

# FUNDAMENTALS OF INVESTING

THIRTEENTH EDITION



Scott B. Smart • Lawrence J. Gitman • Michael D. Joehnk

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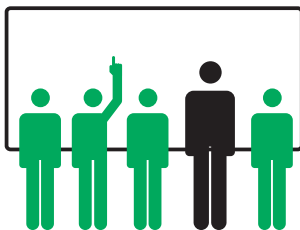
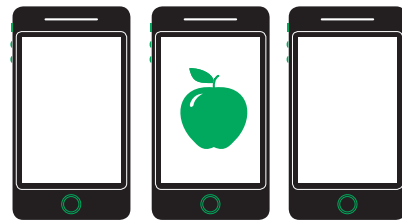
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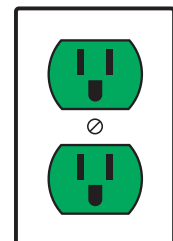
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# Fundamentals of Investing

Thirteenth Edition

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**Dedicated To  
Susan R. Smart,  
Robin F. Gitman, and  
Charlene W. Joehnk**

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# Preface

“Great firms aren’t great investments unless the price is right.” Those words of wisdom come from none other than Warren Buffett, who is, without question, one of the greatest investors ever. The words of Mr. Buffett sum up very nicely the essence of this book—namely, to help students learn to make informed investment decisions, not only when buying stocks but also when investing in bonds, mutual funds, or any other type of investment.

The fact is, investing may sound simple, but it’s not. Investors in today’s turbulent financial markets confront many challenges when deciding how to invest their money. Nearly a decade after the 2008 meltdown in financial markets, investors are still more wary of risk than they were before the crisis. This book is designed to help students understand the risks inherent in investing and to give them the tools they need to answer the fundamental questions that help shape a sound investment strategy. For example, students want to know, what are the best investments for me? Should I buy individual securities, mutual funds, or exchange-traded funds? How do I make judgments about risk? Do I need professional help with my investments, and can I afford it? Clearly, investors need answers to questions like these to make informed decisions.

The language, concepts, and strategies of investing are foreign to many. In order to become informed investors, students must first become conversant with the many aspects of investing. Building on that foundation, they can learn how to make informed decisions in the highly dynamic investment environment. This thirteenth edition of *Fundamentals of Investing* provides the information and guidance needed by individual investors to make such informed decisions and to achieve their investment goals.

This book meets the needs of professors and students in the first investments course offered at colleges and universities, junior and community colleges, professional certification programs, and continuing education courses. Focusing on both individual securities and portfolios, *Fundamentals of Investing* explains how to develop, implement, and monitor investment goals after considering the risk and return of different types of investments. A conversational tone and liberal use of examples guide students through the material and demonstrate important points.

## New for the Thirteenth Edition

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Our many adopters are interested in how we have changed the content from the twelfth to the thirteenth edition. We hope that this information will also interest potential adopters because it indicates our mandate to stay current in the field of investments and to continue to craft a book that will truly meet the needs of students and professors.

Some of the major changes made in the thirteenth edition are the following:

- Updated all real-world data through 2015 (or 2014 if 2015 numbers were not yet available), including text, tables, and figures.
- Created new videos of worked-out solutions to in-text examples that students can see on MyFinanceLab and use as a guide for the end-of-chapter problems as well as related assignments made by their professors.
- Revised many end-of-chapter problems.

- Expanded coverage of mutual funds, ETFs, and hedge funds in Chapter 1, and introduced new coverage on formulating a personal investment policy statement.
- Replaced the previous Markets in Crisis feature, which focused on various causes and consequences of the 2007 to 2008 financial crisis and recession, with a new Famous Failures in Finance boxed item. Famous Failures shares some lessons from the financial crisis, but it also highlights other “problem areas” in the investments world such as market crashes, ethical scandals, and failures of financial service providers to act in their clients’ best interests.
- Updated QR codes in the margins of each chapter. Students can scan these codes with their smart phones to gain access to videos and other web content that enhance the topical coverage of each chapter.
- Added a new feature called Watch Your Behavior. These boxes appear in the margins of most chapters and highlight investment lessons gleaned from the behavioral finance literature.
- Updated numerous Investor Facts boxes from the twelfth edition and incorporated entirely new ones in most chapters.
- Expanded the use of real-world data in examples.
- Added new coverage of the free-cash-flow-to-equity stock valuation model in Chapter 8.
- Expanded and updated coverage of behavioral finance, particularly but not exclusively in Chapter 9. Also added new content on the role of arbitrage in moving financial markets toward efficiency.
- Included new historical data on interest rates and bond returns in Chapter 10, highlighting the link between changes in interest rates and total returns earned on bonds.
- Revised or replaced every chapter opener, and in many chapters, included an end-of-chapter problem that ties back to the chapter opener.
- Created a new feature called Excel@Investing, which provides students with online access to electronic copies of most tables in the text that involve calculations. Students can explore these Excel files to better understand the calculations embedded in the printed tables, and students make the textbook’s tables dynamic by using these spreadsheets to change key assumptions to see how doing so affects the key results.

## Hallmarks of *Fundamentals of Investing*

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Using information gathered from academicians and practicing investment professionals, plus feedback from adopters, the thirteenth edition reflects the realities of today’s investment environment. At the same time, the following characteristics provide a structured framework for successful teaching and learning.

### **Clear Focus on the Individual Investor**

According to a Gallup poll, today about 55% of all U.S. households own stock either directly or indirectly through mutual funds or participation in 401(k)s. That percentage peaked at 65% in 2008 but it fell for six consecutive years in the aftermath of the financial crisis and has only recently started rising again. The focus of *Fundamentals of*

*Investing* has always been on the individual investor. This focus gives students the information they need to develop, implement, and monitor a successful investment program. It also provides students with a solid foundation of basic concepts, tools, and techniques. Subsequent courses can build on that foundation by presenting the advanced concepts, tools, and techniques used by institutional investors and money managers.

## Comprehensive Yet Flexible Organization

The text provides a firm foundation for learning by first describing the overall investment environment, including the various investment markets, information, and transactions. Next, it presents conceptual tools needed by investors—the concepts of return and risk and the basic approaches to portfolio management. It then examines the most popular types of investments—common stocks, bonds, and mutual funds. Following this series of chapters on investment vehicles is a chapter on how to construct and administer one’s own portfolio. The final section of the book focuses on derivative securities—options and futures—which require more expertise. Although the first two parts of the textbook are best covered at the start of the course, instructors can cover particular investment types in just about any sequence. The comprehensive yet flexible nature of the book enables instructors to customize it to their own course structure and teaching objectives.

We have organized each chapter according to a decision-making perspective, and we have been careful always to point out the pros and cons of the various investments and strategies we present. With this information, individual investors can select the investment actions that are most consistent with their objectives. In addition, we have presented the various investments and strategies in such a way that students learn the decision-making implications and consequences of each investment action they contemplate.

## Timely Topics

Various issues and developments constantly reshape financial markets and investment vehicles. Virtually all topics in this book take into account changes in the investment environment. For example, in every chapter we’ve added a new feature called Famous Failures in Finance. This feature highlights various aspects of the recent and historic financial crisis, as well as other “failures” in financial markets such as bank runs and ethical lapses by corporate managers and rogue traders. Fundamentally, investing is about the tradeoff between risk and return, and the Famous Failures in Finance feature serves as a reminder to students that they should not focus exclusively on an investment’s returns.

In addition, the thirteenth edition provides students access to short video clips from professional investment advisors. In these clips, which are carefully integrated into the content of each chapter, students will hear professionals sharing the lessons that they have learned through years of experience working as advisors to individual investors.

