66 different exchange ratios! In contrast, the existence of money as a common standard of value permits us to express the prices of all goods and services in terms of only one item—the *monetary unit.* In the United States and Canada that unit is the dollar; in Japan, the yen; in China, the yuan; and in Europe, the euro. But whatever the monetary unit is called, it always has a constant price in terms of itself (e.g., a dollar always exchanges for a dollar). The prices of all other goods and services are expressed in multiples of the monetary unit.

Key URLs:
The importance of money within the financial system is discussed further in **encarta.msn.com**

Money also serves as a *medium of exchange.* It is usually the only financial asset that virtually every business, household, and unit of government will accept in payment for goods and services. By itself, money typically has little or no use as a commodity (except when gold or silver, for example, is used as the medium of exchange). People accept money only because they know they can exchange it at a later date for something else. This is why modern governments have been able to separate the monetary unit from precious metals (such as gold and silver) and successfully issue *fiat money* (i.e., pieces of paper or data stored in a computer file or on a plastic card) not tied to any particular commodity. Money's service as a medium of exchange frees us from the terrible constraints of barter, allowing us to separate the act of selling goods and services from the act of buying goods and services. With a medium of exchange,

buyers and sellers no longer need to have an exact coincidence of wants in terms of quality, quantity, time, and location.

Money serves also as a *store of value*—a reserve of future purchasing power. Purchasing power can be stored in currency and coin, in a checking account, on a plastic card, or in a computer file until the time is right to buy. Of course, money is not always a good store of value. The value of money, measured by its purchasing power, can experience marked fluctuations. For example, the prices of consumer goods represented in the U.S. cost-of-living index rose more than five times over between 1960 and 2006 and jumped almost a third during the most recent decade, on average. Individuals and families purchasing the identical market basket of goods represented in the cost-of-living index would have experienced a steep decline in their purchasing power unless their incomes rose rapidly enough to keep up with inflation.

Money functions as the *only perfectly liquid asset* in the financial system. An asset is liquid if it can be converted into cash quickly with little or no loss in value. A liquid asset possesses three essential characteristics: *price stability, ready marketability,* and *reversibility.* An asset must be considered *liquid* if its price tends to be relatively stable over time, if it has an active resale market, and if it is reversible so investors can recover their original investment without loss.

All assets—real and financial—differ in their *degrees of liquidity.* Generally, financial assets, especially bank deposits and stocks and bonds issued by major corporations, tend to be highly liquid; on the other hand, real assets, such as a home or an automobile, may be difficult to sell in a hurry without taking a substantial loss. *Money is the most liquid of all assets because it need not be converted into any other form to be spent.* Unfortunately, the most liquid assets, including money, tend to carry the lowest rates of return. One measure of the "cost" of holding money is the income forgone by the owner who fails to convert his or her money balances into more profitable investments in real or financial assets. The *rate of interest* determined by the financial system is a measure of the penalty suffered by an investor for not converting money into income-earning assets.

The Value of Money and Other Financial Assets and Inflation

inflation

The value of money—its *purchasing power*—changes due to **inflation,** defined as a rise in the average price level of all goods and services. Inflation lowers the value or purchasing power of money and is a special problem in the money and capital markets because it can damage the value of financial contracts (such as a bond or a deposit). Financial loss due to inflation is particularly likely where the amount of price inflation has not been fully anticipated or if the people and institutions who agreed to a financial contract were simply not able to adjust fully to the inflation that subsequently occurred.

deflation

The opposite of inflation is **deflation,** where the average level of prices for goods and services actually declines. Less common than inflation, deflation benefits those whose income doesn't also decline with prices and, therefore, can buy more goods and services than they could in the past. Unfortunately, deflation may be accompanied by a troubled economy and loss of jobs so that, even though living costs are less, many people may still find themselves with sharply reduced income (purchasing power).

price indexes

Today most economists measure inflation using popular **price indexes,** such as the Consumer Price Index (CPI) or the Gross Domestic Product (GDP) Deflator Index. The CPI, a cost of living index, measures the cost of a market basket of goods and

Key URL: To learn more about the Producer Price Index, see especially **bls.gov**

Key URL: Additional information concerning personal consumption and GDP deflator price indexes may be found at **bea.doc.gov**

Key URL: To learn more about U.S. inflation and how to adjust costs for inflation's effects see **stats.bls.gov**

services normally purchased by an urban family of four people. To determine this measure of the cost of living, the actual prices of designated items are collected from thousands of stores in cities across the United States each month, averaged, and combined into one index number. The U.S. CPI is widely used to make cost-of-living adjustments (COLAs) in labor contracts, Social Security payments, and in other government and private programs. A number of other nations, especially in Europe, have begun in recent years to compile their own CPIs in order to monitor the effects of inflation on their economies. An even broader price index is the GDP deflator series, which gathers both business and consumer prices on goods and services produced each year by labor and property inside the United States.

We can use the foregoing indexes to measure percentage changes in price levels (and inflation) relative to some base year employing the following relationship:

$$\Delta P = \frac{(PI_t - PI_{t-1})}{PI_{t-1}} \times 100 \tag{2.8}$$

where ΔP is the percentage change in prices or in the price index we are following between two time periods (t and $t-1$), PI_t is the price or price index in period t, and PI_{t-1} is the price index in some previous time period ($t-1$).

For example, suppose the U.S. CPI rises from 100 to 125 over a five-year period. We know that this cost of living index has climbed

$$\frac{(125 - 100)}{100} = 0.25 \text{ or } 25 \text{ percent}$$

over the five-year period we are studying. Unless the value of our incomes and our investments in financial assets and other forms of wealth has also gone up at least 25 percent during the same time period, we would have suffered a decline in purchasing power and in the true value of our wealth in terms of the goods and services we can now buy.

What else can a price index tell us? In 2006 the U.S. Consumer Price Index (CPI) averaged just over 200. This index value was based on the base period 1982–84 when the CPI was set at 100. This means that between 1982–84 and 2006 consumer prices in U.S. urban communities climbed an average of about 100 percent [that is, (200–100)/100 times 100 percent]. We can use numbers such as these to help figure out what has happened recently to the purchasing power of the basic monetary unit.

For example, suppose we wish to know what has happened to the purchasing power of the U.S. dollar recently. We could use this relationship:

$$\text{Purchasing power of the U.S. dollar} = \frac{1}{\text{Cost of living index where goods and services are sold in U.S. dollars}} \times 100 \tag{2.9}$$

As an illustration, if the American CPI stood just above 200 in 2006 and was equal to 100 in 1982–84, the U.S. dollar's relative purchasing power would have fallen to

$$\frac{1}{200} \times 100 = 0.50$$

between 1982–84 and 2006. In other words, in 2006, one dollar bought only about 50 percent of what it would have purchased just over two decades earlier.

These dramatic changes in the purchasing power of money, even in the United States where inflation is relatively modest, give us a stern warning. We should get into the habit of thinking in terms of the **real** ("purchasing power adjusted") **values** of things—incomes, goods, services, financial assets such as bonds, stocks, bank deposits, and so on—rather than only in terms of their **nominal** (or face) **values,** which can be highly misleading (sometimes referred to as a "money illusion") in periods of significant inflation or deflation.

real values

nominal values

QUESTIONS TO HELP YOU STUDY

7. What do the following terms mean?
   - Deficit-budget unit (DBU)
   - Surplus-budget unit (SBU)
   - Balanced-budget unit (BBU)
8. Which were you last year—a deficit-, surplus-, or balanced-budget unit? Why is it important to know?
9. Explain what *money* is. What are its principal functions within the system of money and capital markets? within the economy?
10. Does money have any serious limitations as a financial asset? What are these limitations?
11. Can you distinguish between *inflation* and *deflation?* What do they have to do with money, if anything?
12. Would you expect to find a relationship between money supply growth and inflation or deflation? What kind of relationship?

2.7 The Evolution of Financial Transactions

Financial systems are *never* static. They change constantly in response to shifting demands from the public, the development of new technology, and changes in laws and regulations. Competition in the financial marketplace forces financial institutions to respond to public need by developing more convenient and more efficient financial services. Over time, the global system of financial markets has evolved from simple to more complex ways of carrying out financial transactions. The growth of industrial centers with enormous capital investment needs and the emergence of a huge middle class of savers have played major roles in the gradual evolution of the financial system.

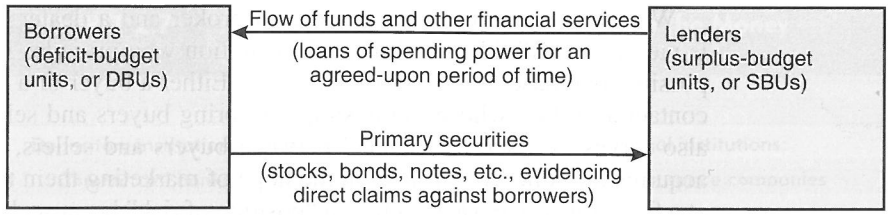
Whether simple or complex, all financial systems perform at least one basic function. They move scarce funds from those who save and lend (surplus-budget units) to those who wish to borrow and invest (deficit-budget units). In the process, money is exchanged for financial assets. However, the transfer of funds from savers to borrowers can be accomplished in at least three different ways. We label these methods of funds transfer: (1) direct finance, (2) semidirect finance, and (3) indirect finance. Most financial systems have evolved gradually over time from direct and semidirect finance toward greater reliance on indirect finance.

Direct Finance

With the direct financing technique, borrower and lender meet each other and exchange funds in return for financial assets without the help of a third party to bring

EXHIBIT 2.5

Direct Finance (direct lending gives rise to direct claims against borrowers)



direct finance

them together. You engage in **direct finance** when you borrow money from a friend and give him or her your IOU or when you purchase stocks or bonds directly from the company issuing them. We usually call the claims arising from direct finance *primary securities* because they flow directly from the borrower to the ultimate lender of funds. (Exhibit 2.5 illustrates the process of direct financing.)

Direct finance is the simplest method of carrying out financial transactions and probably the most efficient if conditions are right. Indeed, most financial systems in history started out using direct finance. However, it has a number of serious limitations. For one thing, both borrower and lender must desire to exchange the *same amount* of funds at the *same time.* More important, the lender must be willing to accept the borrower's IOU, which may be quite risky or slow to mature. Clearly, there must be a coincidence of wants between surplus- and deficit-budget units in terms of the amount and form of a loan. Without that fundamental coincidence, direct finance breaks down.

Another problem is that both lender and borrower must frequently incur substantial *information costs* simply to find each other. The borrower may have to contact many lenders before finding the one surplus-budget unit (SBU) with just the right amount of funds and a willingness to take on the borrower's IOU. Not surprisingly, direct finance soon is joined by other methods of carrying out financial transactions as money and capital markets develop.

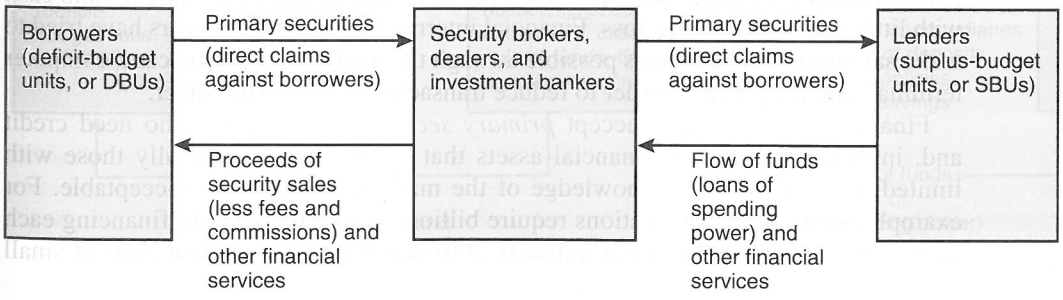
Semidirect Finance

semidirect finance

Early in the history of most financial systems, a new form of financial transaction called **semidirect finance** appears. Some individuals and business firms become securities brokers and dealers whose essential function is to bring surplus-budget (SBU) and deficit-budget (DBU) units together, thereby reducing information costs (see Exhibit 2.6).

EXHIBIT 2.6

Semidirect Finance (direct lending with the aid of market makers who assist in the sale of direct claims against borrowers)



We must distinguish here between a broker and a dealer in securities. A *broker* is merely an individual or financial institution who provides information concerning possible purchases and sales of securities. Either a buyer or a seller of securities may contact a broker, whose job is simply to bring buyers and sellers together. A *dealer* also serves as a service channel between buyers and sellers, but the dealer actually acquires the seller's securities in the hope of marketing them to buyers at a later time at a favorable price. Dealers take a "position of risk" because, by purchasing securities outright for their own portfolios, they are subject to losses if those securities decline in value.

Semidirect finance may have some advantages over direct finance if conditions are right. It lowers the search (information) costs for participants in the financial markets. Frequently, a dealer will split up a large issue of primary securities into smaller units affordable by even buyers of modest means and, thereby, expand the flow of savings into investment. In addition, brokers and dealers facilitate the development of secondary markets in which securities can be offered for resale.

Despite the important contribution of brokers and dealers to the functioning of the global financial system, the semidirect finance approach is not without its limitations. The ultimate lender still winds up holding the borrower's securities, and, therefore, the lender must be willing to accept the risk and maturity characteristics of the borrower's IOUs. There still must be a *coincidence* of wants and needs between surplus-and deficit-budget units for semidirect financial transactions to take place.

Indirect Finance and Financial Intermediation

indirect finance

The limitations of direct and semidirect finance under certain conditions stimulated the development of **indirect finance** carried out with the help of *financial intermediaries.* Financial intermediaries include commercial banks, insurance companies, credit unions, finance companies, savings and loan associations, savings banks, pension funds, mutual funds, and similar organizations. (See Exhibit 2.7.) Their fundamental role in the financial system is to serve both ultimate lenders and borrowers but in a different way than brokers and dealers do. Financial intermediaries issue securities of their own—often called **secondary securities**—to ultimate lenders and at the same time accept IOUs from ultimate borrowers—**primary securities** (see Exhibit 2.8).

secondary securities

primary securities

The *secondary securities* issued by financial intermediaries include such familiar instruments as checking and savings accounts, life insurance policies, annuities, and shares in a mutual fund. For the most part, these securities share several common characteristics. They generally carry *low risk of default.* For example, most deposits held in banks and credit unions are insured by an agency of government (in the United States, for amounts up to $100,000). Moreover, the majority of secondary securities can be acquired in *small denominations,* affordable by savers of limited means. For the most part, secondary securities are liquid and, therefore, can be converted quickly into cash with little risk of significant loss. Financial intermediaries in recent years have tried to make savings as convenient as possible through the mail and by plastic card, computer terminal, and telephone in order to reduce transactions costs to the saver.

