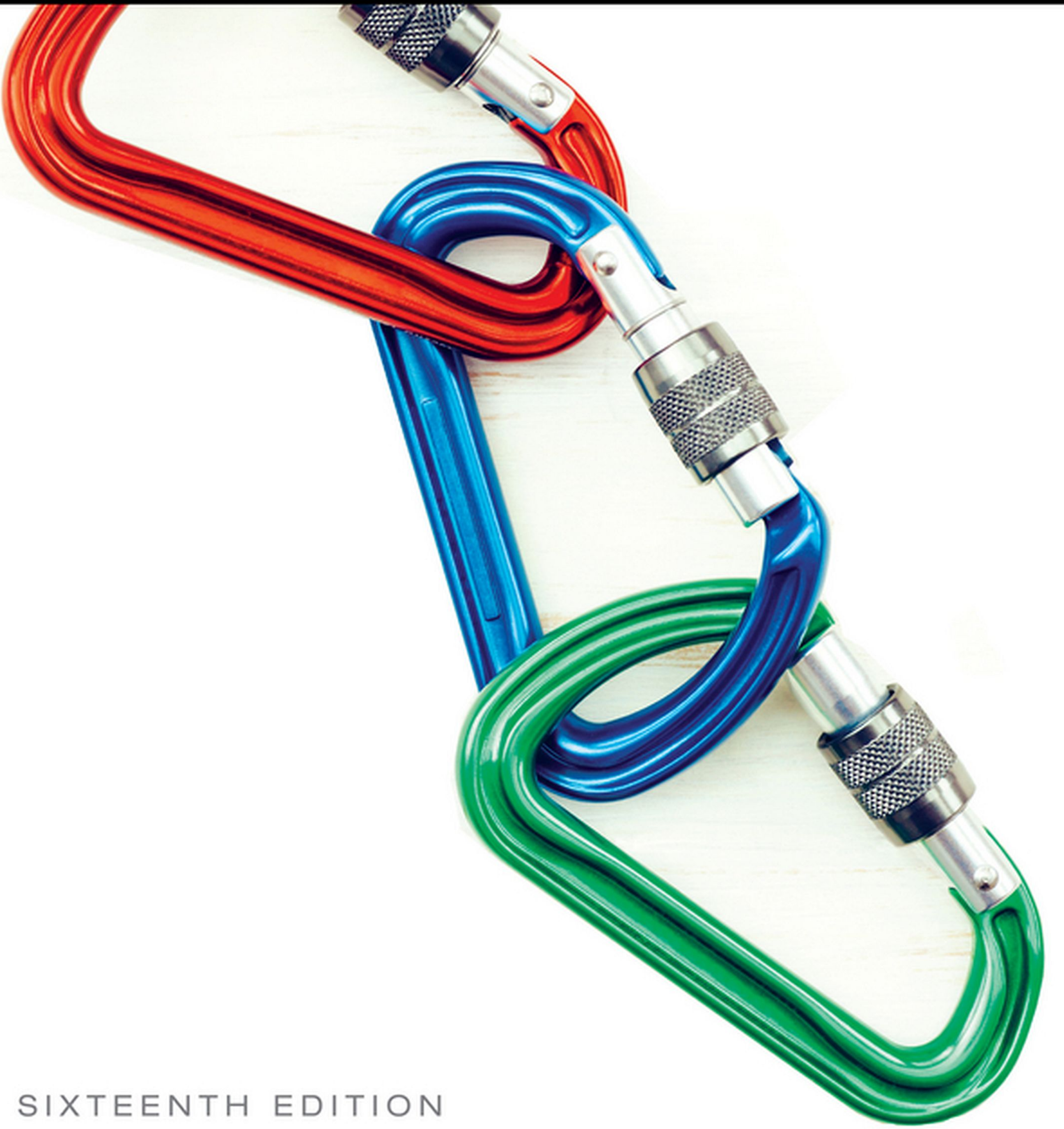

SIXTEENTH EDITION

INTRODUCTION TO FINANCE

RONALD W. MELICHER • EDGAR A. NORTON

WILEY

Introduction to Finance

Markets, Investments, and Financial Management

16th Edition

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WILEY

To my parents, William and Lorraine, and
to my wife, Sharon, and our children,
Michelle, Sean, and Thor

Ronald W. Melicher

To my best friend and wife, Becky;
our son Matthew and his wife, Angie;
our daughter Amy and her husband, Jake

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Preface

The sixteenth edition of *Introduction to Finance: Markets, Investments, and Financial Management* builds upon the successes of its earlier editions while maintaining fresh and up-to-date coverage of the field of finance. This edition introduces several new electronic features to assist with student access to the textbook and with learning.

Our text is designed to present a more-balanced first course in finance, one that offers students perspectives on financial markets, investing, and financial management. We use a successful pedagogy that reviews, first, markets and institutions; then, the world of investments; and finally, the concepts and applications of business financial management.

Unlike other textbooks with a singular "corporate finance" focus, our text offers a balanced first course in finance. Eighteen chapters cover the three major financial areas involving the financial system, investments, and business finance. For the student who does not plan to take additional courses in finance, this book provides a valuable overview of the discipline's major concepts. For the student who wants to take additional courses in finance, the overview presented provides a solid foundation upon which future courses can build.

Introduction to Finance is meant to be used in a course whose purpose is to survey the foundations of the finance discipline. As such, it is designed to meet the needs of students in various programs. Specifically, *Introduction to Finance* can be used in any of the following four ways:

1. As the first course in finance at a college or university where the department wants to expose students to a broad foundational survey of the discipline.
2. As the first and only course in finance for nonfinance business students.
3. As an appropriate text to use at a school that seeks to provide liberal arts majors with a business minor or business concentration. The writing level is appropriate to provide students with a good foundation in the basics of our discipline.
4. As a "lower division" service course whose goal is to attract freshmen and sophomores to business and to attract them to become finance majors.

The philosophy behind the book is threefold. First, we believe that a basic understanding of the complex world of finance should begin with a survey course that covers an introduction to financial markets, investments, and financial management or business finance. Students can gain an integrated perspective of the interrelationships among these three areas. They will appreciate how businesses and individuals are affected by markets and institutions, as well as of how markets and institutions can be used to meet the goals of individuals or firms. Given the events in the financial markets and the economy in 2007–2009 and the financial implications of the United Kingdom's 2016 decision to withdraw from the European Union (known as "Brexit"), this integrated perspective adds value to student learning and an understanding of the field.