## Globalization

One issue that is reshaping the world of investing is the growing globalization of securities markets. As a result, *Fundamentals of Investing* continues to stress the global aspects of investing. We initially look at the growing importance of international markets, investing in foreign securities (directly or indirectly), international investment performance, and the risks of international investing. In later chapters, we describe



popular international investment opportunities and strategies as part of the coverage of each specific type of investment vehicle. This integration of international topics helps students understand the importance of maintaining a global focus when planning, building, and managing an investment portfolio. Global topics are highlighted by a globe icon in the margin.

## Comprehensive, Integrated Learning System

Another feature of the thirteenth edition is its comprehensive and integrated learning system, which makes clear to students what they need to learn in the chapter and helps them focus their study efforts as they progress through the chapter. For more detailed discussion of the learning system, see the feature walkthrough later in the preface (beginning on page xxi).

## CFA Exam Questions

We are pleased to include CFA exam questions in the thirteenth edition, both in the written text and in MyFinanceLab. CFA exam questions appear in the text at the end of five of the book's six parts. Due to the nature of the material in some of the early chapters, the CFA questions for Parts One and Two are combined and appear at the end of Part Two. These questions offer students an opportunity to test their investment knowledge against that required for the CFA Level-I exam.

In MyFinanceLab on the Course Home page, there are three Sample CFA Exams. Each of these exams is patterned after the CFA Level-I exam and comes with detailed guideline answers. The exams deal only with topics that are actually covered in the thirteenth edition of *Fundamentals of Investing* and are meant to replicate as closely as possible the types of questions that appear on the standard Level-I Exam. The Sample CFA Exams on MyFinanceLab come in three lengths: 30 questions, 40 questions, and 50 questions. Each exam is unique and consists of a different set of questions, so students can take any one or all of the exams without running into any duplicate questions. For the most part, these questions are adapted from past editions of the CFA Candidate Study Notes. Answers are included for immediate reinforcement.

## MyFinanceLab

MyFinanceLab is a fully integrated online homework and tutorial system that offers flexible instructor tools like the easy-to-use homework manager for test, quiz, and homework assignments, automatic grading, and a powerful online Gradebook. Students can take preloaded Sample Tests for each chapter and their results generate an individualized Study Plan that helps focus and maximize their study time. Please visit <http://www.myfinancelab.com> for more information or to register.



# The Smart, Gitman & Joehnk

## PROVEN

# TEACHING/LEARNING/MOTIVATIONAL SYSTEM

Users of *Fundamentals of Investing* have praised the effectiveness of the Smart/Gitman/Joehnk teaching and learning system, which has been hailed as one of its hallmarks. In the thirteenth edition we have retained and polished the system, which is driven by a set of carefully developed learning goals.

Users have also praised the rich motivational framework that underpins each chapter. Key elements of the pedagogical and motivational features are illustrated and described below.

## THE LEARNING GOAL SYSTEM

The Learning Goal system begins each chapter with **six Learning Goals**, labeled with numbered icons. These goals anchor the most important concepts and techniques to be learned. The Learning Goal icons are then tied to key points in the chapter's structure, including:

- First-level headings
- Summary
- Discussion Questions
- Problems
- Cases

This tightly knit structure provides a clear road map for students—they know what they need to learn, where they can find it, and whether they've mastered it by the end of the chapter.

An **opening story** sets the stage for the content that follows by focusing on an investment situation involving a real company or real event, which is in turn linked to the chapter topics. Students see the relevance of the vignette to the world of investments.

In many cases, an end-of-chapter problem draws students back to the chapter opener and asks them to use the data in the opener to make a calculation or draw a conclusion to demonstrate what they learned in the chapter.

**1** The Investment Environment

You have worked hard for your money. Now it is time to make your money work for you. Welcome to the world of investments. There are literally thousands of investments, from all around the world, from which to choose. How much should you invest, when should you invest, and which investments are right for you? The answers depend upon the knowledge and financial circumstances of each investor.

Financial news is plentiful, and finding financial information has become easier than ever. Today investors are bombarded with financial news. Cable/TV networks such as CNBC, Bloomberg Television, and Fox Business Network specialize in business and financial news, and the print-based financial media has expanded beyond traditional powerhouses such as *The Wall Street Journal* and *The Financial Times* to include periodicals like *Money Magazine* and *Smart Money*, which focus on financial advice for individual investors. Clearly the Internet has played a major role in opening up the world of investing to millions of experienced and novice investors. The Internet makes enormous amounts of information readily available and enables investors to trade securities with the click of a mouse. Free and low-cost access to tools that were once restricted to professional investors helps create a more level playing field—yet at the same time, such easy access can increase the risks for inexperienced investors.

Regardless of whether you are an experienced investor or a newcomer to the field, the same investment fundamentals apply. Perhaps the most fundamental principle in investing, and one that you would be wise to keep in mind whenever you invest, is *risk—there is a tradeoff between an investment's risk and its return*. Most people would like their investments to be as profitable as possible, but there is an almost unavoidable tendency for investments with the greatest profit potential to be associated with the highest degree of risk. You will see examples of the link between risk and return throughout this text.

This chapter provides a broad overview of the investments field. It introduces the various types of investments, the investment process, the role of investment plans, the importance of meeting liquidity needs, and careers in finance. Becoming familiar with investment alternatives and developing realistic investment plans should greatly increase your chance of achieving financial success.

**LEARNING GOALS**

After studying this chapter, you should be able to:

- LG1** Understand the meaning of the term *investment* and list the attributes that distinguish one investment from another.
- LG2** Describe the investment process and types of investors.
- LG3** Discuss the principal types of investments.
- LG4** Describe the purpose and content of an investment policy statement, review fundamental tax considerations, and discuss investing over the life cycle.
- LG5** Describe the most common types of short-term investments.
- LG6** Describe some of the main careers available to people with financial expertise and the role that investments play in each.

# MORE LEARNING TOOLS



What Is Inflation?

In the margins of each chapter students will find **QR codes**. By scanning these codes with their smart phones, students will be taken to websites with useful information to enhance their understanding of the topics covered in the textbook. For example, many of these QR codes link students with free online video tutorials covering a range of topics.

## WATCH YOUR BEHAVIOR

**Short-Lived Growth** So-called value stocks are stocks that have low price-to-book ratios, and growth stocks are stocks that have relatively high price-to-book ratios. Many studies demonstrate that value stocks outperform growth stocks, perhaps because investors overestimate the odds that a firm that has grown rapidly in the past will continue to do so.

Also new to this edition, **Watch Your Behavior** boxes appear in the margins of most chapters and highlight investment lessons gleaned from the behavioral finance literature.

Each chapter contains a handful of **Investor Facts**—brief sidebar items that give an interesting statistic or cite an unusual investment experience. These facts add a bit of seasoning to the concepts under review and capture a real-world flavor. The Investor Facts sidebars include material focused on topics such as art as an investment, the downgrade of the U.S. government's credit rating, the use of financial statements to detect accounting fraud, and recent issues of unusual securities such as bonds with 100-year maturities.

**An Advisor's Perspective** consists of short video clips of professional investment advisers discussing the investments topics covered in each chapter. Students can access the video clips on MyFinanceLab.

## AN ADVISOR'S PERSPECTIVE



**Ed Slott**  
CEO, Ed Slott and Company

"The greatest money making asset any individual can possess is time."

MyFinanceLab

## INVESTOR FACTS

**A Steady Stream** York Water Company raised its dividend for the 17th consecutive year in February 2015. That's an impressive run, but it's not the most notable fact about York's dividend stream. The company paid dividends without missing a single year since 1816, the year that Indiana was admitted as the 19th U.S. state! No other U.S. company can match York's record of nearly two centuries of uninterrupted dividend payments.

