FUNDAMENTALS OF INVESTING

THIRTEENTH EDITION

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

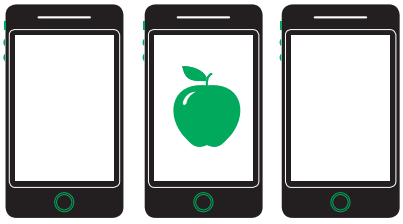
Prepare, Apply, and Confirm

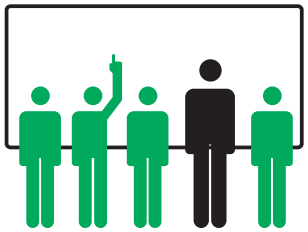
- **Enhanced eText**—The Pearson eText gives students access to their textbook anytime, anywhere. In addition to notetaking, highlighting, and bookmarking, the Pearson eText offers interactive and sharing features. Students actively read and learn, through embedded and auto-graded practice, animations, author videos, and more. Instructors can share comments or highlights, and students can add their own, for a tight community of learners in any class.

- **Dynamic Study Modules**—Work by continuously assessing student performance and activity, then using data and analytics to provide personalized content in real time to reinforce concepts that target each student's particular strengths and weaknesses.

- **Hallmark Features**—Personalized Learning Aids, like Help Me Solve This, View an Example, and instant feedback are available for further practice and mastery when students need the help most!

- **Learning Catalytics**—Generates classroom discussion, guides lecture, and promotes peer-to-peer learning with real-time analytics. Now, students can use any device to interact in the classroom.



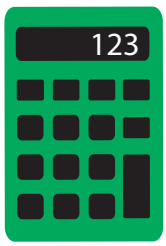


- **Adaptive Study Plan**—Assists students in monitoring their own progress by offering them a customized study plan powered by Knewton, based on Homework, Quiz, and Test results. Includes regenerated exercises with unlimited practice and the opportunity to prove mastery through quizzes on recommended learning objectives.

with MyFinanceLab™

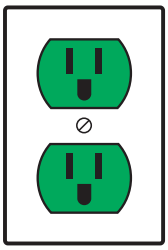
- **Worked Solutions**—Provide step-by-step explanations on how to solve select problems using the exact numbers and data that were presented in the problem. Instructors will have access to the Worked Solutions in preview and review mode.

- **Algorithmic Test Bank**—Instructors have the ability to create multiple versions of a test or extra practice for students.



- **Financial Calculator**—The Financial Calculator is available as a smartphone application, as well as on a computer, and includes important functions such as cash flow, net present value, and internal rate of return. Fifteen helpful tutorial videos show the many ways to use the Financial Calculator in MyFinanceLab.

- **Reporting Dashboard**—View, analyze, and report learning outcomes clearly and easily. Available via the Gradebook and fully mobile-ready, the Reporting Dashboard presents student performance data at the class, section, and program levels in an accessible, visual manner.



- **LMS Integration**—Link from any LMS platform to access assignments, rosters, and resources, and synchronize MyLab grades with your LMS gradebook. For students, new direct, single sign-on provides access to all the personalized learning MyLab resources that make studying more efficient and effective.

- **Mobile Ready**—Students and instructors can access multimedia resources and complete assessments right at their fingertips, on any mobile device.

Fundamentals of Investing

The Pearson Series in Finance

Berk/DeMarzo
*Corporate Finance**
*Corporate Finance: The Core**

Berk/DeMarzo/Harford
*Fundamentals of Corporate Finance**

Brooks
*Financial Management: Core Concepts**

Copeland/Weston/Shastri
Financial Theory and Corporate Policy

Dorfman/Cather
Introduction to Risk Management and Insurance

Eakins/McNally
*Corporate Finance Online**

Eiteman/Stonehill/Moffett
*Multinational Business Finance**

Fabozzi
Bond Markets: Analysis and Strategies

Foerster
*Financial Management: Concepts and Applications**

Frasca
Personal Finance

Gitman/Zutter
*Principles of Managerial Finance**
*Principles of Managerial Finance—Brief Edition**

Haugen
The Inefficient Stock Market: What Pays Off and Why
Modern Investment Theory

Holden
Excel Modeling in Corporate Finance
Excel Modeling in Investments

Hughes/MacDonald
International Banking: Text and Cases

Hull
Fundamentals of Futures and Options Markets Options, Futures, and Other Derivatives

Keown
*Personal Finance: Turning Money into Wealth**

Keown/Martin/Petty
*Foundations of Finance: The Logic and Practice of Financial Management**

Madura
*Personal Finance**

Marthinsen
Risk Takers: Uses and Abuses of Financial Derivatives

McDonald
Derivatives Markets
Fundamentals of Derivatives Markets

Mishkin/Eakins
Financial Markets and Institutions

Moffett/Stonehill/Eiteman
Fundamentals of Multinational Finance

Nofsinger
Psychology of Investing

Pennacchi
Theory of Asset Pricing

Rejda/McNamara
Principles of Risk Management and Insurance

Smart/Gitman/Joehnk
*Fundamentals of Investing**

Solnik/McLeavey
Global Investments

Titman/Keown/Martin
*Financial Management: Principles and Applications**

Titman/Martin
Valuation: The Art and Science of Corporate Investment Decisions

Weston/Mitchell/Mulherin
Takeovers, Restructuring, and Corporate Governance

*denotes titles with MyFinanceLab. Log onto **http://www.myfinancelab.com** to learn more.

Fundamentals of Investing

Thirteenth Edition

SCOTT B. SMART
Indiana University

LAWRENCE J. GITMAN, CFP®
San Diego State University

MICHAEL D. JOEHNK, CFA
Arizona State University

PEARSON

Boston Columbus Indianapolis New York San Francisco
Amsterdam Cape Town Dubai London Madrid Milan Munich Paris Montréal Toronto
Delhi Mexico City São Paulo Sydney Hong Kong Seoul Singapore Taipei Tokyo

Vice President, Business Publishing: Donna Battista
Editor-in-Chief: Adrienne D'Ambrosio
Acquisitions Editor: Kate Fernandes
Editorial Assistant: Kathryn Brightney
Vice President, Product Marketing: Maggie Moylan
Director of Marketing, Digital Services and Products: Jeanette Koskinas
Senior Product Marketing Manager: Alison Haskins
Executive Field Marketing Manager: Adam Goldstein
Product Marketing Assistant: Jessica Quazza
Team Lead, Program Management: Ashley Santora
Program Manager: Kathryn Dinovo
Team Lead, Project Management: Jeff Holcomb
Project Manager: Alison Kalil
Operations Specialist: Carol Melville
Creative Director: Blair Brown
Art Director: Jonathan
Vice President, Director of Digital Strategy and Assessment: Paul Gentile
Manager of Learning Applications: Paul DeLuca
Digital Editor: Brian Hyland
Director, Digital Studio: Sacha Laustsen
Digital Studio Manager: Diane Lombardo
Digital Studio Project Managers: Melissa Honig and Andra Skaalrud
Digital Studio Project Manager: Alana Coles
Digital Studio Project Manager: Robin Lazrus
Digital Content Team Lead: Noel Lotz
Digital Content Project Lead: Miguel Leonarte
Full-Service Project Management, Interior Designer, and Composition: Cenveo® Publisher Services
Cover Designer: Jonathan Boylan
Cover Art: Can Yesil/Fotolia; Oez/Fotolia; ukix21/Shutterstock
Printer/Binder: R. R. Donnelley/Willard
Cover Printer: Phoenix Color/Hagerstown