Second, we wrote the book as an introductory survey of finance with a readable and user-friendly focus in mind. We seek to convey basic knowledge, concepts, and terms that will serve the nonfinance major into the future and that will form a foundation upon which the finance major can build. Some finer points, discussions of theory, and complicated topics are reserved for "Learning Extensions" in selected chapters. We aim to make students using our text financially literate and cognizant of the richness of finance. The book provides a good foundation for students to build upon in later courses in financial management, investments, or financial markets.

Third, we focus on the practice of finance in the settings of markets, investments, and financial management. We focus on the descriptive in each of these fields. We don't want students to be unable to see the forest of finance because the trees of quantitative methods obscure their view or scare them away. When we do introduce equations and mathematical concepts that are applicable to finance, we will show step-by-step solutions.

By learning about markets (including gaining knowledge about institutions), investments, and management as the three major strands of finance, students will finish their course with a greater understanding of how these three fields interrelate. Financial markets will be seen as the arena to which businesses and financial institutions go to raise funds, and as the mechanism through which individuals can invest their savings to meet their future goals. The topic of investments is important in facilitating the savings–investment process. Understanding the trade-off of risk and return, as well as the valuation of bonds and stocks, is essential to investors and businesses raising financial capital. Understanding how securities markets work is equally important. Financial management uses information it obtains from securities and other financial markets to efficiently and profitably manage assets and to raise needed funds in a cost-efficient manner.

A broad exposure to the discipline of finance will meet the needs of nonmajors who should know the basics of finance so they can read the *The Wall Street Journal*, visit business-related Internet sites, and analyze other business information sources intelligently. It will help the nonfinance major work as a member of a cross-functional work team, a team that will include finance professionals. In addition, this overview of finance will start the finance major off on the right foot. Rather than receiving a compartmentalized idea of finance—often viewed through the corporate finance lens that many texts use—the finance major will receive a practical introduction to the different disciplines of finance, and will better appreciate the relationships among them.

Part 1 of the book contains six chapters on the financial system, with primary emphasis on financial markets and the tools and skills necessary to better understand how such markets work. We begin with an overview of the three main subfields of finance, identify the "six principles of finance," and discuss career opportunities. The principles of finance are the following:

1. Money has a time value.
2. Higher returns are expected for taking on more risk.
3. Diversifying one's investments can reduce risk.
4. Financial markets are efficient in pricing securities.
5. The objectives of managers and stockholders may differ.
6. Reputation matters.

We discuss finance and the role and functions of the financial system to a nation's economy. The role of banks, other financial intermediaries, and the Federal Reserve are reviewed, as are their functions in the financial system. Part 1 introduces the international role of finance and how modern economies are affected by exchange rates, trade, and the flow of global funds.

Following this introduction to the financial system, Part 2 focuses on investments. We review the role of savings in an economy and the ways in which funds flow to and from different sectors. Interest rates are introduced, and the discussion centers on making the student aware of the different influences on interest rate levels and why the rates change over time. Because interest rates measure the cost of moving money across time, this section reviews basic time-value-of-money concepts with many worked-out examples, including the keystrokes that students can use when working with financial calculators.

Next, after reviewing the characteristics of bonds and stocks, students will learn to apply time-value-of-money concepts to find the prices of these securities. Continuing our overview of investments, we discuss investment banking basics and the operations of securities markets, as well as the fundamentals of investment risks and returns, to conclude Part 2. Advanced classes may want to review the financial derivatives basics, which are explained in a Learning Extension of Chapter 11's discussion of securities and markets.

The raising of funds by businesses in the institutional and market environments is covered in Parts 1 and 2. Next, in Part 3, the final six chapters of the text introduce students to financial management. The discussion begins with the different ways in which to organize a business, and the financial implications of each organizational form. We introduce accounting concepts, such as the balance sheet, income statement, and statement of cash flows, with simple examples. We discuss financial ratios, which assist in the process of analyzing a firm's strengths and weaknesses. We review their use as a means of helping managers plan ahead for future asset and financing needs. Strategies for managing a firm's current assets and current liabilities are examined, as are the funding sources firms use to tap the financial markets for short-term financing. Finally, we introduce students to capital budgeting basics and capital structure concepts.

New and Improved

Many new pedagogical features are included in the textbook, including the following:

- An e-book format for electronic and "cloud" access to the textbook and related learning material. A black-and-white, binder-ready version is available as well for those preferring a paper copy.
- Coordinated chapter learning objectives, chapter summaries, and end-of-chapter review questions. Each chapter learning objective is numbered; the expanded chapter summaries review each individual learning objective and each review question is keyed to a specific learning objective number.
- Every chapter contains 3 or 4 Discussion Questions that can be used in class, assigned to students, or used by the instructor on learning management systems such as Blackboard, Moodle, Sakai, and others to form the basis of graded or ungraded class participation and critical thinking.
- The e-book version presents, at the end of each section (corresponding to each learning objective) several multiple choice questions for students to use as a review of chapter concepts.
- Some of the tables, charts, and graphics include interactive features that allow students to sort, categorize, or focus on a single graph feature at a time as it changes values over time. Other downloadable spreadsheets allow students to practice some of the chapter's calculations.
- Excel templates have been updated and revised to reflect the book's content.
- Existing test bank items were re-examined and new questions added to reflect the many content changes and to better test student knowledge.

The content of *Introduction to Finance* has been updated to incorporate many of the economic and financial events of the past few years. The financial crisis of 2007–2008, the subsequent recession and recovery—along with the behavior of the Federal Reserve and securities markets—provide a means to highlight causes, effects, and the integration of finance into our everyday lives, as well as the implications for markets, investments, and business finance. A *financial crisis* colored label, denoting a "Focus Point," is placed next to relevant text material.

We continue with our innovation found in previous editions, featuring a real firm (Walgreens, the retail drugstore chain) in many of the chapters on investments and financial management as a means of presenting and analyzing data.