## FAMOUS FAILURES IN FINANCE

### Fears of Deflation Worry Investors

For most of your lifetime, prices of most goods and services have been rising. There are important exceptions, such as the prices of consumer electronics and computers, but from one year to the next, the overall price level rose continuously in the United States from 1955 through 2007. However, as the recession deepened in 2008, consumer prices in the United States began to decline, falling in each of the last five months that year. Countries in the European Union experienced a brief deflationary period around the same time. The news raised fears among some investors that the recession might turn into a depression like the one that had brought about

a price decline of  $-27\%$  from November 1929 to March 1933. Although prices began to rise again, fears of deflation resurfaced again in late 2014 and early 2015. Prices in the United States were flat or down in the first three months of 2015, while countries in the European Union experienced falling prices for four consecutive months starting in December 2015.

**Critical Thinking Question** Suppose you own an investment that pays a fixed return in dollars year after year. How do you think inflation (rising prices) or deflation (falling prices) would influence the value of this type of investment?

**Famous Failures in Finance boxes**—short, boxed discussions of real-life scenarios in the investments world, many of which focus on ethics—appear in selected chapters and on the book's website. Many of these boxes contain a Critical Thinking Question for class discussion, with guideline answers given in the Instructor's Manual.

# WITHIN THE CHAPTER

**Key Equations** are screened in yellow throughout the text to help readers identify the most important mathematical relationships. Select key equations also appear in the text's rear endpapers.

**Equation 8.4**

$$\text{Estimated dividends per share in year } t = \frac{\text{Estimated EPS for year } t}{\text{Estimated payout ratio}}$$

**Calculator Keystrokes** At appropriate spots in the text the student will find sections on the use of financial calculators, with marginal calculator graphics that show the inputs and functions to be used.

Input	Function
-1000	PV
1400	FV
5	N
	CPT
	I
<b>Solution</b>	
6.96	

## CONCEPTS IN REVIEW

Answers available at  
<http://www.pearsonhighered.com/smart>

- 3.1 Discuss the impact of the Internet on the individual investor and summarize the types of resources it provides.
- 3.2 Identify the four main types of online investment tools. How can they help you become a better investor?
- 3.3 What are the pros and cons of using the Internet to choose and manage your investments?

**Concepts in Review** questions appear at the end of each section of the chapter. These review questions allow students to test their understanding of each section before moving on to the next section of the chapter. Answers for these questions are available in the Multimedia Library of MyFinanceLab, at the book's website, and by review of the preceding text.

# STILL MORE LEARNING TOOLS

The **end-of-chapter summary** makes *Fundamentals of Investing* an efficient study tool by integrating chapter contents with online learning resources available in **MyFinanceLab**. A thorough summary of the key concepts—What You Should Know—is directly linked with the text and online resources—Where to Practice.

**Learning Goal** icons precede each summary item, which begins with a boldfaced restatement of the learning goal.

**Discussion Questions**, keyed to Learning Goals, guide students to integrate, investigate, and analyze the key concepts presented in the chapter. Many questions require that students apply the tools and techniques of the chapter to investment information they have obtained and then make a recommendation with regard to a specific investment strategy or vehicle. These project-type questions are far broader than the Concepts in Review questions within the chapter. Answers to odd-numbered questions are available to students in MyFinanceLab and on the book's website.

**Expanded and Revised Problem Sets** offer additional review and homework opportunities and are keyed to Learning Goals. Answers to odd-numbered Problems are available to students in MyFinanceLab and on the book's website, while all answers/solutions are available for instructors in the Instructor's Manual.

MyFinanceLab		
Here is what you should know after reading this chapter. MyFinanceLab will help you identify what you know and where to go when you need to practice.		
What You Should Know	Key Terms	Where to Practice
<b>LG1</b> Explain the behavior of market interest rates and identify the forces that cause interest rates to change. The behavior of interest rates is the most important force in the bond market. It determines not only the amount of current income an investor will receive but also the investor's capital gains (or losses). Changes in market interest rates can have a dramatic impact on the total returns obtained from bonds over time.	yield spreads, p. 426	MyFinanceLab Study Plan 11.1
<b>LG2</b> Describe the term structure of interest rates and note how investors can use yield curves. Many forces drive the behavior of interest rates over time, including inflation, the cost and availability of funds, and the level of interest rates in major foreign markets. One particularly important force is the term structure of interest rates, which relates yield to maturity to term to maturity. Yield curves essentially plot the term structure and are often used by investors as a way to get a handle on the future behavior of interest rates.	expectations hypothesis, p. 432 liquidity preference theory, p. 433 market segmentation theory, p. 433 term structure of interest rates, p. 429 yield curve, p. 429	MyFinanceLab Study Plan 11.2
<b>LG3</b> Understand how investors value bonds in the marketplace. Bonds are valued (priced) in the	accrued interest, p. 438 clean price, p. 439	MyFinanceLab Study Plan 11.3

## Discussion Questions

- LG1 P11.1** Briefly describe each of the following theories of the term structure of interest rates.
- Expectations hypothesis
  - Liquidity preference theory
  - Market segmentation theory
- According to these theories, what conditions would result in a downward-sloping yield curve? What conditions would result in an upward-sloping yield curve? Which theory do you think is most valid, and why?
- LG2 P11.2** Using the *Wall Street Journal*, *Barron's*, or an online source, find the bond yields for Treasury securities with the following maturities: 3 months, 6 months, 1 year, 3 years, 5 years, 10 years, 15 years, and 20 years. Construct a yield curve based on these reported yields, putting term to maturity on the horizontal (x) axis and yield to maturity on the vertical (y) axis. Briefly discuss the general shape of your yield curve. What conclusions might you draw about future interest rate movements from this yield curve?
- LG5 P11.3** Briefly explain what will happen to a bond's duration measure if each of the following events occur.
- The yield to maturity on the bond falls from 8.5% to 8%.
  - The bond gets 1 year closer to its maturity.

## Problems

All problems are available on <http://www.myfinancelab.com>

- LG3 P11.1** You are considering the purchase of a \$1,000 par value bond with an 6.5% coupon rate (with interest paid semiannually) that matures in 12 years. If the bond is priced to provide a required return of 8%, what is the bond's current price?
- LG3 P11.2** Two bonds have par values of \$1,000. One is a 5%, 15-year bond priced to yield 8%. The other is a 7.5%, 20-year bond priced to yield 6%. Which of these has the lower price? (Assume annual compounding in both cases.)
- LG3 P11.3** Using semiannual compounding, find the prices of the following bonds.
- A 10.5%, 15-year bond priced to yield 8%
  - A 7%, 10-year bond priced to yield 8%
  - A 12%, 20-year bond priced at 10%
- Repeat the problem using annual compounding. Then comment on the differences you found in the prices of the bonds.
- LG3 P11.4** You have the opportunity to purchase a 25-year, \$1,000 par value bond that has an annual coupon rate of 9%. If you require a YTM of 7.6%, how much is the bond worth to you?
- LG3 P11.5** A \$1,000 par value bond has a current price of \$800 and a maturity value of \$1,000 and matures in five years. If interest is paid semiannually and the bond is priced to yield 8%, what is the bond's annual coupon rate?
- LG3 P11.6** A 20-year bond has a coupon of 10% and is priced to yield 8%. Calculate the price per \$1,000 par value using semiannual compounding. If an investor purchases this bond two months before a scheduled coupon payment, how much accrued interest must be paid to the seller?