Financial intermediaries accept *primary securities* from those who need credit and, in doing so, take on financial assets that many savers, especially those with limited funds and limited knowledge of the market, would find unacceptable. For example, many large corporations require billions of dollars in credit financing each year—sums that would make it impractical to deal directly with thousands of small

EXHIBIT 2.7 Major Financial Institutions Active in the Money and Capital Markets

Financial Intermediaries	
Depository institutions:	Contractual institutions:
Commercial banks	Life insurance companies
Nonbank thrifts:	Property-casualty insurers
Savings and loan associations	Pension funds
Savings banks	Investment institutions:
Credit unions	Investment companies (mutual funds)
Money market funds	Real estate investment trusts
Other financial intermediaries:	
Finance companies	
Government credit agencies	
Mortgage banking companies	

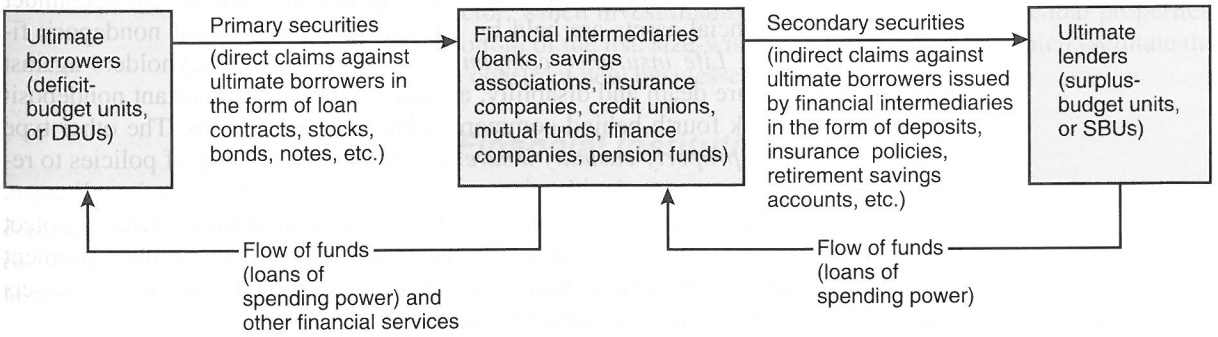
Other Financial Institutions		
Investment bankers	Security brokers	Security dealers

savers. By pooling the resources of scores of small savings accounts, however, a large financial intermediary frequently can service the credit needs of several large firms simultaneously. In addition, many primary securities are not readily marketable and carry sizable risk of borrower default—a situation usually not acceptable to the small saver. By issuing its own securities attractive to ultimate lenders (SBUs), and accepting primary securities from ultimate borrowers (DBUs), the financial intermediary acts to satisfy the financial needs of *both* surplus-and deficit-budget units in the economy.

Key URL:
To learn more about the role of financial intermediaries in the economy see **ny.frb.org**

One of the benefits of the development of efficient financial intermediation (indirect finance) has been to smooth out consumption spending by households and investment spending by businesses over time, despite variations in income, because intermediation makes saving and borrowing easier and safer. Financial intermediation permits a given amount of saving in the global economy to finance a greater amount of investment than probably would have occurred without intermediation.

EXHIBIT 2.8 Indirect Finance (the financial intermediation of funds)



Interestingly enough, finance theory suggests that in a perfect world with perfect competition and where the public has access to information at little or no cost, financial intermediaries probably would *not* exist. Rather, it is *imperfections* in the financial system (where, for example, some groups do not have access to relevant financial information or face prohibitive information costs) that help explain why there are financial intermediaries and why they have grown to be such huge and important institutions within the financial system. Financial intermediaries overcome inefficiencies in the financial marketplace and reduce the cost to society of moving information and wealth among households, businesses, and governments, thereby providing access to economies of scale (information cost savings) that would otherwise not be available to smaller units in the economy. Financial intermediaries improve the real world efficiency of the money and capital markets in allocating the daily flow of capital toward its best possible uses. How well financial intermediaries work is a key determinant of which countries have the largest and strongest economies.

2.8 Relative Sizes and Types of Major Financial Institutions

Comparative Sizes of Key Financial-Service Providers

Financial intermediaries and other financial institutions differ greatly in their relative importance within any nation's financial system. Measured by total financial assets, for example, *commercial banks* dominate the United States's financial system (as shown in Exhibit 2.9) and most other financial systems around the globe. The more than $9.5 trillion in financial assets held by U.S. banks represent about one-quarter of the total resources of all U.S. financial institutions. By some measures banks appear to have lost some of their market share to some nonbank financial institutions (such as mutual funds and credit unions), which may be less regulated or offer more flexible service options. In most countries, however, banks still represent the dominant financial institution.

Lagging well behind banks are *savings and loans associations*—another deposit-type financial intermediary active primarily in the U.S. mortgage market, financing the building and purchase of new homes. Very similar in sources and uses of funds to savings and loans are *savings banks,* which attract small savings deposits from individuals and families and make a wide variety of household loans. The fourth major kind of deposit-type financial intermediary, the *credit union,* was also created to attract small savings deposits from individuals and families and make loans to credit union members.

When the assets of all four deposit-type intermediaries—commercial banks, savings and loans, savings banks, and credit unions—are combined, they make up about one-third of the total financial assets of all U.S. financial institutions. The remainder of the sector's financial assets are held by a highly diverse group of nondeposit financial institutions. *Life insurance companies,* which protect policyholders against the risks of premature death and disability, are among the most important nondeposit institutions and rank fourth behind commercial banks in total assets. The other type of insurance firm—*property-casualty insurers*—offers a wider array of policies to reduce the risk of loss associated with crime, weather damage, and personal negligence. Among the most specialized financial institutions are *pension funds,* which protect their customers against the risk of outliving their sources of income in the retirement years. Private pensions now rank third behind banks and mutual funds in total assets held within the U.S. financial system. (See again Exhibit 2.9.)

EXHIBIT 2.9 Total Financial Assets Held by U.S. Financial Institutions, Selected Years ($ Billions at Year-End)

Financial Institutions	1970	1980	1990	2000	2006*
Financial intermediaries:					
Commercial banks	$ 489	$1,248	$3,340	$6,488	$9,528
Savings and loan associations and savings banks	252	794	1,358	1,219	1,829
Life insurance companies	201	464	1,367	3,204	4,479
Private pension funds	110	413	1,629	4,587	4,876
Investment companies (mutual funds)	47	64	602	4,457	6,473
State and local government pension funds	60	198	820	2,290	2,791
Finance companies	63	199	611	1,138	1,300
Property-casualty insurance companies	50	174	534	872	1,280
Money market funds	—	74	498	1,812	2,014
Credit unions	18	72	202	441	703
Mortgage banks	—	16	49	36	32
Real estate investment trusts	4	6	13	62	385
Other financial institutions:					
Security brokers and dealers	16	36	262	1,221	2,296

*Figures are for the first quarter of 2006.

Source: Board of Governors of the Federal Reserve System, *Flow of Funds Accounts: Financial Assets and Liabilities,* selected years.

Other important financial institutions include finance companies, investment companies (mutual funds), and real estate investment trusts. *Finance companies* lend money to businesses and consumers to meet short-term working capital and long-term investment needs. *Investment companies* pool the funds contributed by thousands of savers by selling shares and then investing in securities sold in the open market and are particularly important in holding and investing the public's retirement savings. A specialized type of investment company is the *money market fund,* which accepts savings (share) accounts from businesses and individuals and places those funds in high-quality, short-term (money market) securities. Also related to investment companies are *real estate investment trusts,* one of the smallest members of the financial institutions sector, which invest mainly in commercial and residential properties. Finally, near the bottom of the list, size-wise, are *mortgage banks,* which facilitate the raising of credit to construct new businesses and homes.

Classifying Financial Institutions

depository institutions
contractual institutions
investment institutions

Financial institutions may be grouped in a variety of different ways. One of the most important distinctions is between **depository institutions** (commercial banks, savings and loan associations, savings banks, and credit unions); **contractual institutions** (insurance companies and pension funds); and **investment institutions** (mutual funds and real estate investment trusts). Depository institutions derive the bulk of

their loanable funds from deposit accounts sold to the public. Contractual institutions attract funds by offering legal contracts to protect the saver against risk (such as an insurance policy or retirement account). Some investment institutions, particularly mutual funds, sell shares to the public and invest the proceeds in stocks, bonds, and other assets in the hope of providing higher returns to their shareholders. Other investment institutions facilitate the buying and selling of securities and other assets as in the case of brokers and dealers.

Portfolio (Financial-Asset) Decisions by Financial Institutions

The management of a financial institution is called on daily to make *portfolio decisions*—that is, *deciding what financial assets to buy or sell.* A number of factors affect these critical decisions. For example, the *relative rate of return and risk* attached to different financial assets will affect the composition of each financial institution's portfolio. Obviously, if management is interested in maximizing profits and has minimal aversion to risk, it will tend to pursue the highest yielding financial assets available, such as corporate bonds and stocks. A more risk-averse institution, on the other hand, is likely to surrender some yield in return for the greater safety available from acquiring government bonds and high-quality money market instruments.

The *cost, volatility, and maturity of incoming funds* provided by surplus-budget units (ultimate savers) also have a significant impact on the financial assets acquired by financial institutions. Banks, for example, derive a substantial portion of their funds from checkable deposits, which are relatively inexpensive but highly volatile. Such an institution will tend to concentrate its lending activities in short- and medium-term loans to avoid an embarrassing shortage of cash (liquidity). On the other hand, a financial institution such as a pension fund, which receives a stable and predictable inflow of savings, is largely freed from concern over short-term liquidity needs. It is able to invest heavily in long-term financial assets. Thus, the *hedging principle*—the approximate matching of the maturity of financial assets held with liabilities taken on—is an important guide for choosing those financial assets that a financial institution wants to hold in its portfolio.

Decisions on what financial assets to acquire and what financial assets to issue to the public are also influenced by the *size* of the individual financial institution. Larger institutions frequently can take advantage of greater *diversification* in their sources and uses of funds. This means that the overall risk of a portfolio of financial assets can be reduced by acquiring financial assets from many different deficit-budget units (DBUs or ultimate borrowers). Similarly, a larger financial institution can contact a broader range of surplus-budget units (SBUs or ultimate savers) and achieve greater stability in its incoming flows of funds. At the same time, through *economies of scale* (size), larger financial institutions can often sell financial services at a lower cost per unit and pass those cost savings along to their customers.

Finally, *regulations and competition,* two external forces, play major roles in shaping the financial assets acquired and issued by financial institutions. Because they hold the bulk of the public's savings and are so crucial to economic growth, financial intermediaries are among the most heavily regulated of all business firms. Commercial banks are prohibited from investing in low-quality or highly volatile loans and securities in many countries. Insurance companies and pension funds must restrict asset purchases to those a "prudent person" would most likely choose. Most government

regulations in this sector pertain to the assets that can be acquired, the adequacy of net worth, and the services that can be offered to the public. Such regulations are designed primarily to ensure the safety of the public's funds.

2.9 The Disintermediation of Funds

disintermediation

One factor that has influenced the financial assets selected by financial institutions for their portfolios from time to time is the phenomenon of **disintermediation.** Exactly opposite from the intermediation of funds, disintermediation means the withdrawal of funds from a financial intermediary by ultimate lenders (SBUs) and the lending of those funds directly to ultimate borrowers (DBUs). In other words, disintermediation involves the shifting of funds from indirect finance to direct and semidirect finance (see Exhibit 2.10).

Key URLs:
To learn more about disintermediation see, in particular, **http://en.wikipedia.org** and **answers.com/topic/disintermediation**

You engage in disintermediation when you remove funds from a savings account at the local bank and purchase common stock or other financial assets through a broker. The phenomenon is more likely to occur during periods of high and rapidly rising interest rates, when the higher returns demanded by savers may outpace the interest rates offered by financial intermediaries. Disintermediation forces a financial institution to surrender funds and, if severe, may lead to losses of assets and ultimate failure.

A good example of disintermediation was provided by banks and savings associations which, during the 1980s and early 1990s, lost billions of dollars in assets due to massive withdrawals of funds by worried depositors who feared the loss of their savings. Although intermediaries are forced to be more liquid and reduce their credit-granting activities during periods of disintermediation, there is no evidence that the *total* flow of credit through the financial system is necessarily reduced during such periods. Moreover, particularly when interest rates are low or declining or the riskiness of financial instruments appears to be rising in the marketplace, disintermediation may reverse itself as funds flow back into the perceived "safe haven" of financial intermediaries—a process called **reintermediation**.

reintermediation

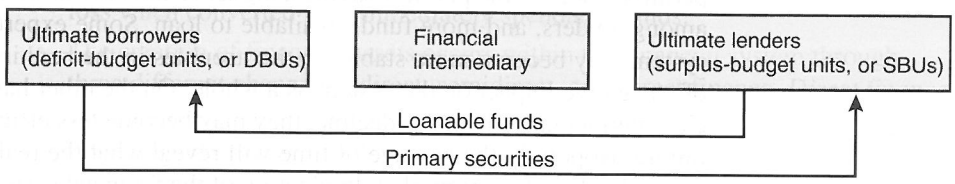
New Types of Disintermediation

Some authorities argue that new forms of disintermediation have appeared in recent years, some initiated by financial intermediaries themselves and some by their borrowing customers. For example, some banks in recent years have sold off some of their loans because of difficulties in raising enough capital. At the same time, some of their largest borrowing customers have learned how to raise funds directly from the open market (i.e., through direct and semidirect finance) rather than borrowing from a bank or other traditional financial intermediary.