Cataloging-in-Publication Data is on File at the Library of Congress

10 9 8 7 6 5 4 3 2 1

PEARSON

ISBN 10: 0-13-408330-X
ISBN 13: 978-0-13-408330-8

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

This page intentionally left blank

Brief Contents

Detailed Contents viii
Preface xvii

Part One Preparing to Invest
1 The Investment Environment 1
2 Securities Markets and Transactions 37
3 Investment Information and Securities Transactions 74

Part Two Important Conceptual Tools
4 Return and Risk 121
4A The Time Value of Money 157
5 Modern Portfolio Concepts 170

Part Three Investing in Common Stocks
6 Common Stocks 215
7 Analyzing Common Stocks 254
8 Stock Valuation 297
9 Market Efficiency and Behavioral Finance 335

Part Four Investing in Fixed-Income Securities
10 Fixed-Income Securities 378
11 Bond Valuation 425

Part Five Portfolio Management
12 Mutual Funds and Exchange-Traded Funds 468
13 Managing Your Own Portfolio 511

Part Six Derivative Securities
14 Options: Puts and Calls 549
15 Futures Markets and Securities 592

Glossary G-1
Index I-1

Web Chapters (at http://www.pearsonhighered.com/smart)
16 Investing in Preferred Stocks
17 Tax-Advantaged Investments
18 Real Estate and Other Tangible Investments

Contents

Part One Preparing to Invest

Chapter 1
The Investment Environment 1

FAMOUS FAILURES IN FINANCE
Ethical Failure—Massaging the Numbers 21

FAMOUS FAILURES IN FINANCE
A Run for the Money 22

Opening Vignette 1

Investments and the Investment Process 2

Attributes of Investments 2 / The Structure of the Investment Process 5

Types of Investments 7

Short-Term Investments 7 / Common Stock 8 / Fixed-Income Securities 9 / Mutual Funds 10 / Exchange-Traded Funds 11 / Hedge Funds 12 / Derivative Securities 12 / Other Popular Investments 13

Making Your Investment Plan 14

Writing an Investment Policy Statement 14 / Considering Personal Taxes 16 / Investing over the Life Cycle 19 / Investing over the Business Cycle 20

Meeting Liquidity Needs with Short-Term Investments 22

The Role of Short-Term Investments 22 / Common Short-Term Investments 23 / Investment Suitability 23

Careers in Finance 27

Summary 30 / Discussion Questions 32 / Problems 33 / Case Problem 1.1 34 / Case Problem 1.2 35 / Excel@Investing 36

Chapter 2
Securities Markets and Transactions 37

FAMOUS FAILURES IN FINANCE
Short Sellers Tip 60 Minutes 63

Opening Vignette 37

Securities Markets 38

Types of Securities Markets 38 / Broker Markets and Dealer Markets 44 / Alternative Trading Systems 48 / General Market Conditions: Bull or Bear 48

Globalization of Securities Markets 49

Growing Importance of International Markets 50 / International Investment Performance 50 / Ways to Invest in Foreign Securities 51 / Risks of Investing Internationally 51

Trading Hours and Regulation of Securities Markets 53

Trading Hours of Securities Markets 53 / Regulation of Securities Markets 53

Basic Types of Securities Transactions 55

Long Purchase 55 / Margin Trading 56 / Short Selling 62

Summary 65 / Discussion Questions 68 / Problems 68 / Case Problem 2.1 71 / Case Problem 2.2 72 / Excel@Investing 72

Chapter 3
Investment Information and Securities Transactions 74

FAMOUS FAILURES IN FINANCE
PIIGS Feast on Wall Street 97

FAMOUS FAILURES IN FINANCE
Bond Yields Hit Historic Lows 99

FAMOUS FAILURES IN FINANCE
Hello, I Am Tim, an Insider Trader 103

Opening Vignette 74

Investment Research and Planning 75

Getting Started in Investment Research 75 / Pros and Cons of the Internet as an Investment Tool 79

Types and Sources of Investment Information 80

Types of Information 82 / Sources of Information 82

Understanding Market Averages and Indexes 94

Stock Market Averages and Indexes 94 / Bond Market Indicators 98

Making Securities Transactions 100

The Role of Stockbrokers 100 / Basic Types of Orders 104 / Online Transactions 106 / Transaction Costs 108 / Investor Protection: SIPC and Arbitration 108

Investment Advisors and Investment Clubs 110

Using an Investment Advisor 110 / Investment Clubs 111

Summary 112 / Discussion Questions 115 / Problems 116 / Case Problem 3.1 118 / Case Problem 3.2 119 / Excel@Investing 120

Part Two Important Conceptual Tools

Chapter 4
Return and Risk 121

FAMOUS FAILURES IN FINANCE
Fears of Deflation Worry Investors 125

Opening Vignette 121

The Concept of Return 122

Components of Return 122 / Why Return Is Important 123 / Level of Return 124 / Historical Returns 126 / The Time Value of Money and Returns 126

Measuring Return 128

Real, Risk-Free, and Required Returns 129 / Holding Period Return 131 / The Internal Rate of Return 133 / Finding Growth Rates 137

Risk: The Other Side of the Coin 138

Sources of Risk 138 / Risk of a Single Asset 141 / Assessing Risk 144 / Steps in the Decision Process: Combining Return and Risk 146

Summary 147 / Discussion Questions 149 / Problems 149 / Case Problem 4.1 153 / Case Problem 4.2 154 / Excel@Investing 155 / Chapter-Opening Problem 156

Appendix 4A
The Time Value of Money 157

Opening Vignette 157

Interest: The Basic Return to Savers 157

Simple Interest 157 / Compound Interest 157

Computational Aids for Use in Time Value Calculations 159

Financial Calculators 159 / Computers and Spreadsheets 160

Future Value: An Extension of Compounding 160

Future Value of an Annuity 162

Present Value: An Extension of Future Value 162

Present Value of a Stream of Returns 163

Present Value of a Mixed Stream 164 / Present Value of an Annuity 165

Summary 166 / Problems 166

Chapter 5
Modern Portfolio Concepts 170

FAMOUS FAILURES IN FINANCE
Bulging Betas 187

Opening Vignette 170

Principles of Portfolio Planning 171

Portfolio Objectives 171 / Portfolio Return and Standard Deviation 171 / Correlation and Diversification 174 / International Diversification 180

The Capital Asset Pricing Model 182

Components of Risk 182 / Beta: A Measure of Undiversifiable Risk 183 / The CAPM: Using Beta to Estimate Return 187

Traditional Versus Modern Portfolio Management 190

The Traditional Approach 190 / Modern Portfolio Theory 191 / Reconciling the Traditional Approach and MPT 196