# AT CHAPTER END

## Case Problem 4.2 The Risk-Return Tradeoff: Molly O'Rourke's Stock Purchase Decision



Over the past 10 years, Molly O'Rourke has slowly built a diversified portfolio of common stock. Currently her portfolio includes 20 different common stock issues and has a total market value of \$82,500.

Molly is at present considering the addition of 50 shares of either of two common stock issues—X or Y. To assess the return and risk of each of these issues, she has gathered dividend income and share price data for both over the last 10 years (2007–2016). Molly's investigation of the outlook for these issues suggests that each will, on average, tend to behave in the future just as it has in the past. She therefore believes that the expected return can be estimated by finding the average HPR over the past 10 years for each of the stocks. The historical dividend income and stock price data collected by Molly are given in the accompanying table.

Two **Case Problems**, keyed to the Learning Goals, encourage students to use higher-level critical thinking skills: to apply techniques presented in the chapter, to evaluate alternatives, and to recommend how an investor might solve a specific problem. Again, Learning Goals show the student the chapter topics on which the case problems focus.

**Excel@Investing** problems, appearing at the end of all chapters, challenge students to solve financial problems and make decisions through the creation of spreadsheets. In addition, in this edition we provide electronic versions of many in-text tables so students can see how the calculations in the tables work, and they can alter the baseline assumption in the printed tables to see how changing assumptions affects the main results of each table. In Chapter 1 students are directed to the website <http://www.myfinancelab.com>, where they can complete a spreadsheet tutorial, if needed. In addition, this tutorial and selected tables within the text carrying a spreadsheet icon are available in spreadsheet form on the text's website.

**CFA Exam Questions** from the 2010 Level One Curriculum and the *CFA Candidate Study Notes, Level 1, Volume 4* are now at the end of each part of the book, starting at Part Two. These questions are also assignable in MyFinanceLab.

## Excel@Investing

### Excel@Investing

The cash flow component of bond investments is made up of the annual interest payments and the bond redemption value or its par value. Just like other time-value-of-money considerations, the bond cash flows are discounted back in order to determine their present value.

In comparing bonds to stocks, many investors look at the respective returns. The total returns in the bond market are made up of both current income and capital gains. Bond investment analysis should include the determination of the current yield as well as a specific holding period return.

On January 13, 2016, you gather the following information on three corporate bonds issued by the General Pineapple Corporation (GPC). Remember that corporate bonds are quoted as a percentage of their par value. Assume the par value of each bond to be \$1,000. These debentures are quoted in eighths of a point. Create a spreadsheet that will model and answer the following bond investment problems.

Bonds	Current Yield	Volume	Close
GPC 5.3 13	?	25	105 <sup>7</sup> / <sub>8</sub>
GPC 6.65s 20	?	45	103
GPC 7.4 22	?	37	104 <sup>5</sup> / <sub>8</sub>

## CFA Exam Questions

### Investing in Common Stocks

Following is a sample of 11 Level-I CFA exam questions that deal with many topics covered in Chapters 6, 7, 8, and 9 of this text, including the use of financial ratios, various stock valuation models, and efficient market concepts. (Note: When answering some of the questions, remember: "Forward P/E" is the same as a P/E based on estimated earnings one year out.) When answering the questions, give yourself 1½ minutes for each question; the objective is to correctly answer 8 of the 11 questions in a period of 16½ minutes.

- Holding constant all other variables and excluding any interactions among the determinants of value, which of the following would most likely increase a firm's price-to-earnings multiple?
  - The risk premium increases.
  - The retention rate increases.
  - The beta of the stock increases.
- A rationale for the use of the price-to-sales (P/S) approach is:
  - Sales are more volatile than earnings.
  - P/S ratios assess cost structures accurately.
  - Revenues are less subject to accounting manipulation than earnings.
- A cyclical company tends to
  - have earnings that track the overall economy.
  - have a high price-to-earnings ratio.
  - have less volatile earnings than the overall market.
- Consider a company that earned \$4.00 per share last year and paid a dividend of \$1.00. The firm has maintained a consistent payout ratio over the years and analysts expect this to continue. The firm is expected to earn \$4.40 per share next year, and the stock is expected to sell for \$30.00. The required rate of return is 12%. What is the best estimate of the stock's current value?
  - \$44.00
  - \$22.67
  - \$27.77
- A stock's current dividend is \$1 and its expected dividend is \$1.10 next year. If the investor's required rate of return is 15% and the stock is currently trading at \$20.00, what is the implied expected price in one year?
  - \$21.90
  - \$22.90
  - \$23.00
- A firm has total revenues of \$187,500, net income of \$15,000, total current liabilities of \$50,000, total common equity of \$75,000, and total assets of \$150,000. What is the firm's ROE?
  - 15%
  - 20%
  - 24%

# INTERACTIVE LEARNING

Chapter 3 The Time Value of Money – Part One

Problem 3-8  
1 correct | 1 of 31 complete

Present values. Fill in the present value for the following table using one of the three methods below:

- Use the present value formula,  $PV = FV \times \frac{1}{(1+r)^n}$ .
- Use the TVM keys from a calculator.
- Use the TVM function in a spreadsheet.

Future Value	Interest Rate	Number of Periods	Present Value
\$687.00	3.0%	3	?
\$88,799.00	6.5%	32	?
\$336,835.00	11.5%	25	?
\$26,498.58	16.0%	14	?

a. The present value of a single cash flow can be found using the following equation:

$$PV = FV \times \frac{1}{(1+r)^n}$$

where  $PV$  = present value  
 $FV$  = future value  
 $r$  = interest rate  
Press Continue to see more.

3 parts remaining

**MyFinanceLab** is a fully integrated homework and tutorial system which solves one of the biggest teaching problems in finance courses—students learn better with lots of practice, but grading complex multipart problems is time-consuming for the instructor. In MyFinanceLab, students can work the end-of-chapter problems with algorithmically generated values for unlimited practice and instructors can create assignments that are automatically graded and recorded in an online Gradebook.

MyFinanceLab also contains brief videos of author Scott Smart walking students through step-by-step solutions of select problems.

**MyFinanceLab**: hands-on practice, hands-off grading.

## Supplemental Materials

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We recognize the key role of a complete and creative package of materials to supplement a basic textbook. We believe that the following materials, offered with the thirteenth edition, will enrich the investments course for both students and instructors.

### ***Fundamentals of Investing* Companion Website**

The book's Companion Website offers students and professors an up-to-date source of supplemental materials. This resource is located at <http://www.pearsonhighered.com/smart>. Visitors will find answers to Concepts in Review questions and answers to odd-numbered Discussion Questions and Problems and spreadsheets of selected tables within the text carrying the Excel@Investing icon.

### **Instructor's Manual**

Revised by Robert J. Hartwig of Worcester State College, the *Instructor's Manual* contains chapter outlines; lists of key concepts discussed in each chapter; detailed chapter overviews; answers/suggested answers to all Concepts in Review and Discussion Questions, Problems, and Critical Thinking Questions to Famous Failures in Finance boxes; solutions to the Case Problems; and ideas for outside projects.

### **Test Bank**

Revised for the thirteenth edition, also by Robert J. Hartwig of Worcester State College, the *Test Bank* includes a substantial number of questions. Each chapter features true-false and multiple-choice questions, as well as several problems and short-essay questions. The *Test Bank* is also available in Test Generator Software (TestGen with QuizMaster). Fully networkable, this software is available for Windows and Macintosh. TestGen's graphical interface enables instructors to easily view, edit, and add questions; export questions to create tests; and print tests in a variety of fonts and forms. Search and sort features let the instructor quickly locate questions and arrange them in a preferred order. QuizMaster, working with your school's computer network, automatically grades the exams, saves results, and allows the instructor to view or print a variety of reports.