Key URL:
For additional discussion of the differences between bank-dominated and market-dominated financial systems see especially **http://ideas.repec.org**

In recent years many traditional financial intermediaries, such as banks and credit unions, have been challenged by nonfinancial retail and industrial firms attempting to draw financial-service customers away. Prominent examples include General Electric,

EXHIBIT 2.10
Financial Disintermediation



General Motors, Target, and Toyota which recently set up industrial loan companies (ILCs) that offer services similar to those provided by smaller banks and finance companies. Recently the world's largest retailer, Wal-Mart, submitted an application for a charter to the state of Utah and to the FDIC for deposit insurance (later withdrawn) in an effort to set up their own ILC, creating a storm of controversy that such a step might weaken public confidence in the financial system and drive many traditional financial intermediaries out of business.

These new forms of disintermediation have tended not only to slow the growth of some financial institutions but also to gradually reduce the overall importance of traditional financial intermediaries within the global financial system. A substantial volume of funds today flow around traditional financial intermediaries toward other financial-service providers and through direct and semidirect financial market channels.

2.10. Bank-Dominated versus Market-Dominated Financial Systems

bank-dominated financial systems

Many countries financial systems today are called **bank-dominated financial systems** because of the prominent role that banks play in supplying credit and attracting savings. Examples include China, Japan, and South Korea as well as Germany and other countries in Eastern and Western Europe where banks account for more than half the assets of all financial institutions. Bank-denominated systems tend to emerge where there is less protection for the rights of small investors and rules are not well defined or enforced, impeding the development of security markets for stocks and bonds. Without adequate investor protection and rules those in need of capital tend to avoid the open market and develop strong relationships with banks and other traditional lenders.

While bank-dominated systems emerged centuries ago, today a change is underway. A growing number of financial systems appear to be gradually moving toward

market-dominated financial systems

market-dominated financial systems, in which traditional financial intermediaries are gradually playing somewhat lesser roles and growing numbers of borrowers (particularly the largest corporations) are selling securities (e.g., stocks and bonds) in the open market to get the funds they need. Prominent examples of such systems include those in Great Britain and the United States.

In short, early financial systems have tended to be bank-dominated. However, as financial sophistication grows and effective legal systems appear, financial systems tend to become more market oriented. Such a change is especially evident today in Western Europe where national financial systems are becoming more integrated with each other and debt and equity capital flow more smoothly across political boundaries.

Is this emerging trend in financial-system architecture beneficial? No one knows for sure, but there is at least limited evidence that such a change in the structure of the financial system could be helpful to the public and especially to those borrowing money. With the emergence of market-dominated systems there may be greater competition to attract the public's savings, higher returns for savers, increased competition among lenders, and more funds available to loan. Some experts believe the financial system may become more stable, so that troubles in the banking sector will have less of a negative impact on the system as a whole. On the other hand, if traditional financial intermediaries begin to decline, they may become less efficient and more prone to failure. Hopefully the passage of time will reveal what the real benefits and costs are of less bank and more market domination of the financial system.

QUESTIONS TO HELP YOU STUDY

13. What is *direct finance? Semidirect finance? Indirect finance?*
14. In the evolution of the financial system, which do you think came first—direct, indirect, or semidirect finance? Why do you think this is so?
15. What are the essential differences between *primary* and *secondary securities?* Why are these instruments important to the operation of the financial system?
16. In what different ways are financial institutions classified or grouped? Why are such classifications or groupings important in helping us understand what different financial institutions do and what kinds of financial assets they prefer to hold?
17. Which financial institutions are the *largest* within the financial system? Why do you think this is so?
18. What factors influence the particular financial assets each financial institution acquires?
19. What is *disintermediation* and why is it important? How has disintermediation changed in recent years? What is meant by the term *reintermediation?*
20. Explain the difference between a *bank-dominated financial system* and a *market-dominated financial system.* What trends in the structure of the financial system appear to be ongoing in the more highly developed economies around the world?

Summary of the Chapter's Main Points

The global financial system of money and capital markets performs the important function of channeling savings into investment. In that process a unique kind of asset—a *financial asset*—is created.

- Financial assets represent *claims against the income and assets* of individuals and institutions issuing those claims. There are three major categories of financial assets—*money, debt,* and *equities.* A fourth instrument, *derivatives,* is closely related to financial assets, deriving its value from these assets.
- *Money* is among the most important financial assets because it serves as a medium of exchange to facilitate purchases of goods and services, a standard for valuing all items bought and sold, a store of value (purchasing power) for the future, and a reserve of liquidity (immediate spending power). Despite all these advantages, money has a weakness—susceptibility to inflation (i.e., a rising price level), because its rate of return is normally so low. In contrast, the financial assets represented by *debt* or *equity* securities, and often by *derivatives* as well, carry greater average yields but, unlike money, may incur loss when converted into immediately spendable funds.
- The creation of financial assets occurs within the financial system through three different channels—direct, semidirect, or indirect finance. *Direct finance* involves the direct exchange of financial assets for money in which borrowers (deficit-budget units, or DBUs) and lenders (surplus-budget units or SBUs) meet directly with each other to conduct their business. *Semidirect finance*

involves the use of a broker or dealer to help bring borrower and lender together and reduce information costs. *Indirect finance* refers to the creation of financial assets by financial intermediaries who accept *primary securities* from ultimate borrowers (DBUs) and issue *secondary securities* to ultimate savers (SBUs) to raise funds.

- *Financial intermediaries* (such as banks, pension funds, and insurance companies) have grown to dominate most financial systems today due to their greater expertise and efficiency in diversifying away some of the risks involved in lending money.
- One of the most serious management problems encountered by some financial intermediaries is *disintermediation*—the loss of funds from an intermediary to direct or semidirect finance. Much of the disintermediation experienced by modern intermediaries has occurred due to *financial innovation.* Borrowers have found new ways to obtain the funds they need without going through an intermediary. However, in times of heightened uncertainty, this process may be reversed with *reintermediation* occurring as funds flow back into financial intermediaries from direct and semidirect finance as investors seek a "safe haven" for their investments.
- Finally, financial systems around the world appear to fall into one of two broad categories—*bank-dominated financial systems* and *market-dominated financial systems.* In bank-dominated systems the majority of financial assets arise from the banking system. When banks get into trouble the financial system itself may experience difficulties with risk exposure and slower growth. In market-dominated financial systems, by contrast, security brokers and dealers tend to be leaders in the financial system and often provide the greatest volume of funds to those in need of new capital. Market-dominated financial systems are heavily dependent upon direct and semidirect finance (i.e., the open market), while bank-dominated systems tend to rely upon financial intermediaries (indirect finance) for raising funds.

Key Terms Appearing in This Chapter

financial asset, 26
money, 27
equities, 27
debt securities, 27
derivatives, 27
internal financing, 28
external financing, 29
deficit-budget unit (DBU), 34
surplus-budget unit (SBU), 34
balanced-budget unit (BBU), 34
inflation, 38
deflation, 38
price indexes, 38
real values, 40
nominal values, 40
direct finance, 41
semidirect finance, 41
indirect finance, 42
secondary securities, 42
primary securities, 42
depository institutions, 45
contractual institutions, 45
investment institutions, 45
disintermediation, 47
reintermediation, 47
bank-dominated financial systems, 48
market-dominated financial systems, 48

Problems and Issues

1. In a recent year, the various sectors of the economy listed below reported the following *net* changes in their financial assets and liabilities (measured in billions of dollars):

	Net Acquisitions of Financial Assets	Net Increase in Liabilities
Households	$ 434.6	$ 292.0
Farm businesses	2.7	−2.5
Nonfarm noncorporate businesses	8.7	35.0
Nonfinancial corporations	84.9	127.8
State and local governments	74.8	60.6
U.S. government	13.0	236.3
Foreign individuals and institutions	150.7	29.0
Federal Reserve System	32.0	31.2
Commercial banking	256.0	245.7
Private nonbank financial institutions	556.9	590.7

Using these figures, indicate which sectors were deficit-budget sectors (DBUs) and which were surplus-budget sectors (SBUs) for the year under study. Were there any balanced-budget sectors? Which sectors were the largest net lenders and the largest net borrowers during the year? For all these sectors *combined,* were more funds loaned or more funds borrowed? Why do you think there is a discrepancy between total funds loaned and total funds borrowed?

2. In this chapter, a number of different types of financial transactions were discussed: *direct finance, semidirect finance, indirect finance* (intermediation), *disintermediation* and *reintermediation.* Examine each of the following financial transactions and indicate which type it is. (*Note:* Some of the transactions described below involve more than one type of financial transaction. Be sure to identify *all* types involved.)
   - **a.** Borrowing money from a bank.
   - **b.** Purchasing a life insurance policy.
   - **c.** Selling shares of stock through a broker and returning the proceeds of the sale to your checking account.
   - **d.** Withdrawing money from a savings deposit account and lending it to a friend.
   - **e.** Selling shares of stock to a colleague at work.
   - **f.** Your corporation's contracting with an investment banker to help sell its bonds.
   - **g.** Writing a bank check to purchase stock from your broker.

3. ITT Corporation in the most recent period reported current sales receipts of $542 million, current operating expenditures of $577 million, and net new debt issued of $5 million. What change in holdings of financial assets must have occurred over the period? Was ITT a deficit-, surplus-, or balanced-budget unit in the most recent period? Explain why.

4. What would happen to the purchasing power of the U.S. dollar if the base period for the cost of living index were 1980 = 100 and the index reached the following levels in the indicated years?
   - **a.** 1985—116
   - **b.** 1990—127
   - **c.** 1995—134
   - **d.** 2000—151
   - **e.** 2005—170
5. A household receives $6,000 in income for the month of September. Which of the following could have been true of the household's financial assets and liabilities (debt) if its total expenditures for the month amounted to $7,000?
   - **a.** Its financial assets grew by $1,000 and its debt grew by $2,000.
   - **b.** Its financial assets fell by $2,000 and its debt grew by $1,000.
   - **c.** Its financial assets grew by $2,000 and its debt grew by $1,000.
   - **d.** Its financial assets grew by $2,000 and its debt fell by $1,000.
6. Marvin purchases a $2,000 computer online using his credit card. His wife, Jane, purchases an identical computer with a check. For Marvin and Jane's combined household balance sheet. What is true?
   - **a.** Total assets have increased by $4,000, but there has been no change in net worth.
   - **b.** Total assets have increased by $4,000, while total liabilities rose by $2,000.
   - **c.** Total financial assets fell by $2,000, while total liabilities rose by $2,000.
   - **d.** Total financial assets fell by $2,000, while net worth remained unchanged.

7. Jack and Jill are small business owners who run a hot dog stand licensed to operate outside a business shopping district. They have been so successful that they believe a second hot dog stand in the area also would be profitable. The capital expense to set it up would be $10,000 and they are considering several options. Use a spreadsheet to evaluate these options by inserting (i) their receipts in column 1; (ii) expenses in column 2; (iii) change in financial assets in column 3; and (iv) change in their debt in column 4. State whether they would be a surplus-budget unit or a deficit-budget unit under each option.
   - **a.** Their sales for the month turn out to be $12,000 and their expenses are $9,500; they borrow $10,000 for the new hot dog stand.
   - **b.** Their sales for the month turn out to be $15,000 and their expenses $9,500; they sell $5,000 in stock and borrow the remaining funds needed to finance the new hot dog stand.
   - **c.** Their sales for the month turn out to be $8,000 and their expenses are $9,500; they choose neither to borrow any funds nor build the second hot dog stand.
   - **d.** Their sales for the month turn out to be $9,500 and their expenses also are $9,500; they use $5,000 in their bank account (with no other asset sales) to help finance the new hot dog stand.

Web-Based Problems

1. The total volume of *primary securities* created by the banking system as a whole is referred to as *bank credit.* The total volume of *secondary securities* issued by the banking system is given by the banks' *total liabilities* minus any interbank lending, referred to as either "borrowings from other banks" or "federal funds purchased."
   a. Go to the Web site of the Federal Reserve System and find its H.8 statistical release: **federalreserve.gov/releases/h8/Current/.** Identify the total volume of primary and secondary securities for the banking system as a whole for the most recent quarter.
   b. Compute the *difference* between the total amount of credit created by the banking system in the form of primary securities and the banking system's liabilities in the form of secondary securities. What does this difference represent? What is this difference expressed as a percentage of total assets in the banking system?
   c. See if you can find annual balance sheets for at least two of the largest U.S. banks—for example, Bank of America (BAC) and Wells Fargo (WFC). Identify the total amount of primary securities (investment securities plus loans, claims, and advances) and secondary securities (customer deposits plus short-term borrowings less federal funds purchased) for each bank. Perform similar calculations as in part (b) to determine what percentage of the total assets for each of these banks is the difference between primary and secondary securities on their books. Does this tell you anything about these very large banks relative to the banking industry as a whole?

2. Most major security dealers houses engage in both *semidirect* and *indirect* financing in their roles as *financial intermediaries.*
   a. Identify which of these two types of financing should show up on the intermediary's balance sheet and which should not. Explain.
   b. How would you expect these two different types of financial transactions to show up on the intermediary's income statement?
   c. Consult the World Wide Web for the annual balance sheet and income statement of a major dealer house such as Lehman Brothers (www.lehman.com) or Goldman Sachs (www.gs.com).
   d. Identify the *semidirect* and *indirect* finance activities of these or other dealer houses.

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Chapter 3

The Financial Information Marketplace

Learning Objectives in This Chapter

- You will be able to identify the most important sources of information about the money and capital markets and the financial system.
- You will discover why the efficient distribution of information within the financial system is so important and what can happen when relevant financial information is not readily available to all market participants.
- You will understand how any individual or institution active in the financial marketplace can keep track of the prices of financial assets, interest rates, and other financial variables.
- In an appendix to the chapter you will learn about the *Flow of Funds Accounts of the United States* and discover what is meant by "social accounting."

What's in This Chapter? Key Topics Outline

3.1 Introduction: The Importance of Information in the Financial Marketplace

Every day in the money and capital markets, individuals and institutions must make important financial decisions. For those who plan to borrow, for example, key decisions must be made concerning the timing of a request for credit and exactly where the necessary funds should be raised. Lenders of funds must make decisions on when and where to invest their limited resources, considering such factors as the risk and expected return on loans and securities available in the financial marketplace. Government policymakers also are intimately involved in the financial decision-making process. It is the responsibility of government to ensure that financial markets function smoothly in channeling savings into investment and in creating a volume of credit sufficient to support business and commerce.