In addition to these broad improvements, all chapters have been updated and revised to reflect recent events and data. Specific notable changes in this sixteenth edition include the following:

Chapter 1, The Financial Environment, provides an overview of the financial system and environment including economic and financial developments during the 2007–2008 financial crisis and the 2008–2009 Great Recession. The chapter has been reorganized with "careers in finance" being presented near the end of the chapter after students have been introduced to basic finance terms and concepts.

Chapter 2, Money and the Monetary System, discusses the process of moving savings into investments and provides an overview of the monetary system. While physical money (coin and paper currency) in the United States continues to be our focus, we recognize possible growth in the use of digital currencies including bitcoin. The relationship between money supply and economic activity is discussed in light of continued easy monetary policies.

Chapter 3, Banks and Other Financial Institutions, covers the types and roles of financial institutions. During the 2007–09 period, falling housing prices, mortgage loan defaults, and declining values on mortgage-backed securities that resulted in many financial institutions not having adequate equity capital to continue to operate, and, thus, needing to merge or be "bailed out." The ability of banks to maintain sound balance sheets, including adequate capital ratios, continues to be of concern to regulators, politicians, and others.

Chapter 4, Federal Reserve System, describes the current structure and operations of the Federal Reserve (the Fed). The Fed's response to the recent financial crisis and economic downturn as well as its efforts to stimulate economic growth through quantitative easing and other means is covered. The Fed used quantitative easing, among other things, to stimulate economic growth and is finding it difficult to move towards more-traditional interest rate levels. Janet Yellen, the current chair of the Fed's board of governors, is faced with the difficult task of simultaneously maintaining economic growth raising interest rates that are near zero.

Chapter 5, Policy Makers and the Money Supply, describes how the four policy maker groups (Federal Reserve System, the president, Congress, and the U.S. Treasury) are responsible for carrying out the national economic policy objectives of economic growth, high employment, and price stability. We cover the U.S. government's response to the perfect financial storm involving the financial crisis and the subsequent Great Recession. New material on the current size of the national debt and the efforts of the U.S. Treasury to manage the national debt are presented.

Chapter 6, International Finance and Trade, covers the evolution of the international monetary system and efforts by European countries to achieve unification, although the recent decision by the United Kingdom to withdraw from the European Union has caused concern about the future economic and financial viability of the European Union. Material on currency exchange rates and the factors that affect currency exchange rates have been substantially rewritten. We discuss the use of hedging, forward contracts, and forward rates in the section that covers managing currency exchange risk. We also have added a Learning Extension that discusses the use of forward contracts in international business transactions.

Chapter 7, Savings and Investment Process, discusses the relationship between gross domestic product and capital formation, and covers the major sources of income and outlays involved in the annual federal budget. Recent data on personal and corporate savings are presented and discussed. The role played by individuals in the 2007–09 financial crisis and the Great Recession is also covered.

Chapter 8, Interest Rates, discusses the supply and demand for loanable funds and the components of market interest rates. This chapter was substantially rewritten and uses current interest rates when examining interest rates. The relationship between interest rates and the maturity of comparable-quality debt remains at historically low levels and is due, in part, to the Fed's easy monetary policy. Recent default risk premium levels are also presented and discussed.

Chapter 9, Time Value of Money, conveys the importance of compounding (earning interest on interest) in building wealth over time. We continue to present examples of how to perform time value calculations using formulas, interest factor tables, step-by-step financial calculator keystrokes, and Excel spreadsheets. While historically low interest rates make it attractive to finance the purchase of homes and other durable goods, low rates also make it difficult for individuals to build wealth over time.

Chapter 10, Bond and Stocks: Characteristics and Valuations, has its bond valuation section rewritten to use the "annual percentage rate" (APR) approach as opposed to the "effective interest rate" (EAR) approach. The chapter contains updated data and improved discussions of bonds and stocks. We have revised the discussion of the risks facing investors in the low interest rate environment sustained by the Fed since the Great Recession. Spreadsheet examples show how to apply time value concepts to calculate bond prices and stock prices.

Chapter 11, Securities and Markets, incorporates changes in securities trading, including high-frequency trading and events such as the New York Stock Exchange and Intercontinental Exchange (NYSE–ICE) merger, as well as an overview of the Facebook initial public offering (IPO) and some of its issues. This chapter's Learning Extension on futures and options has been revised to reflect reviewer suggestions.

Chapter 12, Financial Returns and Risk Concepts, is one of the more mathematical chapters; it shows how to do calculations with step-by-step calculator keystrokes and spreadsheet functions. Its content is updated, especially evidence regarding the difficulty in "beating the market" by active investors.

Chapter 13, Business Organization and Financial Data, features data from Walgreens' financial statements, with highlights about the merger with Boots Alliance. We maintain that a firm's goal is to maximize shareholder wealth, and we discuss "sustainability" in light of this goal.

Chapter 14, Financial Analysis and Long-Term Financial Planning, uses updated data from Walgreens and the retail drugstore industry in a practical example of financial ratio analysis using industry averages. We focus on changes in Walgreens' financial ratios following its merger with Boots Alliance to form Walgreens Boots Alliance.

Chapter 15, Managing Working Capital, expands the discussion of managing cash in a difficult business environment with low interest rates. We discuss a new reason why firms hold large amounts of cash, with the tax cost of repatriating the funds back to the home country.

Chapter 16, Short-Term Business Financing, contains information on real firms' working capital financing strategies and on the implications of the financial crisis on a firm's ability to obtain short-term financing, including the role of "supply chain financing" by some banks and suppliers. We include a section on the American Energy and Infrastructure Jobs Act of 2012 (JOBS Act of 2012), a tool to help small firms obtain financing, including the use of "crowdfunding."

Chapter 17, Capital Budgeting Analysis, relates the cash flow estimation process for a project to the firm's statement of cash flows found in Chapter 13 and reviews standard capital budgeting analysis tools, such as net present value (NPV), internal rate of return (IRR), profitability index (PI), and modified internal rate of return (MIRR).

Chapter 18, Capital Structure and the Cost of Capital, contains updated discussions of trends in the use of debt by corporations and the use of debt financing in the low interest rate environment that has existed since the Great Recession. We include information of how managers compute capital costs from the Cost of Capital Survey issued by the Association of Finance Professionals.