### **PowerPoint Lecture Slides**

To facilitate classroom presentations, PowerPoint slides of all text images and classroom lecture notes are available for Windows and Macintosh. The slides were revised by textbook author Scott Smart.

## Acknowledgments

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and suggestions from students throughout the country—comments we especially enjoy receiving—sustained our belief in the need for a fresh, informative, and teachable investments text.

A few individuals provided significant subject matter expertise in the initial development of the book. They are Terry S. Maness of Baylor University, Arthur L. Schwartz, Jr., of the University of South Florida at St. Petersburg, and Gary W. Eldred. Their contributions are greatly appreciated. In addition, Pearson obtained the advice of a large group of experienced reviewers. We appreciate their many suggestions and criticisms, which have had a strong influence on various aspects of this volume. Our special thanks go to the following people, who reviewed all or part of the manuscript for the previous twelve editions of the book.

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Paul Bolster	Tom Guerts	Barry Marchman	William Scroggins
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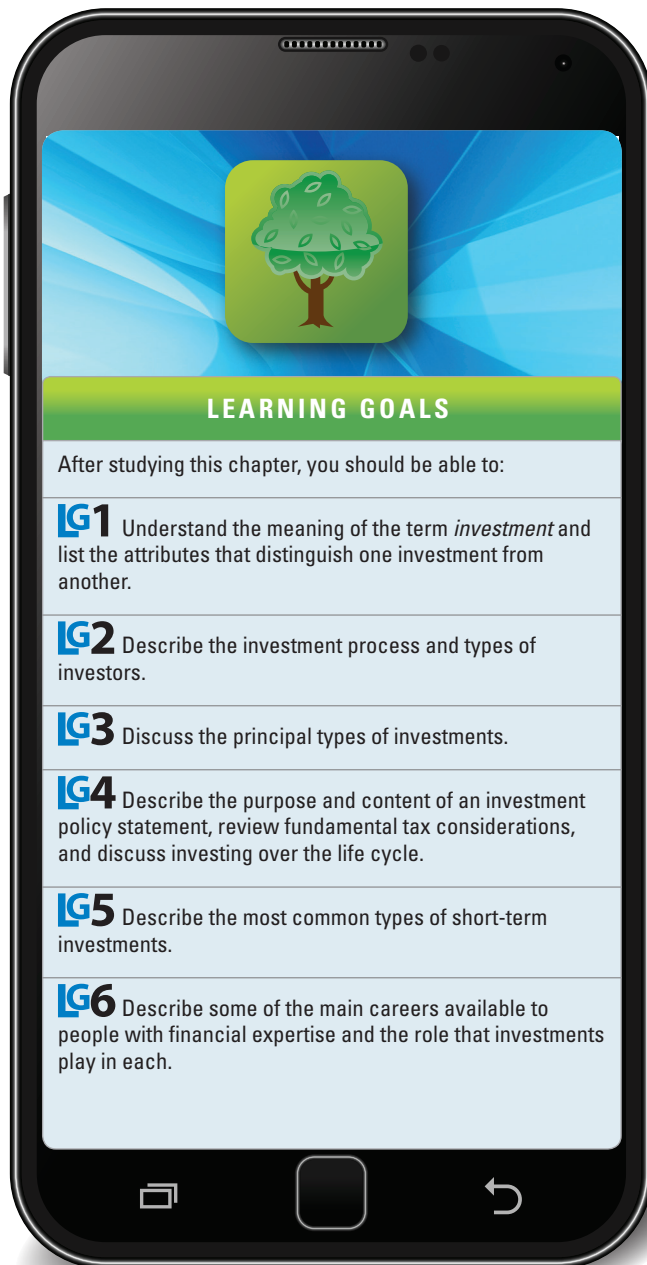
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SCOTT B. SMART  
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# 1

## The Investment Environment



**Y**ou have worked hard for your money. Now it is time to make your money work for you. Welcome to the world of investments. There are literally thousands of investments, from all around the world, from which to choose. How much should you invest, when should you invest, and which investments are right for you? The answers depend upon the knowledge and financial circumstances of each investor.

Financial news is plentiful, and finding financial information has become easier than ever. Today investors are bombarded with financial news. Cable TV networks such as CNBC, Bloomberg Television, and Fox Business Network specialize in business and financial news, and the print-based financial media has expanded beyond traditional powerhouses such as *The Wall Street Journal* and *The Financial Times* to include periodicals like *Money Magazine* and *Smart Money*, which focus on financial advice for individual investors. Clearly the Internet has played a major role in opening up the world of investing to millions of experienced and novice investors. The Internet makes enormous amounts of information readily available and enables investors to trade securities with the click of a mouse. Free and low-cost access to tools that were once restricted to professional investors helps create a more level playing field—yet at the same time, such easy access can increase the risks for inexperienced investors.

Regardless of whether you are an experienced investor or a newcomer to the field, the same investment fundamentals apply. Perhaps the most fundamental principle in investing, and one that you would be wise to keep in mind whenever you invest, is this—there is a tradeoff between an investment's risk and its return. Most people would like their investments to be as profitable as possible, but there is an almost unavoidable tendency for investments with the greatest profit potential to be associated with the highest degree of risk. You will see examples of the link between risk and return throughout this text.

This chapter provides a broad overview of the investments field. It introduces the various types of investments, the investment process, the role of investment plans, the importance of meeting liquidity needs, and careers in finance. Becoming familiar with investment alternatives and developing realistic investment plans should greatly increase your chance of achieving financial success.

## Investments and the Investment Process

### LG1 LG2

**NOTE** The Learning Goals shown at the beginning of the chapter are keyed to text discussions using these icons.

You are probably already an investor. If you have money in a savings account, you already have at least one investment to your name. An **investment** is simply any asset into which funds can be placed with the expectation that it will generate positive income and/or increase its value, and a collection of different investments is called a **portfolio**.

The rewards, or **returns**, from investing come in two basic forms: income and increased value. Money invested in a savings account provides *income* in the form of periodic interest payments. A share of common stock may also provide income (in the form of dividends), but investors often buy stock because they expect its price to rise. That is, common stock offers both income and the chance of an *increased value*. In the United States since 1900, the average annual return on a savings account has been a little more than 3%. The average annual return on common stock has been about 9.6%. Of course, during major market downturns (such as the one that occurred in 2008), the returns on nearly all investments fall well below these long-term historical averages.

Is cash placed in a simple (no-interest) checking account an investment? No, because it fails both tests of the definition: It does not provide added income and its value does not increase. In fact, over time inflation erodes the purchasing power of money left in a non-interest-bearing checking account.

We begin our study of investments by looking at types of investments and at the structure of the investment process.

### Attributes of Investments

When you invest, the organization in which you invest—whether it is a company or a government entity—offers you the prospect of a future benefit in exchange for the use of your funds. You are giving up the use of your money, or the opportunity to use that money to consume goods and services today, in exchange for the prospect of having more money, and thus the ability to consume goods and services, in the future. Organizations compete for the use of your funds, and just as retailers compete for customers' dollars by offering a wide variety of products with different characteristics, organizations attempting to raise funds from investors offer a wide variety of investments with different attributes. As a result, investments of every type are available, from virtually zero-risk savings accounts at banks, which in recent years offered returns hovering barely above 0%, to shares of common stock in high-risk companies that might triple in value in a short time. The investments you choose will depend on your resources, your goals, and your willingness to take risk. We can describe a number of attributes that distinguish one type of investment from another.