Sound financial decisions require adequate and reliable *financial information.* Borrowers, lenders, and those who make financial policy require data on the prices and yields attached to individual loans and securities today and the prices and yields likely to prevail in the future. A borrower, for example, may decide to postpone taking out a loan if it appears that the cost of credit will be significantly lower six months from now than it is today. Moreover, because economic conditions exert a profound impact on the money and capital markets, the financial decision maker must also be aware of economic data series that reflect trends in employment, prices, and related types of information.

Where do financial decision makers go to find the data they need? We may divide the sources of information relied upon by financial decision makers into four broad groups: (1) debt security prices and yields, (2) stock prices and dividend yields, (3) information on security issuers, and (4) general economic and financial conditions across the entire economy and financial system. In this chapter, we will discuss several of the most important sources of each of these different kinds of information.

3.2 The Great Debate over Efficient Markets and Asymmetric Information

Before we examine the principal sources of information available to financial market participants, however, we need to be aware of a great debate going on in the field of finance today concerning the availability and cost of information. One view, referred to as the **efficient markets hypothesis,** contends that information relevant to the pricing (valuation) of loans, securities, and other financial assets is readily available to *all* borrowers and lenders at *negligible cost.* The other view, called the *asymmetric information hypothesis,* argues that the financial marketplace contains pockets of inefficiency in the availability and use of information. Some market players—for example, professional lenders of funds, auditors, attorneys, journalists, or members of management and the boards of directors of corporations—may possess special information that enables them to get a more accurate picture of the value and risk of certain assets. These "insiders" allegedly can earn excess returns by selectively trading financial assets based on the special information they have been able to acquire—information that would be costly for others to obtain.

efficient markets hypothesis

In this chapter, we briefly sketch out how these two contrasting views of the information marketplace—efficient markets and asymmetric information—differ in terms of the cost and availability of relevant information to decision makers in the financial marketplace and ultimately affect the prices (values) of all financial assets.

The Efficient Markets Hypothesis (EMH)

What Is an Efficient Market? The efficient markets hypothesis (hereafter EMH) suggests that *all* information that has a bearing on the market value of stocks, bonds, and other financial assets will be used to value (price) those assets. *An efficient market neither wastes nor misuses information.* Under the terms of the EMH, the money and capital markets will not consistently ignore information that can earn profits. Because financial markets today may encompass large numbers of profit-maximizing, well-informed, intelligent investors there won't be any profitable trades of assets not made (at least not for very long) and there will be no systematic mispricing of assets.

For example, if an individual has savings to invest in stocks and bonds, he or she will seek out information on the financial condition of the business firms issuing those particular financial assets, the quality of their management and products, the strength of their industry, and the condition of the economy in which each firm operates. Each individual investor will rationally use *all* of the available information relevant to valuing the stocks and bonds he or she might wish to buy. Because all investors are likely to be seeking the same information for the same reasons, the current market price of any financial asset will reflect all relevant information that investors as a group have been able to obtain regarding that asset's true value. Because all information available has been used to establish the value of financial assets, no single user of that same information can consistently earn "excess returns" or "abnormal returns" by trading on information available to all. Rather, in an efficient marketplace, each financial asset will generate an "ordinary," "normal," or "expected" rate of return commensurate with its level of risk.

If the EMH is correct, any temporary deviation of actual returns from expected returns (i.e., excess positive or excess negative returns) *should be quickly eliminated as investors react to temporary underpricing* (when a financial asset's actual return rises *above* its expected return) *or temporary overpricing of assets* (when a financial asset's actual return falls *below* its expected return) *and make changes in their asset portfolios.* Investors in the money and capital markets will react to financial assets they perceive to be *underpriced* (with positive excess returns) or *overpriced* (with negative excess returns) by buying or selling the temporarily mispriced assets.

In short, the discovery of a financial asset whose expected return lies consistently above or below its "expected," "ordinary," or "normal" return would be a signal of possible market inefficiency, inconsistent with the EMH. This may be true because rational market participants use *all* relevant information available. Because all financial asset prices may instantaneously incorporate all relevant information few excess returns from trading assets will be available.

Moreover, when *new* relevant information reaches the marketplace, the prices (value) of financial assets normally *will change quickly* as investors possessing this new information move rapidly to seize any profitable opportunities that appear, bidding up the prices of some assets and lowering the prices of others. And because market prices respond only to *new* information, which by its nature is unpredictable, the value of financial assets cannot be predicted consistently. If we could consistently predict asset values, this would be evidence of an inefficient market in which not all information is being fully utilized.

The essential contribution that the EMH makes to our understanding of the money and capital markets is to suggest that the current prices of all financial assets represent the *optimal use* of available information. And each asset's price, determined

by demand-and-supply forces in the marketplace, is an optimal forecast of each asset's fundamental or intrinsic value.

In fact, a financial asset's current market price may be the *best estimate* of that asset's expected fundamental or intrinsic value. However, each asset's fundamental value will vary with the state of the world (e.g., the condition of the economy and the current concerns of asset buyers about risk) prevailing at the time the asset is being traded. Therefore, the current price of a financial asset equals its expected fundamental value given all possible states of the world recognized by buyers and sellers. Under the terms of the EMH, the price of a financial asset must embody *all* of the information relevant to the valuation of that asset, including all present and past information.

Different Forms of the EMH In recent years, the EMH has been split into three different versions based on what each assumes to be true about the availability and cost of information. These three versions are:

Key URL:
To examine the evidence for and against the efficient markets hypothesis see, for example, **investorhome.com/emh.htm**

1. *Weak form of the EMH,* which argues that the current prices of financial assets contain all information that buyers and sellers have been able to obtain on the past trading of those assets: their *price history and past volume of trading.* Moreover, this past price and trading information is available freely to all market participants. No one buyer or seller can consistently earn excess profits beyond those that are "normal" or "expected" for the amount of risk taken on from trading on this historical price and volume information. If this were not true, investors would have figured out long ago how to profit from historical data and asset prices would have been adjusted accordingly, eliminating further opportunities for exceptional returns.
2. *Semistrong form of the EMH,* which contends that the current prices of financial assets already reflect *all publicly available information* affecting the value of these instruments, including information about past prices and volume, the financial condition and credit rating of each issuer, any published forecasts, the condition of the economy, and all other relevant information. All buyers and sellers are rational and use all publicly available information to help them value financial assets. No one buyer or seller will, therefore, find consistent opportunities for exceptional profits by trading on publicly available information.
3. *Strong form of the EMH,* which argues that the current prices of financial assets capture *all* the information—*both public and private*—that is relevant to the value of financial instruments. This includes the information possessed by "insiders," such as the officers, directors, and principal owners of a corporation issuing stocks and bonds or even accountants, attorneys, or journalists who work with the company and have access to its privileged information.

Key URLs:
To sample the long-term debate over the random walk hypothesis see especially **en.wikipedia.org**; **investopedia.com/university/concepts**; and **answers.com/topic/random-walk-hypothesis**

Repeated research studies tend to support the weak and semistrong forms of the EMH. Only limited opportunities for exceptional profits flowing from trading on past or present publicly available information appear to exist. According to the related concept of *random walk,* successive changes in asset prices often appear as unpredictable as a sequence of random numbers so that smaller, less-well-informed investors should, on average, do about as well as more well-informed financial analysts in anticipating asset price changes.

The strong form of the EMH, however, has aroused the most controversy and resulted in mixed research findings. This may be due to the existence of insider

trading activities and because of the apparent presence of pockets of special information asymmetrically scattered throughout the financial system.[1]

Insiders and Insider Trading The word "insiders" has come to have a sinister meaning for most of us. It smacks of something illegal or unfair. Someone has special knowledge or special privileges and can, at will, take advantage of that knowledge or privilege and profit from it, perhaps at our expense. Nowhere is the term "insider" more recognized and more often condemned than in the money and capital markets.

What Is Insider Trading? The board of directors of a company, its officers or managers, and even many of its staff employees may know something about its condition the public doesn't know, and as such, they may be able to benefit from that knowledge, perhaps by buying or selling the firm's stock before the public becomes aware of what's really going on. Section 10(b)-5 of the U.S. Securities and Exchange Act forbids any "manipulative or deceptive device" in trading securities and other financial assets, and Section 16(c) of the Securities and Exchange Act requires all trading by insiders to be reported to the Securities and Exchange Commission (SEC) within the first 10 days of the month following the particular month an insider trade has occurred. These insider trades are reported in the SEC's *Official Summary of Insider Transactions.* Recent federal laws have raised the maximum criminal penalties for insider trading up to a million dollars and have made it possible for judges to set jail terms for offenders of up to 10 years in certain cases. Those harmed by insider trading may file civil suits for recovery of losses.

When Is Insider Trading Legal or Illegal? Recent research suggests that **insider trading** frequently "works" in the sense that insiders often win exceptional ("abnormal" or "excess") returns on the trading of financial assets. For example, approximately one-half of the increase in the price of a firm's stock associated with the appearance of "new" information occurs *prior* to the release of that information to the public. These "early" price movements suggest that trading is taking place by insiders or by others privy to the "new" information before it becomes public knowledge.

insider trading

One of the most famous insider trading cases in history involved Michael Milken, a securities dealer and broker who worked with numerous companies to arrange their new bond and stock offerings and used some of the information he gained to earn millions of dollars in the financial markets. Ultimately, Milken paid fines in the hundreds of millions of dollars and went to prison for a time, eventually receiving a presidential pardon.

Actually, insiders can use privileged information legally if they provide that information to the public *before* they go into the money and capital markets to trade financial assets. However, the number of insider trading cases prosecuted has been rising, despite doubts expressed by some experts that anyone is really consistently hurt by insider trading activity. In fact, insider deals may, under certain circumstances, actually be beneficial to the efficient functioning of the financial marketplace.

For example, consider managers who produce performance gains for their company. Shouldn't they be able to benefit from trading in their firm's stock? Governments that penalize insider trading may actually discourage business managers from taking on risk and demonstrating their superior managerial capabilities. Other experts argue that businesses themselves, not the government, should decide if they want to permit or prohibit insiders from trading in their bonds, stocks, or other financial instruments.

[1] For further discussion of research findings regarding the EMH and the random walk hypothesis see Chapter 20 on the market for corporate stock.

Moreover, they argue, insider-trading activity may actually *improve* market efficiency by encouraging more rapid information flows and quicker adjustments in the prices of financial assets to the appearance of *new* information. As a result, financial assets may be more correctly priced more quickly. This would tend to reduce risk to investors who hold ownership (equity) shares in a particular business.

Nonetheless, corporations today, especially those whose stock is publicly traded, are encouraged to monitor closely employees trading their stock. The criminal and civil penalties can be onerous, including the negative publicity that often surrounds these cases (as illustrated in recent years by the damages associated with alleged insider transactions involving associates of AT&T, Enron, IBM, ImClone, and Tyson Foods). Moreover, insider trading seems more difficult to get away with today due to the growing use of electronic surveillance systems by corporations themselves, major stock exchanges, and security trading firms.

The Asymmetric Information Hypothesis (AIH)

What if, contrary to the efficient markets hypothesis, we lived in a world where *all* relevant information about the true value of financial assets was *not* readily available or was expensive to obtain? What would happen if some important information pertinent to financial decision making were distributed *asymmetrically?* Suppose *some* individuals and institutions had access to pockets of information concerning the true value and risk of financial assets and others simply did not. This is the basic premise of the **asymmetric information hypothesis** (here after AIH).

asymmetric information hypothesis

The asymmetric view says that there *are* pockets of special information—a "lumpiness" in the supply of relevant information about financial assets. These pockets may include corporate insiders, journalists, security dealers, and financial analysts who possess unique analytical skills in spotting profitable trades. These possessors of special knowledge need not be operating illegally. Indeed, they may come by their unique talents in assessing value and risk through rigorous schooling and on-the-job training or by virtue of the special location they occupy within the financial system. For example, every year hundreds of corporations flock to college campuses to hire graduates whom they believe have the potential to become expert judges of the quality of financial assets.

Attempts to exploit asymmetries in information could have great consequences for the financial marketplace as a whole. For example, under the terms of the AIH there will be variations in both the quantity and the quality of information available. Unfortunately, most users of financial information cannot easily assess its quality at the time they must pay for it. Thus, considerable incentive exists in the money and capital markets for sellers of information to make wild claims about the quality of the information they are selling. It is not clear that the financial markets have yet developed an effective mechanism for policing the quality and truthfulness of information (as exemplified recently by the financial problems of such firms as Enron Corp. and Global Crossing), although, over time, those who provide misleading information may suffer a loss of reputation and eventually exit the industry due to lack of demand for their services. In short, the presence of imperfect or "bad" information may lead to market inefficiency, thwart the making of optimal decisions, and lead to more government intervention in the marketplace in an effort to fix the problems that asymmetrically distributed and poor quality information can create.

The AIH does not necessarily contradict the weak and semistrong forms of the EMH. It concedes that the value of financial assets will capture all publicly available

ETHICS IN THE MONEY AND CAPITAL MARKETS

What Is Legal and Illegal Insider Trading in the Money and Capital Markets?

Defining what types of insider activity are legal and what forms are illegal is one of the toughest distinctions to make, and many experts in the field flatly disagree. One problem is deciding who an "insider" really is. Certainly the board of directors, management, and employees of a company whose financial assets are publicly traded would qualify as privileged "insiders." These individuals are said to owe a *fiduciary duty* to act in their company's best interest and the best interests of its stockholders (owners). If these people personally benefit from inside information, they may be charged with breaching their fiduciary duty or with *misappropriating information* that belongs to their employer.

However, government lawyers often argue that outside consultants, investment bankers, and lawyers under contract to provide services to a firm also owe a fiduciary duty to that company and could be considered illegal "insiders," breaching their fiduciary duty if they use the information they receive to engage in asset trading.

Beyond these particular groups of individuals, however, the law is badly split today. Generally speaking, those who clearly have a fiduciary duty because they are paid to work for a firm and benefit personally from using its inside information to score profits in the market run the risk of prosecution. However, if you do *not* work for such a firm and use its insider information to score trading profits, there may be no legal violation because there may be no fiduciary responsibility.

This happened to a print shop worker in the *Chiarella vs. the United States* case (1986) because of profit-generating information that Mr. Chiarella allegedly obtained while setting copy for the corporate clients of his printing firm. However, Mr. Chiarella went free because the Supreme Court found no evidence that he had a fiduciary duty to the firms whose reports he read.