Learning and Teaching Aids

The sixteenth edition of *Introduction to Finance* offers the following aids for students and instructors:

Chapter Openers: Each chapter begins with the following:

- Chapter Learning Objectives, which students can use to review the chapter's main points and which instructors can use as a basis for in-class lecture or discussion;
- Where We Have Been statements that remind students of what was covered in the previous chapters;
- Where We Are Going, which are previews of chapters to come;
- How This Chapter Applies To Me that explain how the content of the chapter, no matter how technical or business specific, has applications to the individual student.

Applying Finance To: These boxes show how the topic of each chapter relates to the finance fields of institutions and markets, investments, and financial management.

Learning Activities: We direct the student to relevant websites at different points in each chapter.

Margin Definitions: Margin definitions of key terms are provided to assist students in learning the language of finance.

Focus Icons: Icons are placed by relevant text to indicate discussions of finance principles, implications of the recent financial crisis, financial or business ethical issues, and global or international discussions.

Spreadsheet Illustrations: We show how to use spreadsheets to solve problems, and to teach students about the power of spreadsheet functions and analysis.

Boxed Features: Throughout the book, boxes are used to focus on current topics or applications of interest. They are designed to illustrate concepts and practices in the dynamic field of finance.

- Small Business Practice boxes highlight aspects of the chapter topics relating directly to small businesses and entrepreneurship.
- Career Opportunities in Finance boxes provide information about various careers in finance and appear in many chapters.
- Personal Financial Planning boxes provide insight into how the chapter's content can be applied to an individual's finances.

Learning Extensions: Chapter appendixes, called Learning Extensions, are included in many chapters. Learning Extensions provide additional in-depth coverage of topics related to their respective chapters, and many challenge students to use their mathematical skills.

End-of-Chapter Materials: Each chapter provides the following:

- Review Questions, keyed to specific chapter learning objectives that review chapter material
- Exercises for students to solve and exercise their mathematical skills
- Problems that are more difficult and that should be solved by using spreadsheets. Downloadable templates are available for each problem.

Companion Website: The text's website at www.wiley.com/college/melicher contains a myriad of resources and links to aid learning and teaching.

Instructor's Manual and Test Bank: The Instructor's Manual is available to adopters of this text. It features detailed chapter outlines, lecture tips, and answers to end-of-chapter review questions and problems.

Computerized Test Bank: There is a test bank for the text. A Test-Generating Program that allows instructors to customize their exams also is provided.

Powerpoint Presentations: Created by the authors, a PowerPoint presentation is provided for each chapter of the text. Slides include outline notes on the chapter, additional presentation topics, and figures and tables from the text.

Spreadsheet Templates: Excel-compatible templates, developed by Robert Ritchey of Texas Tech University, are available on the text website. Students can use the financial analysis tools worksheets and templates to help apply what they've learned in the text and solve some of the end-of-chapter problems and challenge problems.

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EDGAR A. NORTON is professor of finance and director of the Institute for Financial Planning and Analysis in the College of Business at Illinois State University. He holds a double major in computer science and economics from Rensselaer Polytechnic Institute and received his M.S. and Ph.D. from the University of Illinois at Urbana–Champaign. A Chartered Financial Analyst (CFA), he regularly receives certificates of achievement in the field of investments. He has consulted with COUNTRY Financial, Maersk, and the CFA Institute; does pro bono financial planning; and is a past president of the Midwest Finance Association. His research has appeared in numerous journals, such as *Financial Review, Journal of Business Venturing,* and *Journal of Business Ethics.* He has coauthored four textbooks, including *Introduction to Finance.*

Brief Contents

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PART 1

INSTITUTIONS AND MARKETS

Introduction

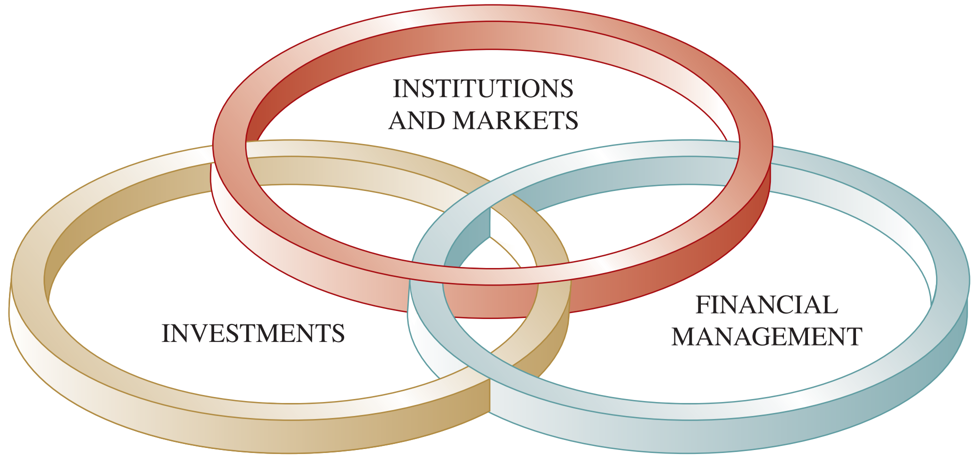
Ask someone what he or she thinks "finance" is about. You'll probably get a variety of responses: "It deals with money." "It is what my bank does." "The New York Stock Exchange has something to do with it." "It's how businesses and people get the money they need—you know, borrowing and stuff like that." And they'll all be correct!

Finance is a broad field. It involves national and international systems of banking and the financing of business. It also deals with the process you go through to get a car loan and what a business does when planning for its future needs.

It is important to understand that while the U.S. financial system is quite complex, it generally operates very efficiently. However, on occasion, imbalances can result in economic, real estate, and stock market "bubbles" that, when they burst, cause havoc on the workings of the financial system. The decade of the 2000s began with the bursting of the "tech" or technology bubble and the "dot.com" bubble. Then, in mid-2006, the real estate bubble, in the form of excessive housing prices, burst. This was followed by peaking stock prices in 2007 that were, in turn, followed by a steep decline that continued into early 2009. Economic activity began slowing in 2007 and deteriorated into an economic recession beginning in mid-2008, which was accompanied by double-digit unemployment rates. The result was the 2007–09 "perfect financial storm" that produced the most distress on the U.S. financial system since the Great Depression years of the 1930s. Of course, new economic and financial concerns will continue to occur.