**NOTE** Investor Facts offer interesting or entertaining tidbits of information.

#### INVESTOR FACTS

**Art as an Asset** Securities don't necessarily perform better than property. Over the decade ending in 2011, fine art produced an average annual return of 4.6%, compared to about 3.0% for stocks in the S&P 500.

Sources: (1) <http://www.artasanasset.com>; (2) "Paint by Numbers," Time, January 30, 2012.

**Securities or Property** **Securities** are investments issued by firms, governments, or other organizations that represent a financial claim on the resources of the issuer. The most common types of securities are stocks and bonds, but more exotic types such as stock options are available as well. One benefit of investing in securities is that they often have a high degree of **liquidity**, meaning that you can sell securities and convert them into cash quickly without incurring substantial transaction costs and without having an adverse impact on the security's price. Stocks issued by large companies, for example, tend to be highly liquid, and investors trade billions of shares of stock each day in the markets all over the world. The focus of this text is primarily on the most basic types of securities.

**Property**, on the other hand, consists of investments in real property or tangible personal property. *Real property* refers to land, buildings, and that which is permanently affixed to the land. *Tangible personal property* includes items such as gold, art-work, antiques, and other collectibles. In most cases, property is not as easy to buy or sell as are securities, so we would say that property tends to be a relatively *illiquid* type of investment. Investors who want to sell a building or a painting may have to hire (and compensate) a real estate agent or an art dealer to locate a buyer, and it may take weeks or months to sell the property.

### INVESTOR FACTS

**Smart people own stocks** The stock market participation rate refers to the percentage of households who invest in stocks directly or indirectly. A study of investors from Finland found a remarkable connection between IQ and stock market participation—people with higher IQ scores were much more likely to invest in stocks than were people with lower IQ scores. More remarkable still, the IQ measure used in this study was the score on a test given to Finnish males when they were 19 or 20 years old as part of their induction to military service. IQ scores measured at that early age were a very strong predictor of whether these men would invest in stocks much later in life.

(Source: “IQ and Stock Market Participation,” *Journal of Finance*, 2011, Vol. 66, Issue 6, pp. 2121–2164.)

**Direct or Indirect** A **direct investment** is one in which an investor directly acquires a claim on a security or property. If you buy shares of common stock in a company such as Apple Inc., then you have made a direct investment, and you are a part owner of that firm. An **indirect investment** is an investment in a collection of securities or properties managed by a professional investor. For example, when you send your money to a mutual fund company such as Vanguard or Fidelity, you are making an indirect investment in the assets held by these mutual funds.

Direct ownership of common stock has been on the decline in the United States for many years. For example, in 1945 households owned (directly) more than 90% of the common stocks listed in the United States. Over time that percentage dropped to its 2013 level of about 14% (by comparison, 36% of U.S. households own a dog). The same trend has occurred in most of the world’s larger economies. In the United Kingdom, for example, households’ direct ownership of shares fell from roughly 66% to 14% in the last half century. Today, households directly hold less than one-quarter of outstanding shares in most of the world’s major stock markets, as Figure 1.1 shows.

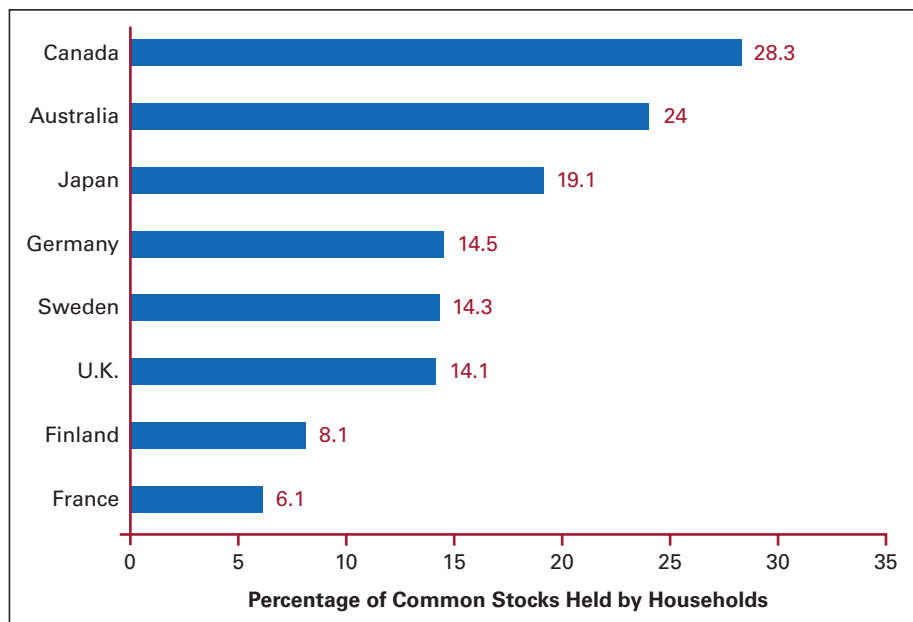
Just as direct stock ownership by households has been falling, indirect ownership has been rising. One way to examine this trend is to look at the

**FIGURE 1.1**

#### Direct Stock Ownership by Households

The figure shows the percentage of common stocks in each country that is owned directly by households. In most countries, households’ direct ownership accounts for less than one-quarter of listed common stocks in the country.

(Source: Data from “Government Policy and Ownership of Equity Securities,” *Journal of Financial Economics*, 2014, Vol. 111, Issue 1, pp. 70–85.)



**NOTE** Watch Your Behavior boxes provide insights about common mistakes that investors make gleaned from research in the field of behavioral finance.

### WATCH YOUR BEHAVIOR

#### Surprisingly Low Stock Ownership

An important determinant in investment success is being willing to take some risk. One measure of risk-taking is stock ownership. Numerous studies have documented that only about 50% of U.S. households have direct or indirect investments in stocks. Given that stocks have historically earned a higher return than safer investments, such as bonds, households that avoid stocks altogether may not accumulate as much wealth over time as they could if they were willing to take more risk.

direct ownership held by institutions that manage money on behalf of households. In 1945 institutional investors such as pension funds, hedge funds, and mutual funds combined held just less than 2% of the outstanding stock in the United States, but today their direct ownership is approaching 70%.

Tax policy helps to explain the decline in direct stock ownership by individuals and the related rise in direct ownership by institutions such as mutual funds and pension funds. Starting in 1978, section 401(k) of the Internal Revenue Code allowed employees to avoid paying tax on earnings that they elect to receive as deferred compensation, such as in a retirement savings plan. Since then, most large companies have adopted so-called 401(k) plans, which allow employees to avoid paying current taxes on the income that they contribute to a 401(k) plan. Employees are taxed on this income when they withdraw it during their retirement years. Typically, mutual fund companies such as T. Rowe Price and Franklin Templeton manage these 401(k) plans, so stocks held in these plans represent indirect ownership for the workers and direct ownership for the mutual fund companies.

An important element of this trend is that individuals who trade stocks often deal with professional investors who sell the shares those individuals want to buy or buy what individuals want to sell. For instance, in 2015 Fidelity had almost \$2 trillion in assets in its various mutual funds, trusts, and other accounts, and the company employed approximately 41,000 people, many of whom had advanced investments training and access to a tremendous amount of information about the companies in which they invest. Given the preponderance of institutional investors in the market today, individuals are wise to consider the advantages possessed by the people with whom they are trading.

**NOTE** Quick Response codes can be scanned with a smartphone to access additional information online related to the chapter's topic.



Bonds vs. Stocks

**Debt, Equity, or Derivative Securities** Most investments fall into one of two broad categories—debt or equity. **Debt** is simply a loan that obligates the borrower to make periodic interest payments and to repay the full amount of the loan by some future date. When companies or governments need to borrow money, they issue securities called *bonds*. When you buy a bond, in effect you lend money to the issuer. The issuer agrees to pay you interest for a specified time, at the end of which the issuer will repay the original loan.