On the other hand, you might be brought to trial on misappropriation of information if you are working for a company that has a relationship with another firm and just happen to overhear nonpublic information and proceed to trade on it. This happened in the case of *James H. O'Hagan vs. the United States* (1996). Mr. O'Hagan allegedly found out about a proposed acquisition of Pillsbury—a case being worked on by attorneys in his law firm—and allegedly used that information to generate trading profits. Ultimately, the Supreme Court ruled that misappropriation of information had occurred with respect to the defendant's law firm. Unfortunately, the courts have mixed records on whether misappropriation of information or the existence of fiduciary duty can be broadly applied to individuals who are *not* employees or owners of a business firm, such as family members, psychiatrists, golfing partners, security dealers, or, in the Martha Stewart case, friends.

information. However, it is inconsistent with the strong form of the EMH in believing that some market participants have sufficient access to special (private) information that they can, at times, profit from, thereby earning excess returns. Moreover, where asymmetries are very strong, a financial market can misfire, misallocate resources, and even collapse.

Problems Asymmetries Can Create: Lemons and Plums

Asymmetries can create many difficulties in the availability and distribution of information. One of the most familiar—often called the *lemons problem*—has confronted used car buyers ever since the automobile was invented. Everyone who has ever purchased a used car is aware of the risks involved in the process. The buyer does not know whether the used automobile he or she is looking at is a real "lemon"—a continuing source of trouble and grief as repair bills mount—or if the car is a "plum"—a solid piece of transportation that runs and runs with few problems. The seller, in hopes of getting a higher price, has a strong incentive to misrepresent the car as a *plum.* Unless he or she is convinced this is true, the buyer will probably be unwilling to pay the full price for a plum due to the risk that the car will ultimately turn out to be a lemon. The seller possesses special ("inside") information built up by personal

Key URL:
To improve the efficiency of the financial markets the United States has formed the president's Working Group on Financial Markets, including the Chairman of the Securities and Exchange Commission, the Federal Reserve, and the Commodities Futures Trading Commission along with the Secretary of the Treasury. See, in particular, **treasury.gov/press/releases**

experience with the vehicle; the buyer cannot obtain this information except at considerable cost (such as by hiring a mechanic to do an inspection of the vehicle).

A similar problem confronts the loan officer of a bank. Dozens of customers come in every day asking for loans, pledging they will use the requested funds for a good purpose that meets the lending institution's credit standards, and promising they will repay their loans on time. Clearly, the loan officer can't be sure without incurring substantial costs which of his or her customers is a lemon or a plum. Equally frustrating, some customers who were plums when they took out their first loan may now be lemons due to changing circumstances, such as the loss of a job or the failure of a business. This asymmetry problem helps explain why credit rating agencies have become so important to lending institutions that willingly pay to have someone accumulate and evaluate the credit histories of borrowing businesses and households.

Given the right circumstances, it can be shown that a market divided between lemons and plums can eventually become largely a market in which *only lemons are offered for sale.* This can happen because buyers will be unwilling to pay a premium price for plums if there is a substantial probability they will, in fact, be purchasing lemons. However, the seller, possessed of inside information, knows whether he owns a plum and will usually be unwilling to sell a plum for the price of a lemon. If there is no low-cost way around this asymmetry problem, the ultimate result over time is that the plums will be driven from the market and only lemons will remain to be sold. *Lower-value assets will drive out higher-value assets.*

What can happen to used cars also can happen to financial assets. Lower-quality borrowers can drive away higher-quality borrowers who are unwilling to borrow at the higher interest rates that lower-quality borrowers must pay. This is a situation in which one price alone (such as the interest rate on a loan) cannot effectively separate the lemons from the plums. Something else is needed to insure that markets function efficiently, including independent audits, warranties, loan commitment fees, and other devices.

Incidentally, if mispricing tends to drive higher-quality borrowers out of a particular market, where might those borrowing institutions go to get the funds they need? One way of escaping this dilemma is to turn to other markets where informational asymmetries may be less of an issue. As we noted in the previous chapter, a new form of *disintermediation* has occurred in recent years in which top-quality borrowers are avoiding traditional lending institutions, such as banks and insurance companies. Instead, they are going straight to the *open market,* selling their bonds, stocks, and other financial assets directly to global investors. In contrast, smaller borrowers with significant informational problems (such as unaudited financial statements) have frequently come to depend upon banks and other traditional lenders for the credit they need. In short, the existence of informational asymmetries has helped to restructure some of our most important marketplaces.

Problems Asymmetries Can Create: Adverse Selection

A related problem revolves around differences in risk presented by different groups of customers who want to enter into contracts with financial institutions. In this case, information asymmetry exists *before* the parties to a contract reach an agreement. When an asymmetrical distribution of information is already present, it can drastically alter the nature of contracts that a business firm is willing to write in order to serve its customers.

For example, banks face an *adverse selection* problem with one of their most important services: checking accounts. To a banker, there are two principal categories of checking account customers: (1) those who hold high deposit balances and write few checks, giving the bank more money to lend while the low level of account activity keeps bank costs down, and (2) those customers who keep low balances in their account but write lots of checks, giving the bank few funds to invest while heavy account activity runs up bank costs. When a customer walks in to open a new account, the banker doesn't know what kind of customer she will be. Only the customer has the "inside" information on what kind of checking account user she is likely to be.

If the banker sets a single, average price for all checking account customers the bank runs the risk of being *adversely selected against* by its potentially most profitable customers. The preferred high-balance, low-activity customers will leave because the one price set by the bank is likely to be too high for them, but that price may be too low to cover the bank's operating costs in serving the less preferred low-balance, high-activity checking account customers. Another bank could simply enter the market with a checking account service that is more attractive to high-balance customers and attract away the most profitable accounts. The first bank would be "adversely selected against" by those particular customers it most wanted to attract.

How does the first bank mitigate this problem of adverse selection? The most common technique used today is to set up a *conditional price schedule* in which the prices vary based on how much money each customer keeps on deposit and how many checks are written each month. The customer then chooses the most appropriate checking account plan. Such an array of different prices (rather than having only one price) for the same service, based on each customer's usage level and deposit balance, helps a bank to ensure that low-balance, high-activity customers will pay higher service fees and that low-activity, high-balance customers will pay lower fees. In effect, the customer "self-selects" his or her own checking account plan according to the "inside" information he or she possesses. Moreover, the customer's choice of any particular deposit plan signals to the banker what kind of customer he or she is likely to be.

Thus, in some situations the problem of asymmetric information can be mitigated by *signaling:* letting participants in the marketplace who possess inside information take actions that will reveal the nature of that unique information to other potential participants. For example, an insider in a corporation who knows that her company is in trouble can signal the problem to the public by selling the company's stock. If the public happens to see insiders selling out, they too may begin to sell, driving the value of the company's stock lower in the financial marketplace.

Problems Asymmetries Can Create: Moral Hazard

Another problem in information asymmetry often arises *after* contracts are agreed to between buyers and sellers. One party to a contract may decide to pursue his own self-interest at the expense of other parties to the agreement. This is known as **moral hazard** and it often arises because of poorly drafted contracts or ineffective monitoring activity by the principal parties involved.

moral hazard

For example, the managers of a corporation, instead of managing the company for the benefit of the firm's stockholders, may grant themselves generous benefit packages and lavish offices, boosting their firm's expenses well beyond what is necessary to efficiently produce and sell the firm's products. Management may also conceal bad performance, take on excessive risk, misrepresent the outcomes of projects, or

simply shirk in doing their jobs. The result is that management—the *agent* of the stockholders—optimizes its own well-being, while the stockholders—the *principals* in this instance—receive less than optimal returns on their stock. Because information on what is happening inside the firm is often difficult and expensive to obtain, the stockholders (principals) may not be aware for a long time (if ever) of the unnecessary expenses that their agent—the firm's management—is creating. (The act of running up operating costs higher than they need to be is often called *expense preference behavior.*) In this instance the agents are creating a "moral hazard" problem for a company's principals (its shareholders).

Elimination of moral hazard problems can be costly, both in discovering the problem and in rewriting contracts between principals and agents to get rid of it. Usually, moral hazard problems are dealt with by placing appropriate incentives in principal-agent contracts so agents will want to act more in line with the interests of principals. For example, the board of directors of a corporation, representing its stockholders, might tie management salaries to the actual performance of the firm, such as its profitability or sales growth, or to other performance measures linked to the firm's stock price.

Asymmetry, Efficiency, and Real-World Markets

No market in the real world is either completely efficient or completely asymmetric. Rather, all real-world markets contain elements of *both* efficiency and asymmetry. Recent research has found some evidence that appears to be inconsistent with the pure efficient markets hypothesis. For example, some investors appear to earn excess returns at times from trading the stock of *small firms.* Moreover, some market anomalies seem to run counter to a truly efficient market, such as unusually high stock returns on Fridays and unusually low stock returns on Mondays (known as the *weekend effect*). Stock prices also appear to display exceptionally high volatility in the short run, with some traders apparently buying on the basis of a stock's past performance (*momentum*) rather than buying on the basis of its fundamental value, temporarily driving its price higher, and then, subsequently, selling the stock as its price returns to its former level (a phenomenon called *mean reversion,* which also seems inconsistent with the efficient markets hypothesis). Perhaps real-world markets are split into segments: (1) a highly efficient segment, in which well-informed individuals and institutions (the "smart money") trade, and (2) a segment in which less-well-informed small investors trade, where information *is* asymmetrically distributed, more costly to acquire, and often of poorer quality.

We will see in subsequent chapters of this book how market participants have moved to counter informational asymmetries by developing special kinds of expertise, forming special kinds of organizations (such as credit rating agencies and auditing firms), writing unique contractual agreements (such as detailed insurance and loan contracts that contain deductibles and commitment fees), using multiple prices for the same service to separate profitable from unprofitable clients, and striving continually to become more efficient and reduce the cost of gathering relevant information. It is also useful to bear in mind that the possession of special or inside information does not always result in an advantage for its possessors. Research suggests that, at times, there may be a "curse of knowledge": *Some market participants may be so overloaded with information they cannot effectively sort out what is relevant and what is irrelevant in order to make a profitable decision.*

E-COMMERCE AND THE FINANCIAL MARKETPLACE

eBay and Quality in Online Selling—Remedying the Lemons Problem

In this chapter we are exploring the damage that can be done to individuals and institutions in a situation where information is asymmetrically distributed. The classic case, as we saw earlier in this chapter, is the *lemons problem*—sellers have knowledge about the true worth of an asset, but buyers cannot access that information without incurring significant costs. As a result, quality items may be driven from the marketplace, leaving flawed merchandise for people to bid on.

The global online marketer, eBay, which auctions off everything from autos to baseball cards, confronts this quality issue every day. eBay has attacked the "lemons" problem from several different directions. It warns sellers of the consequences of misrepresenting what they sell in terms of damage to their reputation, possible legal action, and loss of access to eBay's market. The firm cooperates with N.E.W. Customer Service in offering warranties to cover at least a portion of a buyer's loss. Moreover, complaints that qualify may receive some reimbursement from eBay itself. Finally, eBay has set up an online dispute mechanism called *SquareTrade* where buyers and sellers attempt to mediate their dispute. As eBay has demonstrated, there are ways of dealing with an uneven distribution of quality information so that markets *can* function effectively.

Informational Asymmetries and the Law

One way to deal with information asymmetries is to pass laws and regulations designed to improve the flow of information between buyers and sellers, reduce the cost of obtaining quality information, and protect the public against deception in valuing assets. However, as the history of the financial marketplace clearly shows this is not easy to do. For example, a rumor-fed banking panic in 33 CE almost destroyed the global banking system as mobs of frightened depositors descended upon leading Roman banks, fearing their connections with troubled businesses. During the eighteenth century deceptive information and lavish promises helped attract huge sums of money into the highly speculative South Seas bubble, in which the stock of the South Seas Company soared upward before sinking like a stone, ultimately resulting in huge losses when the true value of this scheme finally became known.[2]

In the United States prior to the Great Depression of the 1930s, the public was often victimized by misinformation about the true condition and intent of companies entering the market with new stock and bond issues. More recently, misleading information about the accounting practices and debt loads of Enron Corporation and WorldCom resulted in unprecedented financial losses for individual and institutional investors, including wiping out many workers' pensions. Today scores of Internet hoaxes, including investors hoping to profit by sending out false statements about selected firms, threaten the public's trust of electronic sources of information.

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[2]In the South Seas bubble, known today as the "Enron of England," the British government made a deal with South Seas Company to help ease Britain's debt burden. Buoyed by this connection South Seas promoted itself as having a profitable monopoly in trading with Latin America and hyped its prospects for future success. Its stock soared before better-informed investors realized the company was substantially overvalued, eventually sending its shares tumbling. The great physicist, Sir Isaac Newton, sold his shares before South Seas collapsed, but couldn't resist reinvesting when the company's stock continued to rise. Sir Isaac lost close to 20,000£ and is reported to have said: "I can calculate the motions of the heavenly bodies but not the madness of people."

In an effort to improve the flow of information about securities offered for public sale and prohibit misinformation and securities fraud, Congress in 1933 passed the Securities Act, requiring companies selling financial assets across state lines to submit a *prospectus* to a federal agency, the Securities and Exchange Commission (SEC), giving detailed economic and financial information about the firm's condition and prospects. Once the prospectus is approved, the SEC requires that the issuer of stocks, bonds, and other financial assets supply a prospectus to any investor interested in buying those assets. Misrepresentation or fraud in a prospectus can trigger lawsuits by the SEC and by investors against a business selling financial assets, its directors, and any public accounting firms involved, as well as dealers handling the sale of those assets.

In 1934 the Securities Exchange Act was passed, requiring corporate insiders to follow guidelines in trading the financial instruments of firms with which they are affiliated in order to avoid excessive profit taking from privileged information. This law also moved to outlaw fraud and misrepresentation in trading financial assets already issued, requiring assets traded on exchanges and trading firms themselves to register with the SEC, providing detailed annual reports to the SEC and to their own shareholders. Shortly thereafter, the Maloney Act was passed, requiring trade associations, such as the National Association of Securities Dealers (NASD), to register with the SEC. Today, NASD tries to discourage cheating and deception by enforcing an ethics code and by licensing dealers.