Within the general field of finance, there are three areas of study—financial institutions and markets, investments, and financial management. Financial institutions collect funds from savers and lend them to, or invest them in, businesses or people that need cash. Examples of financial institutions are commercial banks, investment banks, insurance companies, and mutual funds. Financial institutions operate as part of the financial system. The financial system is the environment of finance. It includes the laws and regulations that affect financial transactions. The financial system encompasses the Federal Reserve System, which controls the supply of money in the U.S. economy. It also consists of the mechanisms that have been constructed to facilitate the flow of money and financial securities among countries. Financial markets represent ways for bringing those who have money to invest together with those who need funds. Financial markets, which include markets for mortgages, securities, and currencies, are necessary for a financial system to operate efficiently. Part 1 of this book examines the financial system, and the role of financial institutions and financial markets in it.

Securities markets play an important role in helping businesses and governments raise new funds. Securities markets also facilitate the transfer of securities between investors. A securities market can be a central location for the trading of financial claims, such as the New York Stock Exchange. It may also take the form of a communications network, as with the over-the-counter market, which is another means by which stocks and bonds can be traded.



When people invest funds, lend or borrow money, or buy or sell shares of a company's stock, they are participating in the financial markets. Part 2 of this book examines the role of securities markets and the process of investing in bonds and stocks.

The third area of the field of finance is financial management. Financial management studies how a business should manage its assets, liabilities, and equity to produce a good or service. Whether or not a firm offers a new product or expands production, or how to invest excess cash, are examples of decisions that financial managers are involved with. Financial managers are constantly working with financial institutions and watching financial market trends as they make investment and financing decisions. Part 3 discusses how financial concepts can help managers better manage their firms.

The three areas of finance interact with, and overlap, one another. Financial institutions operate in the environment of the financial markets, and work to meet the financial needs of individuals and businesses. Financial managers do analyses and make decisions based on information they obtain from the financial markets. They also work with financial institutions when they need to raise funds and when they have excess funds to invest. Participants investing in the financial markets use information from financial institutions and firms to evaluate different investments in securities such as stocks, bonds, and certificates of deposit. A person working in one field must be knowledgeable about all three. Thus, this book is designed to provide you with a survey of all three areas of finance.

Part 1, Institutions and Markets, presents an overview of the financial system and its important components: policy makers, monetary system, financial institutions, and financial markets. Financial institutions operate within the financial system to facilitate the work of the financial markets. For example, you can put your savings in a bank and earn interest. But your money just doesn't sit in the bank. The bank takes your deposit and the money from other depositors and lends it to Kathy, who needs a short-term loan for her business; to Ian for a college loan; and to Roger and Jayden, who borrow the money to help buy a house. Banks bring together savers and those who need money, such as Kathy, Ian, Roger, and Jayden. The interest rate the depositors earn and the interest rate that borrowers pay are determined by national and even international economic forces. Just what the bank does with depositors' money and how it reviews loan applications is determined to some extent by bank regulators and financial market participants, such as the Federal Reserve Board. Decisions by the president and Congress relating to fiscal policies and regulatory laws may also directly influence financial institutions and markets and alter the financial system.

Chapter 1 provides an overview of the financial environment. Chapter 2 covers the role and functions of money, money market securities, and the interaction of money supply and economic activity in the monetary system. Depository institutions, such as banks and savings and loan associations, as well as other financial institutions involved in the financial intermediation process are the topics of Chapter 3. The Federal Reserve System, the U.S. central bank that controls the money supply, is discussed in Chapter 4. Chapter 5 places the previous chapters in perspective, discussing the role of the Federal Reserve and the banking system in helping meet national economic goals for the United States, such as economic growth, high levels of employment, and stable prices. Part 1 concludes with a discussion of the international monetary system, currency exchange markets and rates, and international trade in Chapter 6.

CHAPTER **1**

The Financial Environment

LEARNING OBJECTIVES

After studying this chapter, you should be able to do the following:

LO 1.1 Define *finance* and describe the three areas of finance.

LO 1.2 Explain why finance should be studied.

LO 1.3 Describe and discuss the six principles of finance.

LO 1.4 Identify the four components of the financial system and describe their roles.

LO 1.5 Describe financial markets characteristics and the four types of financial markets.

LO 1.6 Identify several major career opportunities in finance.

LO 1.7 Describe this textbook's plan of study.

WHERE WE HAVE BEEN...

As we progress through this book, we will start each chapter with a brief review of previously covered materials. This will provide you with a reference base for understanding the transition from topic to topic. After completing the text, you will be at the beginning of what we hope is a successful business career.

WHERE WE ARE GOING...

The financial environment within which we live and work is composed of a financial system, institutions, and markets. Part 1 of this text focuses on developing an understanding of the financial institutions and markets that operate to make the financial system work efficiently. Chapter 2 describes the U.S. monetary system, including how it is intertwined with the capital formation process and how it has evolved. Current types of money are described, and we discuss why it is important to control the growth of the money supply. In following chapters, we turn our attention to understanding how financial institutions, policy makers, and international developments influence how the financial system functions.

HOW THIS CHAPTER APPLIES TO ME...

While it is impossible to predict what life has in store for each of us in terms of health, family, and career, everyone can be a productive member of society. Nearly all of us will take part in making social, political, and economic decisions. A basic understanding of the financial environment that encompasses economic and financial systems will help you in making informed economic choices.

Let us begin with the following quote by George Santayana, a U.S. philosopher and poet:

> *Those who cannot remember the past are condemned to repeat it.*[1]

While this quotation refers to the need to know something about history so that individuals can avoid repeating bad social, political, and economic decisions, it is equally important to the field of finance. It is the responsibility of all individuals to be able to make informed public choices involving the financial environment. By understanding the financial environment and studying the financial system, institutions and markets, investments, and financial management, individuals will be able to make informed economic and financial choices that will lead to better financial health and success. After studying the materials in this book, you will be better informed in making choices that affect the economy and the financial system, as well as be better prepared for a business career—possibly even one in the field of finance.