**Equity** represents ongoing ownership in a business or property. An equity investment may be held as a security or by title to a specific property. The most common type of equity security is *common stock*.

**Derivative securities** are neither debt nor equity. Instead, they derive their value from an underlying security or asset. Stock *options* are an example. A stock option is an investment that grants the right to purchase (or sell) a share of stock in a company at a fixed price for a limited period of time. The value of this option depends on the market price of the underlying stock.

**Low- or High-Risk Investments** Investments also differ on the basis of risk. **Risk** reflects the uncertainty surrounding the return that a particular investment will generate. To oversimplify things slightly, the more uncertain the return associated with an investment, the greater is its risk. One of the most important strategies that investors use to manage risk is **diversification**, which simply means holding different types of assets in an investment portfolio.

As you invest over your lifetime, you will be confronted with a continuum of investments that range from low risk to high risk. For example, stocks are generally considered riskier than bonds because stock returns vary over a much wider range and

are harder to predict than are bond returns. However, it is not difficult to find high-risk bonds that are riskier than the stock of a financially sound firm.

In general, investors face a tradeoff between risk and return—to obtain higher returns, investors usually have to accept greater risks. *Low-risk investments* provide a relatively predictable, but also relatively low, return. *High-risk investments* provide much higher returns on average, but they also have the potential for much larger losses.

**Short- or Long-Term Investments** The life of an investment may be either short or long. **Short-term investments** typically mature within one year. **Long-term investments** are those with longer maturities or, like common stock, with no maturity at all.



**NOTE** Discussions of international investing are highlighted by this icon.

**Domestic or Foreign** As recently as 25 years ago, U.S. citizens invested almost exclusively in purely **domestic investments**: the debt, equity, and derivative securities of U.S.–based companies and governments. The same could be said of investors in many other countries. In the past, most people invested the vast majority of their money in securities issued by entities located in their home countries. Today investors routinely also look for **foreign investments** (both direct and indirect) that might offer more attractive returns than purely domestic investments. Even when the returns offered by foreign investments are not higher than those found in domestic securities, investors may still choose to make foreign investments because they help them build more diversified portfolios, which in turn helps limit exposure to risk. Information on foreign companies is now readily available, and it is now relatively easy to make foreign investments.



How Much Debt Has the U.S. Government Issued?

## The Structure of the Investment Process

The investment process brings together *suppliers* who have extra funds and *demanders* who need funds. Households, governments, and businesses are the key participants in the investment process, and each of these participants may act as a supplier or a demander of funds at a particular time. However, there are some general tendencies. Households who spend less than their income have savings, and they want to invest those surplus funds to earn a return. Households, then, are generally *net suppliers* of funds in the investment process. Governments, on the other hand, often spend more than they take in through tax revenue, so they issue bonds and other debt securities to raise additional funds. Governments are typically *net demanders* of funds. Businesses are also *net demanders* of funds most of the time. They issue debt or equity securities to finance new investments and other activities.

Suppliers and demanders of funds usually come together by means of a financial institution or a financial market. **Financial institutions** are organizations, such as banks and insurance companies, that pool the resources of households and other savers and use those funds to make loans and to invest in securities such as short-term bonds issued by the U.S. government. **Financial markets** are markets in which suppliers and demanders of funds trade financial assets, typically with the assistance of intermediaries such as securities brokers and dealers. All types of investments, including stocks, bonds, commodities, and foreign currencies, trade in financial markets.

The dominant financial market in the United States is the *securities market*. It includes stock markets, bond markets, and options markets. Similar markets exist in most major economies throughout the world. The prices of securities traded in these markets are determined by the interactions of buyers and sellers, just as other prices are established in other kinds of markets. For example, if the number of Facebook shares that investors want to buy is greater than the number that investors want to sell, the price of Facebook stock will rise. As new information about the company becomes available, changes in supply (investors who want to sell) and demand (investors who

want to buy) may result in a new market price. Financial markets streamline the process of bringing together buyers and sellers so that investors can transact with each other quickly and without incurring exorbitant transaction costs. Financial markets provide another valuable function by establishing market prices for securities that are easy for market participants to monitor. For example, a firm that launches a new product may get an early indication of how that product will be received in the market by seeing whether investors drive the firm's stock price up or down when they learn about the new product.

Figure 1.2 is a diagram of the investment process. Note that the suppliers of funds may transfer their resources to the demanders through financial institutions, through financial markets, or in direct transactions. As the broken lines show, financial institutions can participate in financial markets as either suppliers or demanders of funds. For the economy to grow and prosper, funds must flow to those with attractive investment opportunities. If individuals began suddenly hoarding their excess funds rather than putting them to work in financial institutions and markets, then organizations in need of funds would have difficulty obtaining them. As a result, government spending, business expansion, and consumer purchases would decline, and economic activity would slow.

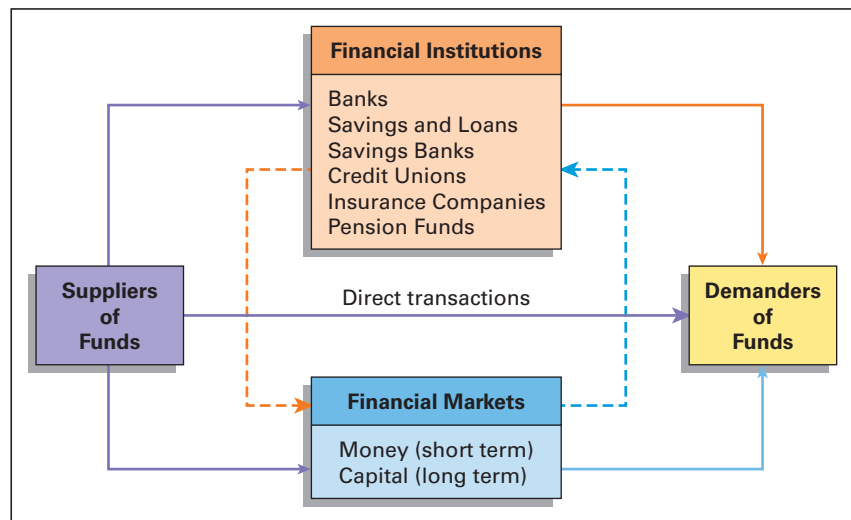
When households have surplus funds to invest, they must decide whether to make the investment decisions themselves or to delegate some or all of that responsibility to professionals. This leads to an important distinction between two types of investors in the financial markets. **Individual investors** manage their own funds to achieve their financial goals. Individual investors usually concentrate on earning a return on idle funds, building a source of retirement income, and providing security for their families.

Individuals who lack the time or expertise to make investment decisions often employ **institutional investors**—investment professionals who earn their living by managing other people's money. These professionals trade large volumes of securities for individuals, as well as for businesses and governments. Institutional investors include banks, life insurance companies, mutual funds, pension funds, and hedge funds. For example, a life insurance company invests the premiums it receives from policyholders to earn returns that will cover death benefits paid to beneficiaries.

## FIGURE 1.2

### The Investment Process

Financial institutions participate in the financial markets as well as transfer funds between suppliers and demanders. Although the arrows go only from suppliers to demanders, for some transactions (e.g., the sale of a bond or a college loan), the principal amount borrowed by the demander from the supplier (the lender) is eventually returned.





Both individual and institutional investors apply similar fundamental principles when deciding how to invest money. However, institutional investors generally control larger sums of money and have more sophisticated analytical skills than do most individual investors. *The information presented in this text is aimed primarily at you—the individual investor.* Mastering this material represents only the first step that you need to take to develop the expertise to become an institutional investor.