Summary 197 / Discussion Questions 199 / Problems 200 / Case Problem 5.1 207 / Case Problem 5.2 209 / Excel@Investing 210 / Chapter-Opening Problem 211

CFA Exam Questions 213

Part Three Investing in Common Stocks

Chapter 6
Common Stocks 215

FAMOUS FAILURES IN FINANCE
Beware of the Lumbering Bear 217

Opening Vignette 215

What Stocks Have to Offer 216

The Appeal of Common Stocks 216 / Putting Stock Price Behavior in Perspective 216 / From Stock Prices to Stock Returns 216 / A Real Estate Bubble Goes Bust and So Does the Market 218 / The Pros and Cons of Stock Ownership 219

Basic Characteristics of Common Stock 221

Common Stock as a Corporate Security 221 / Buying and Selling Stocks 225 / Common Stock Values 226

Common Stock Dividends 228

The Dividend Decision 229 / Types of Dividends 230 / Dividend Reinvestment Plans 232

Types and Uses of Common Stock 234

Types of Stocks 234 / Investing in Foreign Stocks 238 / Alternative Investment Strategies 242

Summary 245 / Discussion Questions 247 / Problems 248 / Case Problem 6.1 251 / Case Problem 6.2 252 / Excel@Investing 253

Chapter 7 Analyzing Common Stocks 254

FAMOUS FAILURES IN FINANCE Staying on Top a Challenge for Fund Managers 257

FAMOUS FAILURES IN FINANCE Cooking the Books: What Were They Thinking? 271

Opening Vignette 254

Security Analysis 255

Principles of Security Analysis 255 / Who Needs Security Analysis in an Efficient Market? 256

Economic Analysis 258

Economic Analysis and the Business Cycle 259 / Key Economic Factors 259 / Developing an Economic Outlook 260

Industry Analysis 263

Key Issues 263 / Developing an Industry Outlook 265

Fundamental Analysis 266

The Concept 266 / Financial Statements 267 / Financial Ratios 270 / Interpreting the Numbers 283

Summary 287 / Discussion Questions 288 / Problems 288 / Case Problem 7.1 292 / Case Problem 7.2 294 / Excel@Investing 295 / Chapter-Opening Problem 296

Chapter 8 Stock Valuation 297

FAMOUS FAILURES IN FINANCE P/E Ratios Can Be Misleading 302

FAMOUS FAILURES IN FINANCE Ethical Conflicts Faced by Stock Analysts: Don't Always Believe the Hype 310

Opening Vignette 297

Valuation: Obtaining a Standard of Performance 298

Valuing a Company and Its Future Performance 298 / Developing a Forecast of Universal's Financial Performance 304 / The Valuation Process 307

Stock Valuation Models 308

The Dividend Valuation Model 309 / Other Approaches to Stock Valuation 317 / Other Price-Relative Procedures 322

Summary 324 / Discussion Questions 326 / Problems 327 / Case Problem 8.1 332 / Case Problem 8.2 333 / Excel@Investing 333 / Chapter-Opening Problem 334

Chapter 9
Market Efficiency and Behavioral Finance 335

FAMOUS FAILURES IN FINANCE
Loss Aversion and Trading Volume 350

FAMOUS FAILURES IN FINANCE
Buying High and Selling Low 353

Opening Vignette 335

Efficient Markets 336

The Efficient Markets Hypothesis 338 / Market Anomalies 344 / Possible Explanations 346

Behavioral Finance: A Challenge to the Efficient Markets Hypothesis 348

Investor Behavior and Security Prices 348 / Implications of Behavioral Finance for Security Analysis 355

Technical Analysis 356

Measuring the Market 357 / Trading Rules and Measures 360 / Charting 363

Summary 367 / Discussion Questions 368 / Problems 369 / Case Problem 9.1 372 / Case Problem 9.2 374 / Excel@Investing 375

CFA Exam Questions 376

Part Four Investing in Fixed-Income Securities

Chapter 10
Fixed-Income Securities 378

FAMOUS FAILURES IN FINANCE
Rating Agencies Miss a Big One 393

FAMOUS FAILURES IN FINANCE
Yield Spreads Approach Records 396

FAMOUS FAILURES IN FINANCE
Implicit Guarantee Becomes Explicit 397

Opening Vignette 378

Why Invest in Bonds? 379

A Brief History of Bond Prices, Returns, and Interest Rates 380 / Exposure to Risk 384

Essential Features of a Bond 386

Bond Interest and Principal 386 / Maturity Date 386 / Principles of Bond Price Behavior 387 / Quoting Bond Prices 389 / Call Features—Let the Buyer Beware! 389 / Sinking Funds 390 / Secured or Unsecured Debt 390 / Bond Ratings 391

The Market for Debt Securities 394

Major Market Segments 394 / Specialty Issues 402 / A Global View of the Bond Market 406

Convertible Securities 408

Convertibles as Investment Outlets 408 / Sources of Value 411 / Measuring the Value of a Convertible 411

Summary 415 / Discussion Questions 417 / Problems 418 / Case Problem 10.1 421 / Case Problem 10.2 422 / Excel@Investing 423 / Chapter-Opening Problem 424

Chapter 11
Bond Valuation 425

FAMOUS FAILURES IN FINANCE
Signs of a Recession 427

Opening Vignette 425

The Behavior of Market Interest Rates 426

Keeping Tabs on Market Interest Rates 426 / What Causes Rates to Move? 427 / The Term Structure of Interest Rates and Yield Curves 429

The Pricing of Bonds 434

The Basic Bond Valuation Model 435 / Annual Compounding 435 / Semiannual Compounding 437 / Accrued Interest 438

Measures of Yield and Return 439

Current Yield 439 / Yield to Maturity 440 / Yield to Call 444 / Expected Return 445 / Valuing a Bond 447

Duration and Immunization 447

The Concept of Duration 448 / Measuring Duration 449 / Bond Duration and Price Volatility 451 / Effective Duration 452 / Uses of Bond Duration Measures 453

Bond Investment Strategies 455

Passive Strategies 455 / Trading on Forecasted Interest Rate Behavior 456 / Bond Swaps 456

Summary 458 / Discussion Questions 459 / Problems 460 / Case Problem 11.1 463 / Case Problem 11.2 463 / Excel@Investing 464

CFA Exam Questions 466

Part Five Portfolio Management

Chapter 12
Mutual Funds and Exchange-Traded Funds 468

FAMOUS FAILURES IN FINANCE
When Mutual Funds Behaved Badly 474

FAMOUS FAILURES IN FINANCE
Breaking the Buck 487

Opening Vignette 468

The Mutual Fund Concept 469

An Overview of Mutual Funds 469 / Exchange-Traded Funds 477 / Some Important Considerations 479 / Other Types of Investment Companies 481

Types of Funds and Services 484

Types of Mutual Funds 484 / Investor Services 489

Investing in Mutual Funds 492

Investor Uses of Mutual Funds 492 / The Selection Process 493 / Investing in Closed-End Funds 495 / Measuring Performance 498