1.1 What Is Finance?

Almost every day we hear news reports about economic conditions, unemployment, price changes, interest rates, stock prices, government expenditures and taxes, and monetary policy. Many of us are often overwhelmed trying to understand and interpret developments and interactions among these topics. We begin this textbook by defining *finance* and describing the financial environment and the three areas of finance.

finance study of how individuals, institutions, governments, and businesses acquire, spend, and manage financial resources

financial environment financial system, institutions, markets, businesses, individuals, and global interactions that help the economy operate efficiently

financial institutions intermediaries that help the financial system operate efficiently and transfer funds from savers to individuals, businesses, and governments that seek to spend or invest the funds

financial markets locations or electronic forums that facilitate the flow of funds among investors, businesses, and governments

investments involves the sale or marketing of securities, the analysis of securities, and the management of investment risk through portfolio diversification

financial management involves financial planning, asset management, and fund-raising decisions to enhance the value of businesses

Finance is the study of how individuals, institutions, governments, and businesses acquire, spend, and manage money and other financial assets. Understanding finance is important to all students regardless of the discipline or area of study, because nearly all business and economic decisions have financial implications. The decision to spend or consume now (for new clothes or dinner at a fancy restaurant) rather than save or invest (for spending or consuming more in the future) is an everyday decision that we all face.

The **financial environment** encompasses the financial system, institutions or intermediaries (we will use these terms interchangeably throughout this text), financial markets, business firms, individuals, and global interactions that contribute to an efficiently operating economy. **Figure 1.1** depicts the three areas of finance—institutions and markets, investments, and financial management—within the financial environment. Note that while we identify three distinct finance areas, these areas do not operate in isolation but rather interact or intersect with each other. Our focus in this book is to provide the reader with exposure to all three areas, as well as to show how they are integrated. Of course, students pursuing a major or area of emphasis in finance will take multiple courses in one or more of these areas.

Financial institutions are organizations or intermediaries that help the financial system operate efficiently and transfer funds from savers and investors to individuals, businesses, and governments that seek to spend or invest the funds in physical assets (inventories, buildings, and equipment). **Financial markets** are physical locations or electronic forums that facilitate the flow of funds among investors, businesses, and governments. The **investments** area involves the sale or marketing of securities, the analysis of securities, and the management of investment risk through portfolio diversification. **Financial management** involves financial planning, asset management, and fund-raising decisions to enhance the value of businesses.

Finance has its origins in economics and accounting. Economists use a supply-and-demand framework to explain how the prices and quantities of goods and services are determined in a free-market economic system. Accountants provide the record-keeping mechanism for showing ownership of the financial instruments used in the flow of financial funds between savers and borrowers. Accountants also record revenues, expenses, and profitability of organizations that produce and exchange goods and services.

[1] George Santayana, *Reason in Common Sense*, *The Life of Reason*, Vol. 1 (Charles Scribner's Sons, 1905), p. 284.

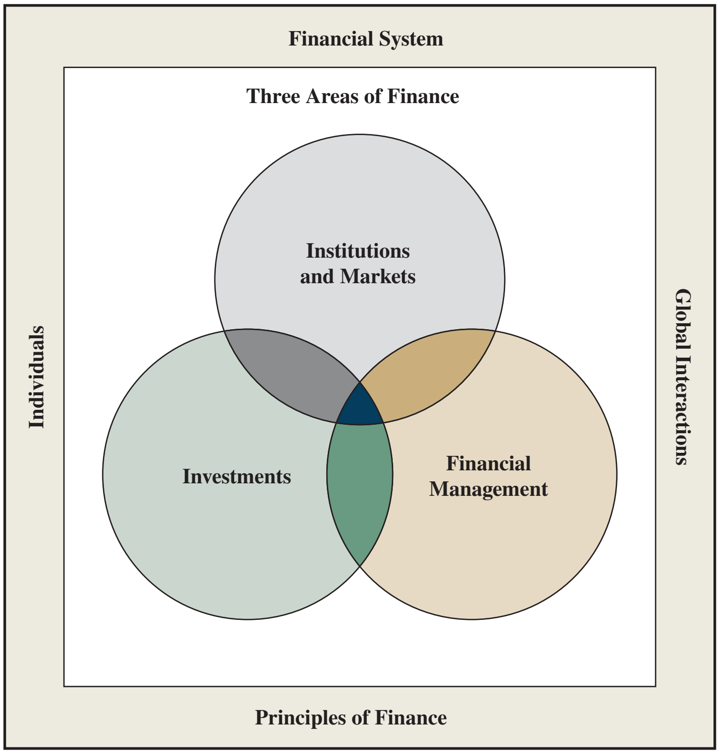


FIGURE 1.1 Graphic Illustration of the Financial Environment

Efficient methods of production and specialization of labor can exist only if there is an effective means of paying for raw materials and final products. Businesses can obtain the money needed to buy capital goods, such as machinery and equipment, only if a mechanism has been established for making savings available for investment. Similarly, federal and other governmental units, such as state and local governments and tax districts, can carry out their wide range of activities only if efficient means exist for raising money, for making payments, and for borrowing.

Financial institutions, financial markets, and investment and financial management are crucial elements of the financial environment and well-developed financial systems. Financial institutions are intermediaries, such as banks, insurance companies, and investment companies that engage in financial activities to aid the flow of funds from savers to borrowers or investors.

Financial markets provide the mechanism for allocating financial resources or funds from savers to borrowers. Individuals make decisions as investors and financial managers. Investors include savers and lenders as well as equity investors.

While we focus on financial managers in this book, we recognize that individuals also must be continuously involved in managing their personal finances. Investment management involves making decisions relating to issuing and investing in stocks and bonds. Financial management in business involves making decisions relating to the efficient use of financial resources in the production and sale of goods and services. The goal of the financial manager in a profit-seeking organization should be to maximize the owners' wealth. This is accomplished through effective financial planning and analysis, asset management, and the acquisition of financial capital. Financial managers in not-for-profit organizations aim to provide a desired level of services at acceptable costs and perform the same financial management functions as their for-profit counterparts.