The Investment Company Act, passed in 1940, required mutual funds (investment companies) to register with the SEC and provide the shareholding public with reports on their activities and performance. The Investment Advisers Act, passed in the same year, required the registration of professional investment advisers, who also must report their procedures for analyzing and recommending investments. In 1970, the Securities Investor Protection Act set up the Securities Investor Protection Corporation (SIPC) to insure an investor against losses of up to $500,000 in securities and up to $100,000 in lost cash should his or her brokerage firm fail. The SIPC agrees to replace any assets lost due to the collapse of a brokerage firm, although it does not guarantee the value of those assets.

In the fall of 2000 the U.S. Securities and Exchange Commission passed Regulation FD (for Fair Disclosure). This required companies to disclose material financial information broadly rather than only to selected viewers (such as stockbrokers or security dealers). This supposedly gives *all* possible investors roughly equal access to market-moving information. Even more recently a settlement between the New York Attorney General's Office and major brokerage companies restricted the exchange of privileged information between security brokers and their wealthiest clients who often pay large brokerage commissions and expect special treatment in return. At about the same time the SEC moved to block mutual funds from releasing inside information about the funds' portfolio strategies to hedge funds and other large investors. Rules such as these help to protect the public by giving them equal access to pertinent information as an aid to sound financial decision making.

Key URL: Information for investors on current financial scams, on the rights of defrauded investors, and on how to file a complaint dealing with deceptive marketing practices can be found on the Securities and Exchange Commission's Web site: **sec.gov**

While government regulations and controls recently put in place to mitigate the damaging effects of asymmetric information may be helpful in improving the efficiency of the financial markets, many observers think we have a long way to go in solving asymmetric information problems. They point, for example, to the case of Enron Corporation, a huge energy firm that filed for bankruptcy in 2001 and whose alleged insider dealings and questionable accounting practices cost investors billions in stock market losses and destroyed the retirement savings of many Enron employees. The accounting practices of major corporations need a closer look today to make sure

FINANCIAL DEVELOPMENTS

Behavioral and Experimental Finance: What We Have Learned from Surveys and Laboratory Studies

The financial markets provide more detailed information every day than any other sector of the economy. Literally millions of data bytes flow through the financial system hourly, with the sheer volume of information often leading to confusion and poor decisions. In recent decades the field of *behavioral and experimental finance* has provided opportunities to test fundamental principles that often get covered up in the daily chaos of real-world markets. Moreover, many financial theories are based on *expectations* which real-world data do not directly provide us.

Researchers in behavioral and experimental finance often design simple experiments in uncomplicated settings away from the bustle of real-world markets, such as in a classroom, laboratory, or through suveys. (One prominent example is the CalTech Laboratory for Experimental Finance (CLEF) in which individuals may trade for real money and communicate their decisions to researchers over the Internet.) This far-less-complicated setting makes it possible to examine one or a few isolated factors while holding everything else constant, just as researchers in biological, chemical, or physics labs work in a controlled environment. The subjects surveyed may be supplied with assets to trade or bytes of information and asked to make financial decisions that can be tracked.

Behavioral and experimental researchers have discovered numerous fundamental principles. For example:

- Only the best-informed traders (i.e., insiders) appear to significantly outperform less-informed traders.
- Investors who purchase market research information do not appear, on average, to achieve greater net returns than investors who do not buy such information.
- Financial markets are able to dispense information efficiently to investors through *both* verbal and nonverbal communication (e.g., through prices and trading volume).
- Financial assets tend to gravitate toward those market participants who assign the highest values to those assets based on the latest information available.

Using simple tools in controlled settings and armed with the principles of economics and psychology, these researchers have affirmed many old ideas about human behavior, but also have challenged some existing theories. They are able to compare the behavior of rational decision makers versus those who may act irrationally when making financial decisions and to examine the behavioral basis of *market anomalies* (such as mispriced assets and seasonal trading patterns) that existing efficient markets theories do not seem to adequately explain. This field remains highly promising as a diagnostic check on the work of theorists and field researchers studying real-world markets.

Key URLs:
To explore the issues and findings of behavioral and experimental finance see, for example, **ssrn.com**; **http://ideas.repec.org**; and **hss.caltech.edu/~pbs/Labfinance.htm**

that capital-market investors are getting the full amount of reliable and relevant information they need to make rational buy-sell decisions.

In response to the troubles at Enron and other widely publicized corporate scandals the Sarbanes-Oxley Accounting Practices Act (SARBOX) was signed into law in July 2002. The new law set up the Public Company Accounting Oversight Board (PCAOB) to oversee the conduct of corporate auditors, enhance the accuracy and disclosure to the public of corporate insider information, and reduce the incidence of accounting and corporate fraud. SARBOX makes chief executive officers (CEOs) and chief financial officers (CFOs) of public companies responsible when their firms dispense inaccurate or misleading information about the financial condition of the businesses they manage. Sarbanes-Oxley represents a step toward a more information-rich and information-reliable financial marketplace, but it is only a step in what is still a long road to travel. We turn now to look at some of the most important sources of financial information currently available to the public as a whole.

QUESTIONS TO HELP YOU STUDY

1. Why is the availability and reliability of financial information important to both borrowers and lenders of funds? What can happen when relevant information is missing?
2. Can you explain why financial information that is accurate and reliable is of great significance to government policymakers and regulators within the financial system?
3. Carefully explain what is meant by the term *efficient market*. Are there different *levels* of market efficiency? What are these levels?
4. Explain what is meant by *informational asymmetries*. What problems can these asymmetries create for participants in the money and capital markets?
5. What does it mean to say a financial asset is "temporarily overpriced" or "temporarily underpriced"? How can such a situation happen? Why is such overpricing or underpricing likely to be only temporary?
6. As you look at the real world around you, do you see examples of what seem to be efficient markets? Can you detect any real-world examples of what seem to be informational asymmetries? How did you identify these market situations?
7. What steps have been taken recently to promote greater accuracy and reliability of information concerning the financial marketplace and the valuation of individual assets?

3.3 Debt Security Prices and Yields: Sources of Information

Key URL: Investors can get lots of information on investing in bonds through such sources as the Bond Market Association at **investinginbonds.com**

note

bond

The concept of "efficient" markets assumes that information relevant to the valuation of *all* financial assets is readily available to the public at comparatively low cost. What kinds and what depth of information about the financial marketplace *does* the public receive? Let's begin with a look at some of the most popular information sources for debt securities, usually referred to as *bonds* and *notes.*

Bonds and Notes Bonds and notes are debt obligations issued by governments and corporations, usually in units (par values) of $1,000. A **note** is a shorter-term written promissory obligation, usually not exceeding 5 years to maturity; a **bond** is a longer-term promissory note, at least 5 to 10 years to maturity and sometimes much longer. Although bonds and notes generally pay a fixed amount of interest income to their owners, their prices fluctuate daily as interest rates change. Therefore, although bonds and notes are often referred to as *fixed-income securities,* the investor may experience significant capital gains or losses on these instruments as their prices change if he or she chooses to sell an asset before it matures. Bonds and notes generally carry a set maturity date, at which time the issuer must pay the holder the assets' par value. These debt securities are generally identified by the name of the issuing company or governmental unit, their coupon (fixed interest) rate, and their maturity date.

Bid and Asked Prices and Pricing Information Bonds and notes can be bought and sold through dealers who manage portfolio holdings of these securities. The dealers are referred to as "market makers" because each dealer creates a market

EXHIBIT 3.1 Indicators of Average Bond Yields (Average Annual Yields in Percent)

Yield Series	1992	1994	1996	1998	2000	2002	2004	2006
State and local government notes and bonds:								
Aaa-Moody's series	6.09%	5.77%	5.52%	4.93%	5.58%	4.87%	4.50%	4.15%
Bond buyer series	6.48	6.18	5.76	5.09	5.71	5.04	4.68	4.40
Corporate bonds:								
Seasoned issues, all industries	8.55	8.26	7.66	6.87	7.98	7.10	6.00	5.98
Moody's corporate bond indexes classified by rating:								
Aaa	8.14	7.97	7.37	6.53	7.62	6.49	5.63	5.59
Aa	8.46	8.15	7.55	6.80	7.83	6.93	5.91	5.80
A	8.62	8.28	7.69	6.93	8.11	7.18	6.08	6.06
Baa	8.98	8.63	8.05	7.22	8.36	7.80	6.39	6.48

Source: Board of Governors of the Federal Reserve System, *Federal Reserve Bulletin* and *Statistical Supplement to the Federal Reserve Bulletin,* selected issues.

bid price

asked price

for the securities he or she holds by posting a **bid price,** the price at which the dealer is willing to purchase additional securities to add to his portfolio, and an **asked price,** the price at which the dealer is willing to sell from his portfolio.

Today traders require information regarding the prices and availability of debt securities on an up-to-the-minute basis. Computer networks report instant price quotations on the most actively traded bonds and similar financial instruments, supplemented by reports from television channels such as Bloomberg and CNBC. One of the most complete listings of daily price and yield quotations on bonds and notes appears in *The Wall Street Journal* (*WSJ*), published by Dow Jones & Company. In addition, most daily newspapers contain prices and yields on the most actively traded bonds.

Key URLs: Additional information on bond market investing and bond market behavior may be found in **http://money.cnn.com; bloomberg.com;** and **cnbc.com; investinginbonds.com; bondsonline.com;** and **tradingedge.com**

Recent changes in various bond yield indexes as reported in the quarterly *Federal Reserve Bulletin* and the more recent monthly *Statistical Supplement to the Federal Reserve Bulletin* are shown in Exhibit 3.1. Note the fluctuations in bond yields, which reflect significant changes in economic and credit conditions during this period. This is why bond buyers pay a great deal of attention to announcements of new economic data each week, such as new information on auto sales, manufacturing employment, price inflation, or the construction of new homes. Any hint of softening in the economy or of reduced inflation may result in a bond market price rally, pulling interest rates down and pushing bond prices higher.

3.4 Stock Prices and Dividend Yields: Sources of Information

stocks

Of all the financial assets traded in the money and capital markets, **stocks** are among the most popular with active investors. Stock prices can be extremely volatile (especially the stock of smaller companies), offering the prospect of substantial capital gains if prices rise but also significant capital losses if prices tumble. Several corporations (such as General Electric and Verizon) pay dividends on their stock regularly, thus offering the buyer a relatively steady source of income as well as the opportunity for capital gains if prices go up. Unlike a bond, however, a share of stock is a certificate

of ownership in a corporation, not a debt obligation. No corporation need pay dividends to its stockholders. In fact, some never have, preferring to retain all after-tax earnings in the business. In this section we summarize the kinds of public information that stock market investors have access to on a regular basis.

Price and Yield Information As in the case of bonds, price and yield data on the most actively traded stocks are reported daily in the financial press as well as over television, radio, and the Internet. Most daily newspapers, along with *The Wall Street Journal,* list current stock prices. Each stock price quotation is identified by the abbreviated name of the company issuing it. High and low prices at which the stock has been traded during the past year and the most recent annual dividend declared by the issuing company are normally given. The dividend yield—the ratio of dividends to current price—often appears, along with the ratio of the stock's current price to the past 12 months of company earnings (the P-E ratio). Remaining entries in a financial newssheet may provide a summary of the previous business day's transactions in the markets where that particular stock is bought and sold. The one-day sales volume, expressed in hundreds of shares, may also be shown. The closing price for which the stock was traded in the last sale of the day is often reported, usually expressed in dollars and decimal fractions of a dollar.

Key URLs: Information on daily stock market developments for active investors may be found on the World Wide Web at such sites as **moneycentral.msn.com/; fool.com; quote.com; nyse.com;** and **nasdaq.com**

Stock prices for more than 1,700 companies in over 100 industries are provided by *The Value Line Investment Survey,* published weekly by Arnold Bernhard & Company of New York. Each company's business is described, and basic financial information, such as sales, net earnings, and long-term indebtedness, is provided for at least a decade. Individual stocks are also rated by *Value Line,* from those expected to be top performers down to those expected to be the poorest performers. Stock prices and basic financial data for individual companies are also presented in comprehensive reports compiled by Standard & Poor's Corporation (S&P). The performance of the shares issued by mutual funds is reported by Morningstar, which rates each fund's performance using a star system of one to five. Five-star-rated mutual funds are considered by Morningstar to be the best-performing and best-managed investment companies among those mutual funds whose shares are available to investors.

The stock market is watched closely by investors as a barometer of expectations in the business community. A rising trend in stock prices generally signals an optimistic assessment of future business prospects and expectations of higher corporate earnings. A declining market, on the other hand, is often a harbinger of adverse economic news and may signal a cutback in business investment and lower corporate earnings. Among the most important factors watched by stock traders are reports of corporate earnings, merger and dividend announcements, changes in corporate management, announcements of new products being introduced, changes in government policy that might affect interest rates (with the prospect of lower interest rates generally favorable for stocks), and apparent changes in the strength of the economy (as reflected in such data series as new orders to manufacturers of durable goods, new housing construction, the growth of business investment expenditures, changes in the level of business inventories, and measures of inflation).

Key URLs: For further information on stocks, bonds, and mutual funds see the Investment Company Institute at **ici.org;** Morningstar at **morningstar.com;** and ValueLine at **valueline.com**

Stock Price Indexes and Foreign Stock Prices Many students of the financial marketplace follow several broad stock indexes that reflect price movements in groups of similar quality stocks. One of the most popular indexes is the Dow Jones Industrial Average of 30 stocks, including shares of such leading companies as ExxonMobil, Wal-Mart, McDonald's, Boeing, and Citigroup. Dow Jones also reports a transportation index of 20 stocks (including such industry leaders as Federal

Express) and a utility index composed of the shares of 15 leading utility companies (such as Pacific Gas & Electric). The Dow utility index is of special importance because it tends to be highly sensitive to interest-rate fluctuations; some analysts regard it as a barometer of interest-rate expectations.

The Dow-Jones Industrial Average is more than 100 years old, but its authors, the Dow Jones Company, have since dramatically expanded the number of stock and bond indexes which now number more than 5,000 and cover markets around the globe. Additional Dow indexes encompass energy prices, commodities and precious metals, Internet-based firms, futures and options, foreign currencies, mutual funds, annuities, and selected debt instruments, as well as scores of custom-made financial indexes requested by DJ clients.