Summary 503 / Discussion Questions 505 / Problems 505 / Case Problem 12.1 508 / Case Problem 12.2 509 / Excel@Investing 509 / Chapter-Opening Problem 510

Chapter 13 Managing Your Own Portfolio 511

Opening Vignette 511

Constructing a Portfolio Using an Asset Allocation Scheme 512

Investor Characteristics and Objectives 512 / Portfolio Objectives and Policies 512 / Developing an Asset Allocation Scheme 513

Evaluating the Performance of Individual Investments 516

Obtaining Data 516 / Indexes of Investment Performance 517 / Measuring the Performance of Investments 517 / Comparing Performance to Investment Goals 520

Assessing Portfolio Performance 521

Measuring Portfolio Return 522 / Comparison of Return with Overall Market Measures 525 / Portfolio Revision 528

Timing Transactions 529

Formula Plans 529 / Using Limit and Stop-Loss Orders 533 / Warehousing Liquidity 533 / Timing Investment Sales 534

Summary 535 / Discussion Questions 537 / Problems 539 / Case Problem 13.1 543 / Case Problem 13.2 544 / Excel@Investing 545

CFA Exam Questions 547

Part Six Derivative Securities

Chapter 14 Options: Puts and Calls 549

FAMOUS FAILURES IN FINANCE
Ethical Lapse or Extraordinarily Good Timing? 561

FAMOUS FAILURES IN FINANCE
The Volatility Index 566

Opening Vignette 549

Call and Put Options 550

Basic Features of Calls and Puts 550 / Options Markets 553 / Stock Options 554

Options Pricing and Trading 557

The Profit Potential from Puts and Calls 558 / Intrinsic Value 559 / What Drives Option Prices 564 / Trading Strategies 568

Stock-Index and Other Types of Options 576

Contract Provisions of Stock-Index Options 576 / Investment Uses 579 / Other Types of Options 580

Summary 583 / Discussion Questions 584 / Problems 585 / Case Problem 14.1 588 / Case Problem 14.2 588 / Excel@Investing 589 / Chapter-Opening Problem 590

Chapter 15 Futures Markets and Securities 591

FAMOUS FAILURES IN FINANCE
Shady Trading at Enron 603

FAMOUS FAILURES IN FINANCE
Diving Oil Prices Send Cal Dive into Bankruptcy 605

Opening Vignette 591

The Futures Market 592

Market Structure 592 / Trading in the Futures Market 595

Commodities 598

Basic Characteristics 598 / Trading Commodities 603

Financial Futures 606

The Financial Futures Market 606 / Trading Techniques 610 / Financial Futures and the Individual Investor 613 / Options on Futures 614

Summary 616 / Discussion Questions 618 / Problems 619 / Case Problem 15.1 621 / Case Problem 15.2 622 / Excel@Investing 623

CFA Exam Questions 624

Glossary G-1
Index I-1

Web Chapters (at http://www.pearsonhighered.com/smart)

Chapter 16 Investing in Preferred Stocks

Chapter 17 Tax-Advantaged Investments

Chapter 18 Real Estate and Other Tangible Investments

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

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*

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 if 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.


1

The Investment Environment

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.

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 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.

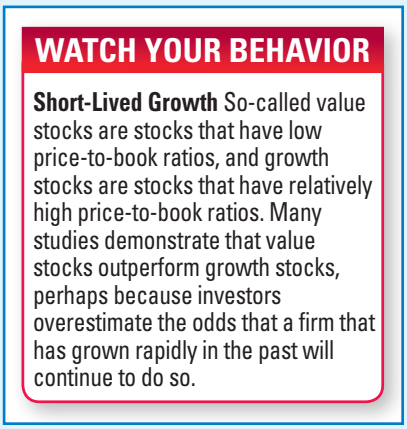
This chapter provides a broad overview of the investments field. It introduces the various types of investments, the investment process, the role of investment plans, the importance of meeting liquidity needs, and careers in finance. Becoming familiar with investment alternatives and developing realistic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

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.

MORE LEARNING TOOLS

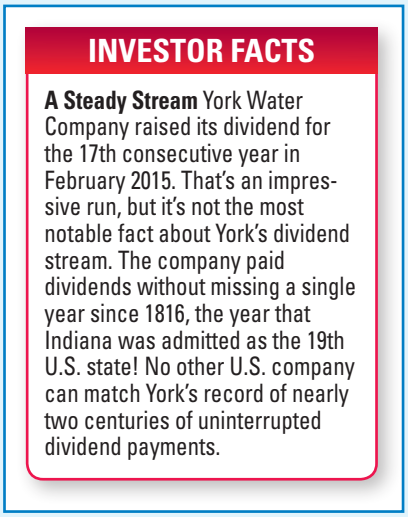
In the margins of each chapter students will find **QR codes**. By scanning these codes with their smart phones, students will be taken to websites with useful information to enhance their understanding of the topics covered in the textbook. For example, many of these QR codes link students with free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

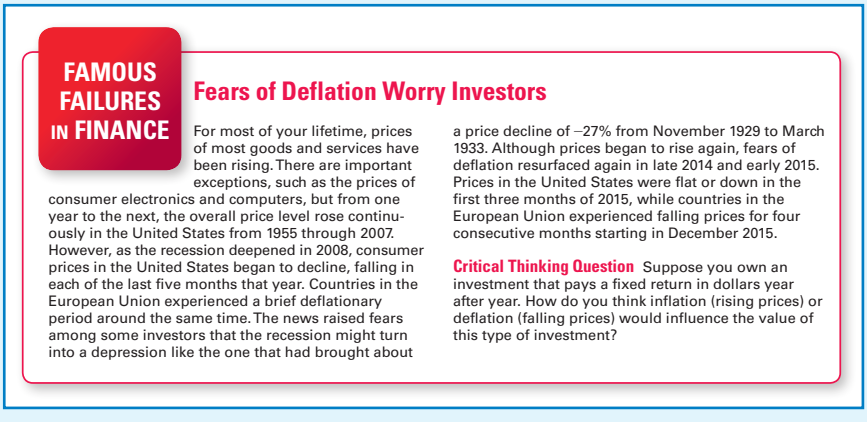
An Advisor's Perspective consists of short video clips of professional investment advisers discussing the investments topics covered in each chapter. Students can access the video clips on MyFinanceLab.



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.





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.

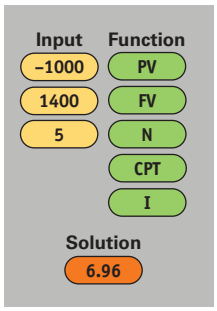
WITHIN THE CHAPTER

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

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

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.



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
LG1 **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
LG2 **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
LG3 **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 **Q11.1** Briefly describe each of the following theories of the term structure of interest rates.
- **a.** Expectations hypothesis
- **b.** Liquidity preference theory
- **c.** 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 **Q11.2** 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 **Q11.3** Briefly explain what will happen to a bond's duration measure if each of the following events occur.
- **a.** The yield to maturity on the bond falls from 8.5% to 8%.
- **b.** 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.** A 10.5%, 15-year bond priced to yield 8%
- **b.** A 7%, 10-year bond priced to yield 8%
- **c.** 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

LG3 LG6 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.