Two Themes

As we progress through this book, we offer two themes within the financial institutions and markets, investments, and financial management topic areas. In each chapter we provide boxed materials relating to *small business practice* and *personal financial planning*. Successful businesses typically progress through a series of life-cycle stages—from the idea stage to exiting the business. More specifically, the successful business typically moves through five stages: development, start-up, survival, rapid growth, and maturity. Individuals who choose to become small business owners do so for a number of different reasons. Some small business owners focus on salary-replacement opportunities, where they seek income levels comparable to what they could have earned by working for much larger firms. Other individuals pursue lifestyle small business opportunities, where they get paid for doing things they like to do. Entrepreneurs seek to own and run businesses that stress high growth rates in sales, profits, and cash flows.

entrepreneurial finance study of how growth driven, performance focused, early stage firms raise financial capital and manage operations and assets

personal finance study of how individuals prepare for financial emergencies, protect against premature death and property losses, and accumulate wealth

Entrepreneurial finance is the study of how growth driven, performance focused, early stage firms (from development through early rapid growth) raise financial capital and manage their operations and assets. Our small business practice boxes focus on operational and financial issues faced by early stage firms. **Personal finance** is the study of how individuals prepare for financial emergencies, protect against premature death and the loss of property, and accumulate wealth over time. Our personal financial planning boxes focus on planning decisions made by individuals, regarding saving and investing their financial resources.

LEARNING ACTIVITY

Go to the Small Business Administration website, http://www.sba.gov, and explore what is involved in deciding whether to start a new business.

1.2 Why Study Finance?

The first 15 years of the twenty-first century have been a difficult time in the United States and worldwide. Whereas the 1990s decade was a period of economic growth and prosperity, the early part of the twenty-first century has been characterized by economic and financial markets volatility, along with many individuals just "treading water" in trying to maintain the standards of living they had previously achieved.

A "price bubble" for technology stocks, including so-called "dot.com" start-ups, burst in the United States in 2000. An economic downturn followed and was exacerbated by the terrorist attack on September 11, 2001. Economic recovery occurred over several years until the housing price bubble burst in 2006 and housing values declined sharply. Securities tied to housing prices also declined sharply, causing concerns that "over-borrowed" financial institutions might fail because they held insufficient equity capital resources to cover the decline in values of the home mortgages and housing-related debt securities they held. This led to the 2007–2008 financial crisis. A major economic recession (sometimes called the Great Recession) began in early 2008 and continued through mid-2009 and turned out to be the deepest and

Small Business Practice

Importance of Small Firms in the U.S. Economy

As the U.S. economy moved from the industrial age to the information age, dramatic changes occurred in the importance of small businesses. While large firms with five hundred or more employees continued to downsize and restructure throughout the 1990s and into the twenty-first century, small firms provided the impetus for economic growth.

During the mid-1970s through the 1980s period, firms with fewer than five hundred employees provided over one-half of total employment and nearly two-thirds of the net new jobs in the United States. Small firms provided most of the net new jobs during the 1990s. And, while the decade of the 2000s involved a housing price collapse, a major financial crisis, and economic recession, small firms continued to be the primary supplier of new jobs.

Why have small firms been so successful in creating new jobs? A Small Business Administration white paper suggests two reasons. First, small firms play a crucial role in technological change and productivity growth. Market economies change rapidly, and small firms are able to adjust quickly. Second, small firms provide the mechanism and incentive for millions of individuals to pursue the opportunity for economic success.

Others may argue that it is the entrepreneurial spirit and activity that account for the importance of small firms in the U.S. economy. Whatever the reasons, the ongoing growth of small businesses continues to be an important stimulus to the economy in the early years of the twenty-first century. For current statistics, visit the Small Business Administration, Office of Advocacy website at http://www.sba.gov/advo.

longest recession since the Great Depression of the 1930s. While unemployment rates in the United States exceeded 10 percent in 2009 and remained above the 7 percent level as of the end of 2012, they were reduced to about 5 percent by late 2015.

The health of economies and financial institutions and markets are linked throughout the world. European and other major foreign financial institutions were caught in the 2007–2008 financial crisis and most foreign economies suffered economic downturns near the end of the 2000s decade. Since then, European and many other economies have been slow to recover and some remain in recessions at the end of 2015. Even China, which had been growing its economy at a double-digit rate during the first decade of the 2000s, has been characterized by slowing economic activity during the past couple of years. This has worldwide implications since many developed and developing (emerging market) economies are tied to demand for natural resources and other products manufactured by Chinese firms. Even as China attempts to move from an exports-based economy to a consumer-based economy, their economic slowdown has made it difficult for many U.S., and other foreign companies to grow their sales in China.

We believe the analysis and understanding of past developments in economic activity and financial markets are useful to governments, businesses, and individuals in planning their futures. By learning from the past, we may be able to avoid, or mediate, similar pitfalls in the future.

There are several reasons to study finance. Knowledge of the basics of finance covered in this text should help you make informed economic decisions, personal and business investment decisions, and career decisions.

1. ***To make informed economic decisions.***

   As we will see, the operation of the financial system and the performance of the economy are influenced by policy makers. Individuals elect many of these policy makers in the United States, such as the president and members of Congress. Since these elected officials have the power to alter the financial system by creating laws, and since their decisions can influence economic activity, it is important that individuals be informed when making political and economic choices. Do you want a balanced budget, lower taxes, free international trade, low inflation, and full employment? Whatever your financial and economic goals may be, you need to be an informed participant if you wish to make a difference. Every individual should attain a basic understanding of finance as it applies to the financial system. Part 1 of this book focuses on understanding the roles of financial institutions and markets and how the financial system works.

2. ***To make informed personal and business investment decisions.***

   An understanding of finance should help you better understand how the institution, government unit, or business that you work for finances its operations. At a personal level, the understanding of investments will enable you to better manage your financial resources and provide the basis for making sound decisions for accumulating wealth over time. Thus, in addition to understanding finance basics relating to the financial system and the economy, you also need to develop an understanding of the factors that influence interest rates and security prices. Part 2 of this book focuses on understanding the characteristics of stocks and bonds and how they are valued, on securities markets and how to make risk versus return investment decisions.

3. ***To make informed career decisions based on a basic understanding of business finance.***

   Even if your business interest is in a nonfinance career or professional activity, you likely will need to interact with finance professionals both within and outside your firm or organization. Doing so will require a basic knowledge of the concepts, tools, and applications of financial management. Part 3 of this book focuses on providing you with an understanding of how finance is applied within a firm by focusing on decision making by financial managers.