## CONCEPTS IN REVIEW

Answers available at  
<http://www.pearsonhighered.com/smart>

**NOTE** The Concepts in Review questions at the end of each text section encourage you, before you move on, to test your understanding of the material you've just read.

- 1.1 Define the term *investment*, and explain why individuals invest.
- 1.2 Differentiate among the following types of investments, and cite an example of each: (a) securities and property investments; (b) direct and indirect investments; (c) debt, equity, and derivative securities; and (d) short-term and long-term investments.
- 1.3 What is the relation between an investment's risk and its return?
- 1.4 Define the term *risk*, and explain how risk is used to differentiate among investments.
- 1.5 What are *foreign investments*, and what role do they play for the individual investor?
- 1.6 Describe the structure of the overall investment process. Explain the role played by *financial institutions* and *financial markets*.
- 1.7 Classify the roles of (a) government, (b) business, and (c) individuals as net suppliers or net demanders of funds.
- 1.8 Differentiate between *individual investors* and *institutional investors*.

## Types of Investments



A wide variety of investments is available to individual investors. As you have seen, investments differ in terms of risk, maturity, and many other characteristics. We devote the bulk of this text to describing the characteristics of different investments and the strategies that you may use when you buy and sell these investments. Table 1.1 summarizes some basic information about the major types of investments that we will study.

### Short-Term Investments

Short-term investments have a life of one year or less and usually (but not always) carry little or no risk. People buy these investments as a temporary “warehouse” for idle funds before transferring the money into a long-term investment. Short-term investments are also popular among conservative investors who may be reluctant to lock up their funds in riskier, long-term assets such as stocks or bonds.

Short-term investments also provide liquidity because they can be converted into cash quickly and with little or no loss in value. Liquidity is important to investors because it is impossible to know when an emergency or other unplanned event will make it necessary to obtain cash by selling an investment. At such a time, the speed at which the investment can be sold is particularly important. Of course, almost any investment can be sold quickly if the owner is willing to lower the price enough, but having to sell an investment at a bargain price only compounds the problem that led to the need to sell in the first place. Liquid investments give investors peace of mind that

**TABLE 1.1 MAJOR TYPES OF INVESTMENTS**

Type	Description	Examples	Where Covered in This Book
Short-term investments	Savings instruments with lives of 1 year or less. Used to warehouse idle funds and to provide liquidity.	Deposit accounts, U.S. Treasury bills (T-bills), Certificates of deposit (CDs), Commercial paper, Money market mutual funds	Ch. 1
Common stock	Equity investments that represent ownership in a corporation.		Chs. 6–9
Fixed-income securities	Investments that make fixed cash payments at regular intervals.	Bonds, Convertible securities Preferred stock	Chs. 10, 11 Web Ch. 16
Mutual funds	Companies that pool money from many investors and invest funds in a diversified portfolio of securities.	Large-cap funds, Growth funds	Ch. 1
Exchange-traded funds	Investment funds, typically index funds, that are exchange listed and, therefore, exchange traded.	Stock index funds, Bond index funds	Ch. 12
Hedge funds	Alternative investments, usually in pools of underlying securities, available only to sophisticated investors, such as institutions and individuals with significant assets.	Long and short equities, Funds of funds	Ch. 12
Derivative securities	Securities that are neither debt nor equity but are structured to exhibit the characteristics of the underlying assets from which they derive their value.	Options Futures	Ch. 14 Ch. 15
Other popular investments	Various other investments that are widely used by investors.	Tax-advantaged investments Real estate Tangibles	Web Ch. 17 Web Ch. 18 Web Ch. 18

they will be able to get their hands on cash quickly if they need it, without having to sell their investments at fire-sale prices.

## Common Stock

**Common stock** is an equity investment that represents ownership in a corporation. Each share of common stock represents a fractional ownership interest in the firm. For example, if you buy 1 share of common stock in a corporation that has 10,000 shares outstanding, you would be a 1/10,000th owner in the firm. Today, roughly half of all U.S. households own some common stock, either directly or indirectly.

The return on investment in common stock comes from two sources: dividends and capital gains. **Dividends** are payments the corporation makes to its shareholders. Companies are not required to pay dividends to their shareholders, and most firms that are small or are growing very rapidly do not pay dividends. As firms grow and accumulate cash, they often start paying dividends, just as Dollar General did in 2015. Companies that pay dividends usually pay them quarterly. **Capital gains** occur when the stock price rises above an investor's initial purchase price. Capital gains may be *realized* or *unrealized*. If you sell a stock for more than you paid for it, you have realized a capital gain. If you continue to hold the stock rather than sell it, you have an unrealized capital gain.

**Example**

Suppose you purchased a single share of Whirlpool Corporation common stock for \$155 on January 2, 2014, the first day that the stock market was open for trading that year. During 2014 you received \$2.87 in cash dividends. At the end of the year, you sold the stock for \$195. You earned \$2.87 in dividends and you realized a \$40 capital gain (\$195 sale price – \$155 purchase price) for a total dollar return of \$42.87. On a percentage basis, the return on Whirlpool shares in 2014 is calculated as  $\$42.87 \div \$155 = 0.277$  or 27.7%. If you continued to hold the stock rather than sell it, at the end of the year you would have earned the same return but your capital gain would have been unrealized.

As mentioned earlier, since 1900 the average annual rate of return on common stocks has been about 9.6%, so 2014 was a good year for Whirlpool. As a producer of durable consumer products such as refrigerators, washing machines, and the iconic KitchenAid stand mixer, Whirlpool's stock generally performs best when the economy is growing (as it was in 2014) and consumers are making major purchases of new appliances.

## Fixed-Income Securities

**Fixed-income securities** are investments that offer a periodic cash payment that may be fixed in dollar terms or may vary according to a predetermined formula (for example, the formula might dictate that cash payments rise if a general rise in market interest rates occurs). Some offer contractually guaranteed returns, meaning that the issuer of the security (i.e., the borrower) must fulfill a promise to make payments to investors or risk being sued. Other fixed-income securities come with the expectation of regular payments even if a contractual obligation is absent. Because of their relatively predictable cash payments, fixed-income securities tend to be popular during periods of economic uncertainty when investors are reluctant to invest in riskier securities such as common stocks. Fixed-income securities are also attractive during periods of high interest rates when investors seek to “lock in” high returns. The most common fixed-income securities are bonds, convertible securities, and preferred stock.

**Bonds** Bonds are long-term debt instruments (in other words, an IOU, or promise to pay) issued by corporations and governments. A bondholder has a contractual right to receive periodic interest payments plus return of the bond's *face*, or *par*, *value* (the stated value given on the certificate) at maturity (typically 10 to 30 years from the date issued).

If you purchased a \$1,000 bond paying 9% interest in semiannual installments, you would receive an interest payment equal to  $\$1,000 \times 9\% \times \frac{1}{2} \text{ year} = \$45$  every six months. At maturity you would also receive the bond's \$1,000 face value. Bonds vary a great deal in terms of liquidity, so they may or may not be easy to sell prior to maturity.

Since 1900 the average annual rate of return on long-term government bonds has been about 5%. Corporate bonds are riskier because they are not backed by the full faith and credit of the U.S. government and, therefore, tend to offer slightly higher returns than government bonds provide.

**Convertible Securities** A **convertible security** is a special type of fixed-income investment. It has a feature permitting the investor to convert it into a specified number of shares of common stock. Convertibles provide the fixed-income benefit of a bond (interest) while offering the price-appreciation (capital gain) potential of common stock.