Excel@Investing

Excel@Investing

The cash flow component of bond investments is made up of the annual interest payments and the future 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	$105^{7}/_{8}$
GPC 6.65s 20	?	45	103
GPC 7.4 22	?	37	$104^{6}/_{8}$

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.

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.

1. 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?
   a. The risk premium increases.
   b. The retention rate increases.
   c. The beta of the stock increases.

2. A rationale for the use of the price-to-sales (P/S) approach is:
   a. Sales are more volatile than earnings.
   b. P/S ratios assess cost structures accurately.
   c. Revenues are less subject to accounting manipulation than earnings.

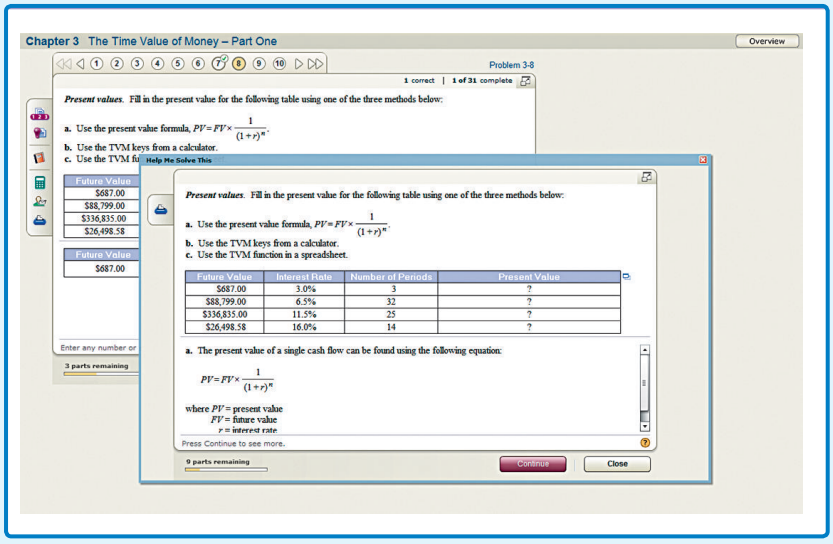
3. A cyclical company tends to
   a. have earnings that track the overall economy.
   b. have a high price-to-earnings ratio.
   c. have less volatile earnings than the overall market.

4. 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?
   a. $44.00
   b. $22.67
   c. $27.77

5. 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?
   a. $21.90
   b. $22.00
   c. $23.00

6. 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?
   a. 15%
   b. 20%
   c. 24%

INTERACTIVE LEARNING



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

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

Many people gave their generous assistance during the initial development and revisions of *Fundamentals of Investing*. The expertise, classroom experience, and general advice of both colleagues and practitioners have been invaluable. Reactions

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.

Kevin Ahlgrim
M. Fall Ainina
Joan Anderssen
Felix O. Ayadi
Gary Baker
Harisha Batra
Anand K. Bhattacharya
Richard B. Bellinfante
Cecil C. Bigelow
Robert J. Boldin
Paul Bolster
Denis O. Boudreaux
A. David Brummett
Gary P. Cain
Gary Carman
Daniel J. Cartell
P. R. Chandy
Steven P. Clark
William Compton
David M. Cordell
Timothy Cowling
Robert M. Crowe
Richard F. DeMong
Clifford A. Diebold
Steven Dolvin
James Dunn
Betty Marie Dyatt
Scott Ehrhorn
Steven J. Elbert
Robert Eldridge
Imad Elhaj
Thomas Eyssell
Frank J. Fabozzi
Robert A. Ford
Albert J. Fredman
John Gerlach
Tom Geurts
Chaim Ginsberg
Joel Gold
Terry Grieb
Frank Griggs
Brian Grinder
Arthur S. Guarino
Harry P. Guenther
Tom Guerts
John Guess
Robert Hartwig
Mahboubul Hassan
Gay Hatfield
Dan Hess
Robert D. Hollinger
Sue Beck Howard
Ping Hsiao
Roland Hudson, Jr.
Raad Jassim
Donald W. Johnson
Samuel Kyle Jones
Rajiv Kalra
Ravindra R. Kamath
Bill Kane
Daniel J. Kaufmann, Jr.
Burhan Kawosa
Nancy Kegelman
Phillip T. Kolbe
Sheri Kole
Christopher M. Korth
Marie A. Kratochvil
Thomas M. Krueger
Wendy Ku
George Kutner
Blake LeBaron
Robert T. LeClair
Chun I. Lee
William Lepley
Steven Lifland
Ralph Lim
James Lock
Larry A. Lynch
Barry Marchman
Weston A. McCormac
David J. McLaughlin
Anne Macy
James Mallett
Keith Manko
Timothy Manuel
Kathy Milligan
Warren E. Moeller
Homer Mohr
Majed R. Muhtaseb
Joseph Newhouse
Michael Nugent
Joseph F. Ollivier
Michael Palermo
John Palffy
John Park
Thomas Patrick
Michael Polakoff
Barbara Poole
Ronald S. Pretekin
Stephen W. Pruitt
Mark Pyles
S. P. Umamaheswar Rao
Rathin Rathinasamy
William A. Richard
Linda R. Richardson
William A. Rini
Roy A. Roberson
Tammy Rogers
Edward Rozalewicz
William J. Ruckstuhl
David Russo
Arthur L. Schwartz, Jr.
William Scroggins
Daniel Singer
Keith V. Smith
Pat R. Stout
Nancy E. Strickler
Glenn T. Sweeney
Amir Tavakkol
Phillip D. Taylor
Wenyuh Tsay
Robert C. Tueting
Howard E. Van Auken
P. V. Viswanath
Doug Waggle
Hsinrong Wei
John R. Weigel
Sally Wells
Peter M. Wichert
John C. Woods
Michael D. Woodworth
Robert J. Wright
Richard H. Yanow
Ali E. Zadeh
Edward Zajicek

The following people provided extremely useful reviews and input to the thirteenth edition:

James DeMello, Western Michigan University
Matthew Haertzen, Northern Arizona University
Jeffrey Jones, College of Southern Nevada
Lynn Kugele, University of Mississippi
Michael G. Nugent, Stony Brook University
James Pandjiris, University of Missouri-St. Louis
Daniel Wolman, Nassau Community College
Dazhi Zheng, West Chester University

Because of the wide variety of topics covered in the book, we called upon many experts for advice. We thank them and their firms for allowing us to draw on their insights and awareness of recent developments to ensure that the text is as current as possible. In particular, we want to mention Bill Bachrach, Bachrach & Associates, San Diego, CA; John Markese, President, American Association of Individual Investors, Chicago, IL; Frank Hatheway, CFA, Chief Economist, Nasdaq, New York, NY; George Ebenhack, Oppenheimer & Co., Los Angeles, CA; Mark D. Erwin, ChFC, Commonwealth Financial Network, San Diego, CA; David M. Love, C. P. Eaton and Associates, La Jolla, CA; Michael R. Murphy, Sceptre Investment Counsel, Toronto, Ontario, Canada; Mark S. Nussbaum, CFP®, Wells Fargo Advisors, Inc., La Jolla, CA; Richard Russell, Dow Theory Letters, La Jolla, CA; and Michael J. Steelman, Merrill Lynch, Bonsall, CA.