Of course, you may be interested in pursuing a career in finance or at least want to know what people who work in finance actually do. Throughout this text, you will find discussions of career opportunities in finance, as well as a boxed feature entitled Career Opportunities in Finance.

DISCUSSION QUESTION 1

Are individuals in the United States "better off" economically now than they were at the beginning of the twenty-first century? Why?

1.3 Six Principles of Finance

FINANCE Finance is founded on six important principles. The first five relate to the economic behavior of individuals, and the sixth focuses on ethical behavior. Knowing about these principles will help us understand how managers, investors, and others incorporate time and risk into their decisions, as well as why the desire to earn excess returns leads to information-efficient financial markets in which prices reflect available information. Unfortunately, sometimes greed associated with the desire to earn excess returns causes individuals to risk losing their reputations by engaging in questionable ethical behavior and even unethical behavior in the form of fraud or other illegal activities. The bottom line is, "Reputation matters!" The following are the six principles that serve as the foundation of finance:

- Money has a time value.
- Higher returns are expected for taking on more risk.
- Diversification of investments can reduce risk.
- Financial markets are efficient in pricing securities.
- Manager and stockholder objectives may differ.
- Reputation matters.

Time Value of Money

Let's look at these principles one by one. Money in hand today is worth more than the promise of receiving the same amount in the future. The "time value" of money exists because a sum of money today could be invested and grow over time. For example, assume that you have $1,000 today and that it could earn $60 (6 percent) interest over the next year. Thus, $1,000 today would be worth $1,060 at the end of one year (i.e., $1,000 plus $60). As a result, a dollar today is worth more than a dollar received a year from now. The time-value-of-money principle helps us to understand the economic behavior of individuals and the economic decisions of the institutions and businesses that they run. This finance principle pillar is apparent in many of our day-to-day activities, and knowledge of it will help us better understand the implications of time-varying money decisions. We explore the details of the time value of money in Chapter 9, but this first principle of finance will be apparent throughout this book.

Risk Versus Return

A trade-off exists between risk and expected return in all types of investments—both assets and securities. Risk is the uncertainty about the outcome or payoff of an investment in the future. For example, you might invest $1,000 in a business venture today. After one year, the firm might be bankrupt and you would lose your total investment. On the other hand, after one year your investment might be worth $2,400. This variability in possible outcomes is your risk. Instead, you might invest your $1,000 in a U.S. government security, where after one year the value may be $950 or $1,100. Rational investors would consider the business venture investment to be riskier and would choose this investment only if they feel the expected return is high enough to justify the greater risk. Investors make these trade-off decisions every day.

Business managers make similar trade-off decisions when they choose between different projects in which they could invest. Understanding the risk/return trade-off principle also helps us understand how individuals make economic decisions. While we specifically explore the trade-off between risk and expected return in greater detail in Part 2, this second principle of finance is involved in many financial decisions throughout this text.

Diversification of Risk

While higher returns are expected for taking on more risk, all investment risk is not the same. In fact, some risk can be removed or *diversified* by investing in several different assets or securities. Let's return to the example involving a $1,000 investment in a business venture, where after one year the investment could provide a return of either zero dollars or $2,400. Now let's assume that there also is an opportunity to invest $1,000 in a second, unrelated business venture in which the outcomes would be zero dollars or $2,400. Let's further assume that we will put one-half of our $1,000 investment funds in each investment opportunity such that the individual outcomes for each $500 investment would be zero dollars or $1,200.

While it is possible that both investments could lose everything (i.e., return zero dollars) or return $1,200 each (a total of $2,400), it is also possible that one investment would go broke and the other would return $1,200. So, four outcomes are now possible:

Possible Outcomes	Combined Investment	Possible Returns		Combined Return
Outcome 1:	\$500 + \$500	\$0 + \$0	=	\$0
Outcome 2:	\$500 + \$500	\$0 + \$1,200	=	\$1,200
Outcome 3:	\$500 + \$500	\$1,200 + \$0	=	\$1,200
Outcome 4:	\$500 + \$500	\$1,200 + \$1,200	=	\$2,400

If each outcome has an equal, one-fourth (25 percent), chance of occurring, most of us would prefer this diversified investment. While it is true that our combined investment of $1,000 ($500 in each investment) at the extremes could still return zero dollars or $2,400, it is also true that we have a 50 percent chance of getting $1,200 back for our $1,000 investment. As a result, most of us would prefer investing in the combined or diversified investment rather than in either of the two investments separately. We will explore the benefits of investment diversification in Part 2 of this text.

Financial Markets Are Efficient

A fourth finance-related aspect of economic behavior is that individuals seek to find undervalued and overvalued investment opportunities involving both real and financial assets. It is human nature, economically speaking, to search for investment opportunities that will provide returns higher than those expected for undertaking a specified level of risk. This attempt by many to earn excess returns, or to "beat the market," leads to information-efficient financial markets. However, at the same time it becomes almost impossible to consistently earn returns higher than those expected in a risk/return trade-off framework. Rather than looking at this third pillar of finance as a negative consequence of human economic behavior, we prefer to couch it positively in that it leads to information-efficient financial markets.

A financial market is said to be information efficient if at any point the prices of securities reflect all information available to the public. When new information becomes available, prices quickly change to reflect that information. For example, let's assume that a firm's stock is currently trading at $20 per share. If the market is efficient, both potential buyers and sellers of the stock know that $20 per share is a fair price. Trades should be at $20, or near to it, if the demand (potential buyers) and supply (potential sellers) are in reasonable balance. Now, let's assume that the firm announces the production of a new product that is expected to substantially increase sales and profits. Investors might react by bidding up the price to, say, $25 per share to reflect this new information. Assuming this new information is assessed properly, the new fair price becomes $25 per share. This informational efficiency of financial markets exists because a large number of professionals are continually searching for mispriced securities. Of course, as soon as new information is discovered, it is immediately reflected in the price of the associated security. Information-efficient financial markets play an important role in the marketing and transferring of financial assets between investors by providing liquidity and fair prices. The importance of information-efficient financial markets is examined throughout this text and specifically in Chapter 12.