Among other comprehensive stock market indicators are Standard & Poor's 400 Industrial and S&P's 500 Composite Stock Price Indexes, both of which include the most actively traded U.S. equity shares. The S&P 500 includes the shares of 40 utility, 20 transportation, and 40 financial company stocks not present in the S&P 400 Industrial Index. More recently, S&P has developed an S&P 600 Index, consisting of small-cap businesses, and an S&P 400 series for midsize companies. All S&P stock series are regarded as sensitive barometers of general stock price movements.

An even broader price index than S&P's Composite is the New York Stock Exchange Composite Index, which gives the greatest weight to stocks with the highest market values. Considered an indicator of total market performance, the NYSE Composite is often used to compare the performance of major institutional investors, such as mutual funds and pension funds, against the market as a whole. Other broad market indicators include the NASDAQ Composite that measures price movements in stocks sold over the counter (OTC) rather than on the major exchanges, and the Wilshire 5,000, which has among the broadest measures of stock market performance and includes more than 6,300 stocks—most of them publicly traded U.S. corporations. The Wilshire is considered the best measure currently available of overall stock market wealth in the United States and has recently been expanded to help track stock market wealth around the globe.

Many newspapers and financially oriented magazines contain daily stock market diaries or summaries. Such summaries of recent market developments indicate both price movements and the volume of trading on the major exchanges. Examples may be found in *Barron's, Forbes, Fortune, Money,* and *The Wall Street Journal.* Market diaries or summaries usually report the total number of shares traded on a given day or week and the number of stocks advancing or declining in price.

Finally, with the spreading globalization of markets, more and more savers and borrowers are turning to foreign markets to invest their savings and raise needed funds. Therefore, key information sources increasingly are reporting daily changes in security prices and interest rates in foreign trading centers, such as London, Frankfurt, Hong Kong, Singapore, Tokyo, and Sydney. To help foreign investors who deal predominantly in their own home currencies, there are also listings of currency exchange rates in various publications (such as the *Statistical Supplement to the Federal Reserve Bulletin* and *The Wall Street Journal*) so that they can translate a security's current price from one currency into another.

Key URL: A full description of the Wilshire 5000 Index and its relationship to the market value of publicly traded U.S. corporations can be found at **wilshire.com**

Key URL: To learn more about stock price indexes see, for example, Standard & Poor's Corporation at **standardandpoors.com**

Key URL: For additional information regarding Standard & Poor's stock price indexes see, for example, **investopedia.com/terms/s**

Key URLs: You can track foreign stock price movements at such sites as **stocksmart.com** and **finix.at**

3.5 Information on Security Issuers

Moody's and Standard & Poor's Reports Lenders of funds have a pressing need to secure accurate financial information on those individuals and institutions that seek to borrow funds or to sell their stock. Fortunately, financial information on

many individual companies and other security issuers, particularly for the largest issuing institutions, is available from a wide variety of published sources.

Key URLs: Want to know more about Moody's and Standard & Poor's? Try **moodys.com** or **standandpoor.com**

Two of the most respected sources of information on major security issues and issuers are Moody's Investor Service and Standard & Poor's Corporation, both headquartered in New York City.

For more than a century, Moody's has assigned credit risk ratings to borrowing institutions and supplied advice on investment decisions around the globe. Moody's offers research studies focusing upon the performance and financial condition of thousands of businesses, financial institutions, and government authorities; provides opinions on economic and credit trends; and offers training seminars for credit analysts in the Americas, Europe, and Asia. A long-time competitor of Moody's, Standard & Poor's Corporation, provides many similar services, including credit research and ratings and investment portfolio recommendations, making it possible for thousands of corporate and governmental institutions as well as individuals to make better-informed portfolio decisions.

Securities and Exchange Commission (SEC) Reports Even more extensive financial data are provided by the reports that corporations must file with the Securities and Exchange Commission (SEC). These SEC reports are available in many libraries on microfiche or microfilm. One company, Disclosure Incorporated, provides its subscribers with microfiche copies of more than 100,000 corporate documents filed each year by well over 10,000 companies. The most important of these corporate documents is the SEC's 10-K report, an annual statement that must be filed by most companies within 90 days after their fiscal year-end. These 10-K reports identify the principal products or services of each firm, provide a summary of its recent operations, note any securities outstanding, and list the names of key officers. The SEC's overall mission is to protect investors, facilitate investment, and maintain efficient markets.

Key URL: For further information about data and other types of information available from the SEC, see **sec.gov**. This site includes the EDGAR database that discloses documents that publicly owned companies must file with the SEC.

Company Histories The backgrounds on thousands of businesses all over the world can be found by searching through a wide variety of private information sources. For example, *The International Directory of Company Histories* provides brief historical sketches of nearly 3,000 firms worldwide, while through a service on a CD-ROM called *Global Researcher* the *SEC* provides information on the directors, officers, and leading shareholders for over 12,000 companies whose securities are traded in U.S. markets. A related CD-ROM source known as *Global Researcher Worldscope* provides financial data and news headlines for almost 15,000 firms that trade on leading stock exchanges around the world.

Key URL: To learn more about Disclosure Incorporated see **disclosure.com**

Dun & Bradstreet Ratings and Risk Management Another useful source of data on individual firms comes from Dun & Bradstreet, Inc. (D&B). This credit rating and risk management company collects information on millions of businesses, making detailed financial reports on these firms available to its subscribers all over the world. D&B also supplies industrywide financial data so that the financial condition of an individual business borrower can be compared with that of other firms in the same industry for more than 800 industry lines. D&B offers guidelines for assessing and managing risk and for unraveling supply chain management issues.

Key URL: Learn more about Dun & Bradstreet at **dnb.com**

Similar industrywide performance indicators are prepared and published by Risk Management Associates (RMA) in its *Annual Statement Studies* that covers smaller firms in more than 400 industries. This information can be supplemented with news

Key URL: To discover more about information sources available from RMA, see especially **rmahq.org** and the *Annual Statement Studies* link.

concerning individual investors and businesses by checking *The Wall Street Journal Index,* the *New York Times Index,* and *Barron's Index.* Recently an Internet database called *Investext,* a component of the Thomson Financial network, was added with financial reports and forecasts from thousands of companies in more than 50 different industries scattered around the globe.

Key URL: An interesting and often useful trade association annual report and Web site may be found at **ici.org**, representing the mutual fund (investment company) industry.

Financial Institutions Information on banks and other financial institutions is available from a wide variety of sources, including trade associations in each industry and federal and state regulatory agencies. For example, the American Bankers Association, Life Insurance Association of America, Insurance Information Institute, Investment Company Institute, and Credit Union National Association frequently provide annual reports or pamphlets describing recent industry trends. Studies of financial institutions' problems are found in specialized journals and magazines, such as the *Bankers Magazine, Financial Analysts Journal, Euromoney, The Economist, Forbes, Fortune, BusinessWeek,* and the *Journal of Portfolio Management.*

Among key government agencies that provide annual reports and special studies of financial institutions' trends and problems are the Federal Deposit Insurance Corporation, Federal Reserve Board and Federal Reserve Banks, the Federal Home Loan Banks, and the Comptroller of the Currency. For example, the Federal Deposit Insurance Corporation (FDIC) has a detailed Web site that identifies all FDIC-insured depositories and provides financial data for each insured institution. Many government reports are available in university libraries or through the Superintendent of Documents in Washington, DC.

Key URLs: You can reach the Federal Deposit Insurance Corporation's Web site at **fdic.gov**, while the Comptroller of the Currency can be contacted at **occ.treas.gov**. The Federal Home Loan Banks are reachable at **fhlbi.com**

Credit Bureaus Finally, information on individuals and families who seek credit is assembled and disseminated to institutional lenders by *credit bureaus.* The files of these bureaus include such information as the individual's place of residence and occupation, debts owed, and the promptness with which an individual pays his or her bills. Most credit bureaus maintain files on an individual's bill-paying record for up to seven years and may release that information only to lenders, employers, or licensing agencies who have a legitimate right to know the individual's credit standing. Individuals also have a right to see their credit files and verify their accuracy.

Key URLs: To discover more about what credit bureaus do, see The Consumer Data Industry Association at **cdiaonline.org**; **equifax.com**; **experian.com**; and **transunion.com**

3.6 General Economic and Financial Conditions

A number of different sources provide market participants with information on developments in the economy, prevailing trends in the money and capital markets, and actions by the government that may affect economic and financial conditions worldwide.

The Federal Reserve System The Federal Reserve System releases large quantities of financial information to the public on request. Statistical releases available on a weekly, monthly, or quarterly basis cover such items as interest rates, money supply measures, industrial output, and international transactions. Information of this sort is summarized each month in the *Statistical Supplement to the Federal Reserve Bulletin,* published by the Board of Governors of the Federal Reserve System in Washington, DC. The Board also publishes the results of internal staff studies that examine recent financial trends or address major issues of public policy. Within the Federal Reserve System, the Federal Reserve banks scattered around the United States

Key URL: Learn more about the Federal Reserve Bulletin at **federalreserve.gov**

are also major suppliers of financial and economic information. Addresses for the Federal Reserve Board and all the Federal Reserve banks appear at the back of each quarterly *Federal Reserve Bulletin,* as well as on the Internet.

Key URL:
For an excellent source of economic and financial data that can be easily downloaded into an Excel spreadsheet see the Federal Reserve Bank of St. Louis's Web site: **research.stlouisfed.org/fred2/**

Other Domestic and International Sources of Information

A number of published sources regularly report on the status of the economy. Daily financial newspapers, such as *The Wall Street Journal* and the *Financial Times,* nearly always include important economic data. The U.S. Department of Commerce (USDC) maintains one of the most comprehensive collections of U.S. economic data available anywhere, including the latest statistics on consumer, government, and business spending, and on exports and imports. The USDC publishes several convenient compilations of business data, including the annual *Statistical Abstract of the United States.*

Key URL:
For a comprehensive source of U.S. economic data, see the Department of Commerce at **commerce.gov** and the Bureau of Labor Statistics at **bls.gov/**

Forecasts of *future* economic and financial developments are available from a wide variety of sources. For example, the Federal Reserve Bank of Philadelphia publishes the quarterly *Survey of Professional Forecasters,* which compiles a summary of the forecasts of leading economists regarding production, unemployment, inflation, and interest rates. Forecasts of annual capital spending based on repeated industry surveys are prepared by the U.S. Department of Commerce and McGraw-Hill Publications Company. Businesses often subscribe to the services of one or more of a number of economic consulting firms that prepare detailed forecasts of income and interest rates.

Key URLs:
Important and interesting international Web sites include the International Monetary Fund at **imf.org**; the Bank for International Settlements at **bis.org**; the *Financial Times* at **ft.com**; and *Euromoney* at **Euromoney.com**

The growing internationalization of the financial markets has led to dramatic increases in new sources of information regarding foreign markets and institutions. Up-to-date security price and interest rate data are published in *The Wall Street Journal/Europe* from Brussels and a corresponding *Asian Wall Street Journal* issued from Hong Kong. *The Financial Times* of London is considered one of the finest daily newspapers in the world. *The Economist,* also published in London, deals with foreign business and political developments throughout the world. Of comparable quality is *Euromoney* (London), which monitors Europe's ongoing economic integration. For businesspersons interested in Asia and the Pacific Rim, such magazines as *Asiaweek,* the *Far Eastern Economic Review,* and *Asiamoney* offer greater understanding of Pacific economies and institutions.

QUESTIONS TO HELP YOU STUDY

8. If you needed to gather information for a possible stock or bond purchase, where would you go to get such information? What are the principal sources to check?
9. Suppose you wanted to evaluate the financial condition of a business firm. What major sources exist that could assist you in getting that kind of information?
10. Suppose you were planning to take a job with a particular company. What would you want to know about the company and where could you find that information?
11. If you wanted to gather information about the state of the U.S. economy, which information sources would likely be most helpful to you?
12. Where could you go to gather information about the global economy?
13. Why would information about the global and domestic economies be of assistance to investors in stocks, bonds, and other financial assets?

Summary of the Chapter's Main Points

This chapter examines the key role that *information* plays in the money and capital markets. Among its key points are the following:

- An unimpeded flow of relevant, low-cost information is vital to efficient functioning of the financial markets. If the scarce resource of credit is to be allocated efficiently and an ample flow of savings made available for investment, accurate financial information must be made readily available at low cost to all market participants.
- Two different types of markets operate within the financial system every day: an *information market* and a *market for financial assets.* The two types of markets must work together in coordinated fashion to accomplish the desired result—directing the flow of scarce funds (coming primarily from savings) toward their most beneficial uses (primarily into investments that help create jobs, expand the economy, and improve our standard of living).
- If the market for financial information is truly *efficient,* so that all relevant information for valuing financial assets is readily available at negligible cost, these assets will be correctly priced based on their expected return and risk. Scarce resources will flow to those uses of funds promising the highest expected returns.
- When *asymmetries* exist in the flow and availability of information, however, the financial marketplace will operate imperfectly. Some market participants, armed with special information not available to all participants, will earn *excess profits* (that is, they will generate returns that exceed the *normal* or *expected* rate of return for the amount of risk taken on).
- With imperfections in the quality and availability of information, scarce resources will be allocated less efficiently than otherwise might be the case. Research evidence to date suggests that most financial markets tend to be relatively efficient at some level but that important asymmetries (information imperfections) still remain.
- Some of the key problems informational asymmetries can create include (1) *the lemons problem,* in which vital information about the quality of assets is costly and difficult to obtain, with the possible result that lesser-quality assets may drive superior-quality assets from the marketplace; (2) the *adverse selection problem,* in which sellers of some services have difficulty in correctly pricing what they offer because of inadequate information about the riskiness and other relevant characteristics of buyers, often resulting in multiple prices for the same service; and (3) the *moral hazard problem,* in which agents possessing superior-quality information (for example, the management of a corporation) may use it to their advantage at the expense of principals (for example, the stockholders of the same corporation), unless suitable arrangements can be worked out that better align the interests of agents and principals.
- In this chapter, the principal focus has been on four broad categories of financial information available today: debt security prices and yields, stock prices and dividend yields, the financial condition of security issuers, and general conditions in the economy and financial system. This chapter gives the reader a broad overview of the kinds and quality of information currently available to the public. Knowing where to find relevant, up-to-date information is an essential ingredient in the process of solving economic and financial problems.