To create the video feature An Advisor's Perspective, we relied on the generosity of many investment professionals from around the country. We are especially thankful to David Hays of CFCI and Ed Slott of Ed Slott and Company for helping us to do a great deal of the videotaping for this feature at the Ed Slott conference in Phoenix, Arizona. We are thankful to all of the investment professionals who participated in this project on video:

Catherine Censullo, Founder, CMC Wealth Management
Joseph A. Clark, Managing Partner, Financial Enhancement Group
Ron Courser, CFO, Ron Courser and Associates
Bob Grace, President, Grace Tax Advisory Group
James Grant, Founder, Grant's Interest Rate Observer
Bill Harris, Founder, WH Cornerstone Investments
James Johnson, President, All Mark Insurance Services
Mary Kusske, President, Kusske Financial Management
Rick Loek, CEO, Calrima Financial and Insurance Agency
Ryan McKeown, Senior VP, Wealth Enhancement Group
Thomas O'Connell, President, International Financial Advisory Group
Phil Putney, Owner, AFS Wealth Management
Tom Riquier, Owner, The Retirement Center
Rob Russell, CEO, Russell and Company
Carol Schmidlin, President, Franklin Planning
Ed Slott, CEO, Ed Slott and Company
Bryan Sweet, Owner, Sweet Financial Services
Steve Wright, Managing Member, The Wright Legacy Group

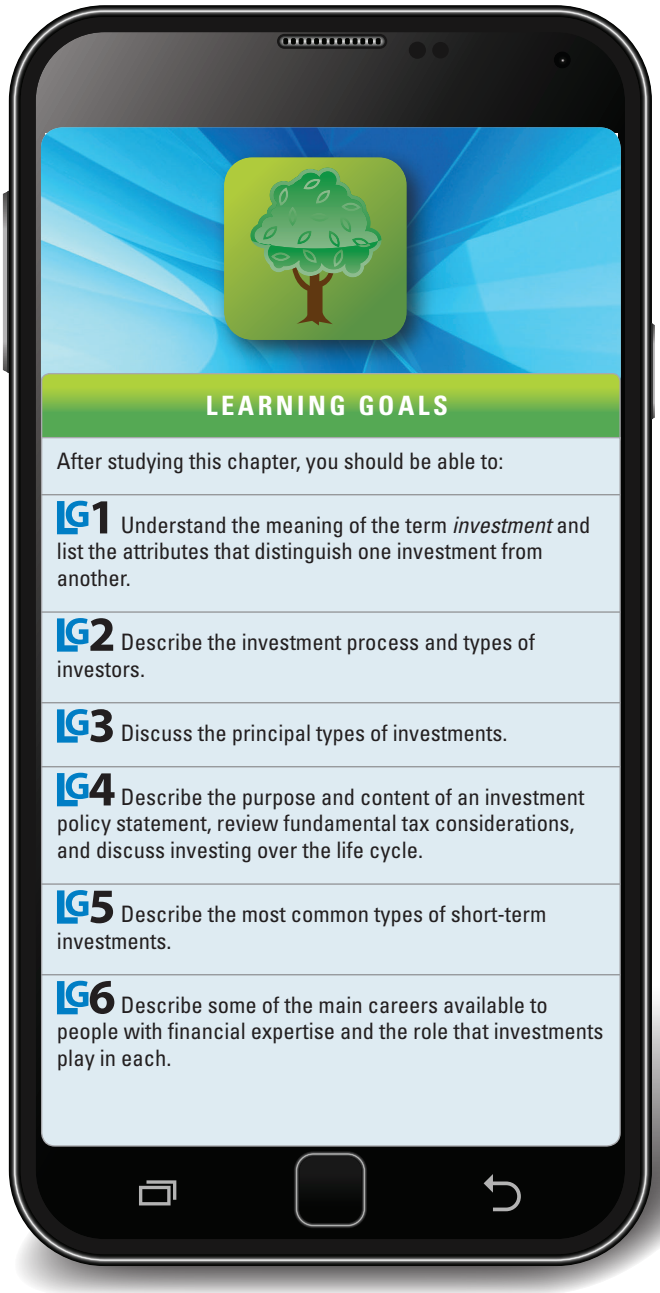
Special thanks to Robert Hartwig of Worcester State College for revising and updating the *Test Bank* and *Instructor's Manual*.

The staff at Pearson, particularly Donna Battista, contributed their creativity, enthusiasm, and commitment to this textbook. Pearson Program Manager Kathryn Dinovo and Project Manager Alison Kalil managed and pulled together the various strands of the project. Other dedicated Pearson staff, including Acquisitions Editor Kate Fernandes, Digital Studios Project Managers Melissa Honig and Andra Skaalrud, Digital Content Team Lead for MyFinanceLab Miguel Leonarte, Senior Product Marketing Manager Alison Haskins, warrant special thanks for shepherding the project through the development, production, marketing, and website construction stages. Without their care and concern, this text would not have evolved into the teachable and interesting text and package we believe it to be.

Finally, our wives, Susan, Robin, and Charlene, played important roles by providing support and understanding during the book's development, revision, and production. We are forever grateful to them, and we hope that this edition will justify the sacrifices required during the many hours we were away from them working on this book.

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

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 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, artwork, 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.

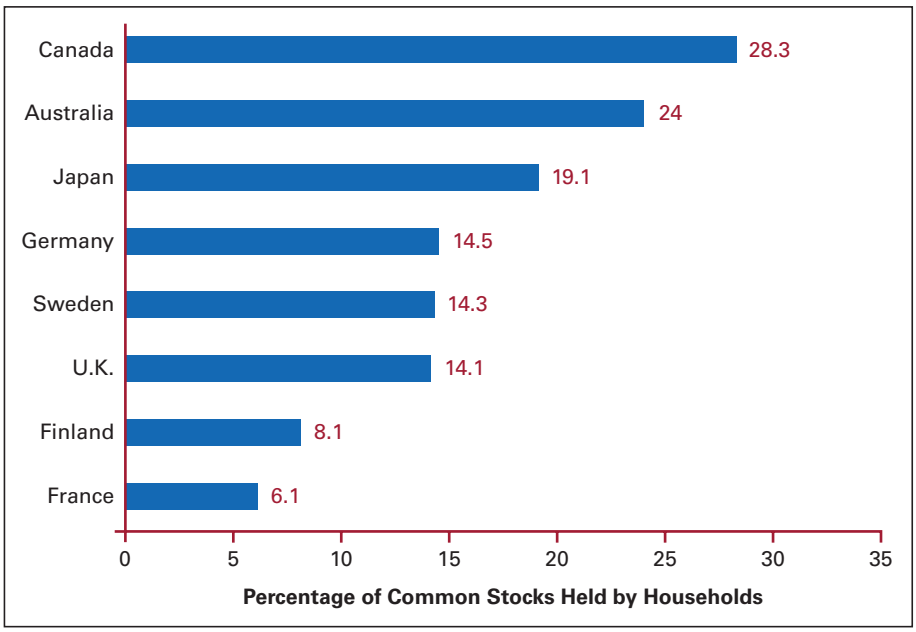
Just as direct stock ownership by households has been falling, indirect ownership has been rising. One way to examine this trend is to look at the

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.

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.

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.

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.

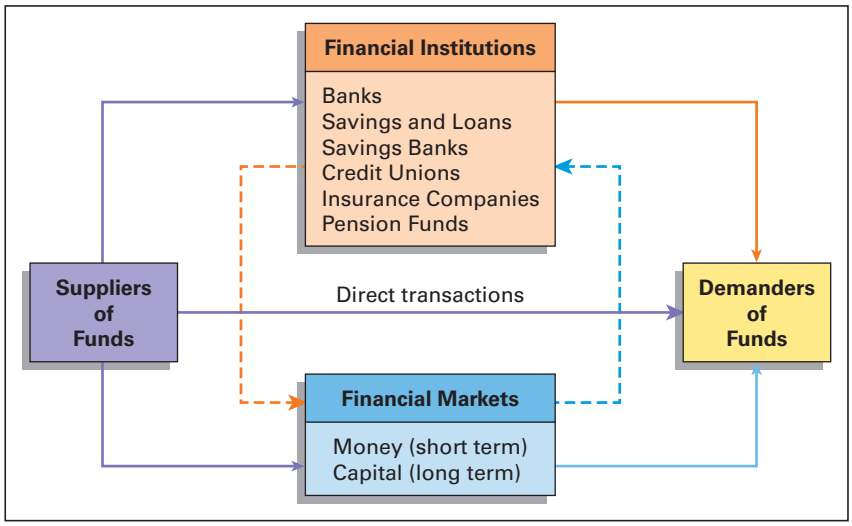
When households have surplus funds to invest, they must decide whether to make the investment decisions themselves or to delegate some or all of that responsibility to professionals. This leads to an important distinction between two types of investors in the financial markets. **Individual investors** 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

LG3 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 ÷ $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 × 9% × ½ 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.

Preferred Stock Like common stock, **preferred stock** represents an ownership interest in a corporation and has no maturity date. Unlike common stock, preferred stock has a fixed dividend rate. Firms are generally required to pay dividends on preferred shares before they are allowed to pay dividends on their common shares. Furthermore, if a firm is having financial difficulties and decides to stop paying preferred dividends, it must usually make up all of the dividend payments that it skipped before paying dividends on common shares. Investors typically purchase preferred stocks for the dividends they pay, but preferred shares may also provide capital gains.

Mutual Funds

A **mutual fund** is a portfolio of stocks, bonds, or other assets that were purchased with a pool of funds contributed by many different investors and that are managed by an investment company on behalf of its clients. Investors in a mutual fund own an interest in the fund's collection of securities. Most individual investors who invest in stocks do so indirectly by purchasing mutual funds that hold stocks. When they send money to a mutual fund, investors buy shares in the fund (as opposed to shares in the companies in which the fund invests), and the prices of the mutual fund shares reflect the value of the assets that the fund holds. Mutual funds allow investors to construct well-diversified portfolios without having to invest a large sum of money. After all, it's cheaper to buy shares in a fund that holds 500 stocks than it is to buy shares in 500 companies on your own. In the last three decades, the mutual fund industry has experienced tremendous growth. The number of equity mutual funds (i.e., funds that invest mainly or exclusively in common stock) has more than quadrupled since 1980.

INVESTOR FACTS

The Feeling's Mutual! In 2014, the 8,974 mutual funds in the United States accounted for investment assets of $15 trillion. Mutual funds held 24% of all U.S. stocks, and managed 22% of all household financial assets.

(Source: 2014 Investment Company Factbook downloaded from http://www.icifactbook.org/, accessed February 27, 2014.)

Most mutual managers follow one of two broad approaches when selecting specific securities for their funds. In an *actively managed fund*, managers try to identify and purchase securities that are undervalued and are therefore likely to perform particularly well in the future. Or managers try to identify overvalued securities that may perform poorly and simply avoid those investments. The goal of an actively managed fund is typically to earn a higher return than some sort of benchmark. For a mutual fund that invests in stocks, a common goal is to earn a return that is higher than the return on a market index like the Standard and Poor's 500 Stock Index (S&P 500). In a *passively managed fund*, managers make no attempt to identify under or overvalued securities. Instead, they buy a diversified portfolio of stocks and try to mimic or match the return on a market index. Because these funds try to provide returns that are as close as possible to the returns on a market index, they usually referred to as *index funds*.

In return for the services that they provide, mutual funds (or rather the investment companies that run the mutual funds) charge investors fees, and some of those fees are rolled together in a figure known as the *expense ratio*. The expense ratio is a fee charged to investors based on a percentage of the assets invested in a fund. It accrues daily and represents one of the primary costs that investors pay when they purchase mutual fund shares. For example, if an individual has $10,000 invested in a mutual fund with an expense ratio of 1%, then the fund will charge $100 per year to manage the individual's money.

Expense ratios are generally higher for funds that invest in riskier securities. For example, in 2014 the average expense ratio among mutual funds investing in stocks was 0.70%, meaning that investors would pay expenses equal to $70 per $10,000 invested. For funds that invest in bonds, the average expense ratio was 0.57%. **Money**

market mutual funds (also called **money funds**) are mutual funds that invest solely in short-term investments. The average expense ratio for money market mutual funds in 2014 was just 0.13%.

Expense ratios also tend to be higher for actively managed funds than for index funds. That shouldn't be surprising because actively managed funds are more expensive to operate. For many years, expense ratios have been on the decline. The average expense ratio for equity mutual funds fell 25 basis points (or one quarter of one percent) in the last decade, from 9.95% in 2004 to 0.70% in 2014. Falling expense ratios is good news for mutual fund investors. Even so, there is considerable variation in expense ratios from one fund to another, so investors need to pay close attention to expenses before they choose a fund.

In addition to the expense ratio, some funds charge a fee called a *load*. A load may be charged up front when the investor initially buys shares in the fund, in which case it is called a *sales load*. Alternatively, when investors sell their shares the fund may charge a fee known as a *redemption fee* or *back-end load*. Typically, redemption fees are reduced or waived entirely if investors keep their money in the fund for a long period of time.

Exchange-Traded Funds

Like mutual funds, **exchange-traded funds** (**ETFs**) hold portfolios of securities, and investors buy shares in the ETF. ETFs are very similar to mutual funds. They allow investors to form well-diversified portfolios with low initial investments, and the fees charged by ETFs are generally quite low. However, there are some important distinctions between these two popular investments. The main distinction is that ETFs trade on exchanges, so investors can buy and sell shares in an ETF at its current market price at any time during regular trading hours. Mutual fund shares are not traded on exchanges, and when an investor buys (or sells) shares in a fund from an investment company, the transaction occurs at the end of the trading day using the fund's closing price. The mutual fund's closing price is determined by adding up the values of all of the securities that the fund holds at the end of the day and dividing by the number of shares in the fund. If stock prices are rising or falling rapidly during the day, ETF investors may be able to take advantage of this by purchasing or selling their shares before prices hit their peak (or bottom). Investors in mutual funds have to wait until the end of the day to learn the price at which they can buy or sell shares in the fund.