Key Terms Appearing in This Chapter

efficient markets hypothesis (EMH), 56
insider trading, 59
asymmetric information hypothesis (AIH), 60
moral hazard, 63
note, 68
bond, 68
bid price, 69
asked price, 69
stocks, 69

Problems and Issues

1. Which is true? Trading on inside information would not yield excess returns to investors if the stock market:
   - **a.** were efficient according to the *weak form* of market efficiency, but not efficient according to either the *semistrong form* or the *strong form* of market efficiency.
   - **b.** were efficient according to the *weak form* of market efficiency and the *semistrong form* of market efficiency, but not efficient according to the *strong form* of market efficiency.
   - **c.** were not efficient according to any of the *weak form, semistrong form,* or *strong form* of market efficiency.
   - **d.** were efficient according to all of the *weak form, semistrong form,* or *strong form* of market efficiencies.
2. A manager of Accurate Info, Inc., decides to purchase a golf membership for the senior executives of his firm. If he does not believe that this decision will raise shareholder value, then his decision is an example of:
   - **a.** adverse selection, but not an agency problem.
   - **b.** adverse selection and an agency problem.
   - **c.** moral hazard, but not an agency problem.
   - **d.** moral hazard and an agency problem.
3. Insider trading by corporate executives that yields abnormal profits:
   - **a.** is a violation of the *semistrong form* of the efficient market hypothesis (EMH) and is subject to investigation by the Federal Reserve.
   - **b.** is a violation of the *strong form* of the efficient market hypothesis (EMH) and is subject to investigation by the Securities and Exchange Commission (SEC).
   - **c.** is not a violation of the *semistrong form* of the efficient market hypothesis (EMH) and is subject to investigation by the Federal Reserve.
   - **d.** is not a violation of the *strong form* of the efficient market hypothesis (EMH) and is subject to investigation by the Securities and Exchange Commission (SEC).
4. In the appendix to this chapter (especially Exhibit 3A.2) you are given household balance sheet information relating to the U.S. household sector's financial assets and liabilities. Households also possess nonfinancial assets,

the bulk of which is housing. Use the information presented below along with the information in Exhibit 3A.2 to examine how housing has affected U.S. household wealth since 1980.

U.S. Household Balance Sheet Items ($ Billions)	1980	1990	2000	2006
Total household sector assets	$10,914.7	$23,915.6	$48,772.2	$65,705.9
Total nonfinancial assets of households	4,359.7	9,353.0	15,806.8	25,780.4
Value of housing assets	2,943.2	6,578.5	11,411.9	19,926.1

a. For each of the years: 1980, 1990, 2000, and 2006, please place into a spreadsheet the following information: Total assets, Total nonfinancial assets, Total housing, Total liabilities, and Total mortgages.

b. For each year, determine what percentage of Total assets is made up of Housing.

c. For each year, determine what percentage of Total liabilities is made up of Mortgages.

d. For each year compute the net equity that U.S. households have in their home by subtracting Mortgages (liability) from Housing (asset).

e. For each year, compute U.S. households' Net worth = Total assets less Total liabilities.

f. For each year, compute the percentage of households' Net worth that is made up of net equity in their homes.

g. Describe the *principal trends* in the makeup of U.S. households' balance sheets that you observe and try to explain why these trends are occurring. What role might the development of the financial information marketplace play in the trends you observe?

5. The following situations *may* be covered by *insider trading laws* in the United States. Examine each situation described and indicate whether, in your opinion, a violation of insider trading laws might have occurred. If you think a violation occurred, what kind of violation was it?

a. The chief financial officer of Start Corporation reads an internal memorandum criticizing the firm's recent oil field development investments and picks up his phone to call his broker, placing an order to sell his holdings of the firm's shares when the market opens in the morning.

b. Corren Professional Corporation, a CPA firm, assists Selkirk Industrial Corporation with its quarterly and annual financial reports. Jim Roberts, a CPA with Corren, after reviewing the latest information provided by Selkirk's CEO, calls a friend and suggests making certain stock and bond trades involving Selkirk's securities. Roberts will not benefit financially from these suggested trades and refuses to get involved.

c. James Smith works for Cohen and Cooper, a local law firm, and while browsing in his firm's law library, he discovers a new report from a legal client of his colleague, Roscoe Adams, that predicts serious financial problems if the client proceeds with its recently drafted strategic plan. Smith subsequently discovers discreetly that the strategic plan is to be launched next week. He also learns that Roscoe is selling the client's stock short through his broker. Smith quietly advises Roscoe not to make the short sale and lets the matter drop.

d. Samuel Joule learns from conversations with Sarah Conklin, a bartender at a local bar, that neighboring Locket Corporation has recently developed a warning device that may help prevent air collisions and may be worth tens of millions of dollars once announced to the public. Neither Joule nor Conklin works for Locket, though he has been dating Miss Conklin. Both of these individuals decide to purchase 1,000 shares of Locket's stock before Locket holds a press conference to announce the new air collision device. Joule and Conklin will use a bank loan to finance the purchase of Locket's shares. A wedding is planned if the transaction pays off.

6. In this chapter we discussed three different forms or levels of *market efficiency*. Refer to the appropriate forms of market efficiency in answering the following questions:
   a. Why is insider trading illegal?
   b. Why and how do small investors benefit from efficient markets?
   c. If you were a stock trader and markets were *not* efficient, how would this influence your trading activity? What does this tell you about *why* markets may be efficient?
   d. Consider the case of a day trader who looks only at the past history of stock prices in conducting his or her trades. How likely would it be for such a person to "beat the market"? What does this suggest about investing in the "entire market" (such as by purchasing shares in an index fund) rather than attempting to pick individual stocks?
7. Based on the material in the appendix to this chapter construct sources and uses of funds statements for each sector and for the whole economy using the following information:

	Households ($ Billions)	Business Firms ($ Billions)	Banks and Other Financial Institutions ($ Billions)	Governmental Units ($ Billions)
Current saving	$428.8	$280.0	$35.0	−$35.0
Current real investment	332.5	350.0	17.5	—
Current financial investment	306.3	78.8	43.8	8.8
Current borrowing	210.0	148.8	26.3	43.8

Assume that the four sectors listed above are the only sectors in the economy and that there are no international transactions. Is there a statistical discrepancy? Where? Referring to the discussion in Chapter 2, which sectors are deficit-budget sectors (DBUs) and which are surplus-budget sectors (SBUs)? Are there any balanced-budget sectors (BBUs)?

Web-Based Problems

1. Go to the Internet and use such Web sources as **www.federalreserve.gov, www.bea.gov,** and **www.bls.gov**—in order to obtain the following information:
   a. The latest stock price for IBM.
   b. The average yield on highly rated long-term bonds.

c. The interest rate on newly issued three-month U.S. Treasury bills.
d. The size of the U.S. money supply (measured as M1 and M2).
e. The annualized growth rate of the U.S. economy for the most recent quarter (real GDP).
f. The size of the U.S. budget deficit (or surplus) for the last fiscal year.
g. Total business fixed investment in the United States during the last calendar year.
h. Total employment in the nonfarm business sector.
i. The inflation rate in the United States for the past year, measured in terms of the growth rate of the CPI.

2. Track the performance of a stock issued by a company included in the Dow Jones Industrial Average (DJIA) Index (such as IBM or Microsoft) over the course of the semester and compare the performance of the stock you have selected relative to the performance of a broad stock market index of your own choosing (such as the S&P 500 Stock Index, the Vanguard Total Stock Market Index Fund, or the Wilshire 5000 Index). There is a wide variety of sources you might consult for the information you will need, including *The Wall Street Journal* **(www.WSJ.com),** the New York Stock Exchange **(www.nyse.com),** and other sources mentioned in this chapter.

   At the end of each week, find the closing price of your stock and the stock index you have chosen. Keep a running account of the percentage gains and losses that you would have experienced had you (a) bought the stock, or (b) "bought the market" by buying an index fund representing a whole basket of stocks (such as an S&P 500 index fund). At the semester's end, compute the return you would have made had you invested $10,000 in your chosen stock or in your chosen index fund. Did your stock outperform or underperform the index fund? What information can you point to that seems to account for the over- or under-performance of your stock relative to the market?

Selected References to Explore

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Appendix 3A: The Flow of Funds in the Financial System

Students of the economy and the financial markets make use of social accounting systems to keep track of broad trends in economic and financial conditions. *Social accounting* refers to a system of record keeping that reports transactions between the principal sectors of the economy, such as households, financial institutions, corporations, and units of government. The two most closely followed social accounting systems in the United States are the National Income Accounts and the Flow of Funds Accounts.

National Income and Product Accounts

The *National Income and Product Accounts* (NIPAs) are compiled and released quarterly by the U.S. Department of Commerce. These accounts present data on the nation's production of goods and services, income flows, investment spending, consumption, and savings. Probably the best-known account in the NIPA series is gross domestic product (GDP)—a measure of the market value of all goods and services produced within the geographical boundaries of the United States. It is the most important barometer of overall U.S. economic activity. GDP may be broken down into the uses to which the nation's output of goods and services are put. For example, Exhibit 3A.1, drawn from the U.S. Department of Commerce, indicates the size of the U.S. GDP and its major components for 2006.

Key URLs: Data on the U.S. economy may be found at such Web sites as **economagic.com**. In addition, the American Economic Association sponsors a Web site that includes *Resources for Economists on the Internet*, which contains an extensive list of links to Web sites with data and analysis, at **http://rfe.org**

The National Income and Product Accounts provide valuable information on the level and growth of the nation's economic activity. However, these accounts provide little or no information on financial transactions themselves. This task is left to the *Flow of Funds Accounts* prepared by the Board of Governors of the Federal Reserve System.

The Flow of Funds Accounts

Flow of funds data are published quarterly by the Federal Reserve System and include data back to 1955. Monthly issues of the *Statistical Supplement to the Federal Reserve Bulletin* contain the latest summary reports of flow of funds transactions, and detailed break-downs of financial transactions among major sectors of the economy are available from the Federal Reserve Board in Washington, DC.

EXHIBIT 3A.1 National Income and Product Accounts: The Components of U.S. Gross Domestic Product (GDP), 2006* ($ Billions, Current)

Personal consumption expenditures		$ 9,084.4
Durable goods	$ 1,047.9	
Nondurable goods services	2,686.7	
Gross private domestic investment	5,349.7	2,273.4
Fixed investment	2,239.8	
Change in private inventories	33.7	
Net U.S. exports of goods and services		−794.2
Exports	1,394.5	
Imports	2,188.7	
Government consumption expenditures and gross investment		2,473.8
Federal	924.7	
State and local	1,549.2	
Gross domestic product (GDP)		$13,037.4

Source: U.S. Department of Commerce and the Board of Governors of the Federal Reserve System's *Flow of Funds Accounts.*

*Figures are for the first quarter of 2006 and annualized. Figures may not add to totals due to rounding.

The basic purposes of the Flow of Funds Accounts are to: (1) trace the flow of savings by businesses, households, and governments into purchases of financial assets; (2) show how the various parts of the financial system interact with each other; and (3) highlight the interconnections between the financial sector and the rest of the economy.

Construction of the Flow of Funds Accounts takes place in *four* basic steps.

Constructing the Flow of Funds Accounts: Sectoring the Economy

Key URL: More information on the Federal Reserve's Flow of Funds Accounts may be found at **federalreserve.gov/releases**

The first step is to divide the economy into several broad *sectors,* each consisting of economic units (transactors) with similar balance sheets. Among the major sectors in the current account series are:

- Households.
- Farm businesses.
- Nonfarm nonfinancial businesses.
- Governments.
- Federally sponsored credit agencies.
- Monetary authorities (i.e., the Federal Reserve System and monetary accounts of the U.S. Treasury).
- Commercial banks.
- Nonbank financial institutions.
- Rest of the world (U.S. international transactions).

Constructing the Flow of Funds Accounts: Building Sector Balance Sheets

The second step in assembling the Flow of Funds Accounts is to construct *balance sheets* for each of the sectors listed above at the end of each quarter. Like any balance sheet for a business firm or household, sector balance sheets contain estimates of the assets, liabilities, and net worth held by each sector at a single point in time. The assets held by each sector are divided into financial assets and tangible real (nonfinancial) assets.

An example of such a balance sheet—in this case, a partial balance sheet containing only the financial assets and liabilities for the household sector for the years 1980, 1990, 2000, and 2006—is shown in Exhibit 3A.2. We note, for example, that U.S. households held total financial assets of nearly $40 trillion in 2006 (shown in line 1), more than five times their financial asset holdings in 1980. A substantial part of this total was represented by household deposits—checking (demand) accounts and time and savings deposits placed in commercial banks and savings institutions. These liquid financial assets totaled nearly $6.3 trillion in 2006 (line 2). An even larger volume of financial assets held by households took the form of pension fund reserves (line 20), accumulated to prepare individuals and families for the retirement years. These reserves amounted to more than $11 trillion in 2006, followed by direct holdings of corporate stock (equities), which totaled almost $5.7 trillion in 2006 (line 16). Direct holdings of debt securities (credit market instruments), including U.S. Treasury notes and bonds, federal agency securities, state and local government bonds, mortgages, and similar assets, amounted to a little over $3 trillion (line 7) in 2006.

It is interesting that the total indebtedness of individuals and families in the United States is *far less* than their holdings of financial assets. Exhibit 3A.2 indicates that the household sector's liabilities totaled more than $12 trillion in 2006 (line 23), or less than a third of its total financial asset holdings. Most household indebtedness was in the form of home mortgages and home equity loans (line 25) and installment (consumer credit) debt obligations (line 26), which include automobile and education loans that are gradually retired in a series of payments stretching over months or years.

Just as the liabilities of households substantially trail their holdings of financial assets, so do their tangible (real or physical) assets. For example, if we add the values of all the automobiles, homes and other real estate, clothing, furniture, iPods, and thousands of other tangible or real assets that were possessed by American households in 2006, the total amount is close to $26 trillion versus nearly $40 trillion in the households' financial assets. This significant edge for financial assets compared to liabilities and real assets reflects the fact that, in most years, the household sector has been a net lender of funds to the rest of the economy. Moreover, if we combine the financial and real assets of households together, totaling about $66 trillion, and subtract