Another important difference has to do with what happens to the money when investors buy or sell shares. When you buy shares in a mutual fund, the fund has more resources than it had before, so the fund's managers will likely use those funds to invest in more securities. Similarly, if you sell shares in the fund, then the fund's managers may have to sell some of the securities that the fund holds to raise the cash to pay you when you redeem your shares. If many investors want to sell their shares simultaneously, that may trigger a *fire sale*—the fund manager has to accept lower prices to quickly convert the fund's assets into cash. In contrast, ETF shares represent a fixed number of claims on a fixed portfolio of securities. When you buy ETF shares, you are simply acquiring them from other investors who want to sell their shares. There is no net inflow or outflow of money into the company that manages the ETF, and therefore there is no need to buy or sell additional securities in response to investors' transactions.

Launched in 1993, the very first ETF was a broad-based equity fund designed to track the Standard and Poor's 500 Stock Index. Since then, both the number of ETFs and the amount of money invested in them has grown explosively. From 2003 to 2014,

the number of ETFs grew by a factor of 12, and assets invested in those funds grew at a rate that exceeded 26% per year. Even so, for every $1 invested in ETFs today, about $9 are invested in mutual funds.

Hedge Funds

Like mutual funds, **hedge funds** are investment funds that pool resources from many different investors and invest those funds in securities. Hedge funds are generally open to a narrower group of investors than are mutual funds. For example, the minimum investment required by a mutual fund might be a few hundred dollars whereas the minimum investment required to participate in a hedge fund runs into the hundreds of thousands of dollars. Some hedge funds have a minimum investment of $1 million. Despite the high minimum investment, hedge funds have grown in importance in recent years, with assets under management approaching $3 trillion in 2015.

Hedge funds generally charge investors much higher fees than do mutual funds. Traditionally, hedge fund fees follow the "two and twenty" rule, which means that investors pay the hedge fund annual fees equal to 2% of the assets they manage plus 20% of any investment gains that the fund can achieve. The first component of the fee is known as the management fee and is independent of the fund's performance. The second component is known as the incentive fee. Investors in hedge funds do not pay incentive fees if a fund earns a negative return in a particular year, and it is common for the incentive fee to have a feature known as the "high-water mark." The high-water mark specifies that the incentive fee is not payable until a hedge fund passes its previous peak value. For example, if the hedge fund loses 6% in one year and earns 10% the following year, the incentive fee will not be paid on the second year's entire 10% return. Instead, the fee will only apply to the increase in fund value above and beyond its previous peak. In other words, the fund has to earn back the 6% that it previously lost before new incentive fees kick in.

Hedge funds are not as closely regulated as are mutual funds, and they tend to invest in riskier and less liquid securities. The very name "hedge fund" suggests that these funds try to limit or hedge the risks that they take, and, indeed, some hedge funds do operate with that goal in mind. However, some hedge funds adopt very high-risk investment strategies. Nonetheless, the hedge fund industry experienced dramatic growth in the last decade.

Derivatives Securities

As the name suggests, *derivative securities* derive their value from an underlying security or asset. Many derivatives are among the most risky financial assets because they are designed to magnify price changes of the underlying asset. For example, when the price of oil moves up or down by $1 per barrel, the value of an oil futures contract (an agreement between two parties to trade oil on a future date at a specified price) moves $1,000 in the same direction. Investors may buy or sell derivatives to speculate on the future movements of another asset, but corporations also buy and sell derivatives to hedge against some of the risks they face. For example, a cereal company may purchase wheat futures contracts as a kind of insurance against the possibility that wheat prices will rise.

Options **Options** are securities that give the investor an opportunity to sell or buy another security at a specified price over a given period of time. Investors purchase

options to take advantage of an anticipated change in the price of common stock. However, the purchaser of an option is not guaranteed a return and could even lose the entire amount invested if the option does not become attractive enough to use. Two common types of options are *calls* and *puts*. Call options grant the right to buy another security at a fixed price, and put options grant the right to sell another security at a fixed price.

Futures **Futures** are legally binding obligations stipulating that the seller of the futures contract will make delivery and the buyer of the contract will take delivery of an asset at some specific date and at a price agreed on at the time the contract is sold. Examples of *commodities futures* include soybeans, pork bellies, platinum, and cocoa contracts. Examples of *financial futures* are contracts for Japanese yen, U.S. Treasury securities, interest rates, and stock indexes. Trading in commodity and financial futures is generally a highly specialized, high-risk proposition.

Other Popular Investments

Because the U.S. federal income tax rate for an individual can be as high as 39.6%, many investors look for **tax-advantaged investments**. These are investments that provide higher after-tax returns by reducing the amount of taxes that investors must pay. For instance, municipal bonds, which are bonds issued by state and local governments, make interest payments that are not subject to federal income taxation. Because investors do not have to pay taxes on the interest they receive on municipal bonds, they will accept lower interest rates on these investments than they will on similar bonds that make taxable interest payments.

Real estate consists of assets such as residential homes, raw land, and a variety of forms of income property, including warehouses, office and apartment buildings, and condominiums. The appeal of real estate investment is the potential returns in the forms of rental income, tax write-offs, and capital gains.

Tangibles are investment assets, other than real estate, that can be seen or touched. They include gold and other precious metals, gemstones, and collectibles such as coins, stamps, artwork, and antiques. People purchase these assets as investments in anticipation of price increases.

CONCEPTS IN REVIEW

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

1.9 What are *short-term investments*? How do they provide *liquidity*?

1.10 What is *common stock*, and what are its two sources of potential return?

1.11 Briefly define and differentiate among the following investments. Which offer fixed returns? Which are derivative securities? Which offer professional investment management?

a. Bonds
b. Convertible securities
c. Preferred stock
d. Mutual funds
e. Hedge funds
f. Options
g. Futures

Making Your Investment Plan

LG4 Investing can be conducted on a strictly intuitive basis or on the basis of plans carefully developed to achieve specific goals. Evidence favors the planned approach. Developing a well thought-out investment plan encourages you to follow a disciplined approach to managing money. That discipline will help you avoid many common investment mistakes by keeping you focused on your investment goals during market swings. A good investment plan is a reminder of the goals that you are trying to achieve with your money, and it provides a kind of strategic roadmap to guide investment decisions over a lifetime. We suggest that your investment plan should begin with an Investment Policy Statement.

Writing an Investment Policy Statement

Large corporations typically have an investment policy statement (IPS) that spells out how the corporation will invest funds in the company retirement plan. Financial advisors write them for their clients. Our view is that an IPS is equally important for individual investors like you. Writing such a statement forces you to think carefully about all aspects of your investment plan, a particularly useful exercise for a novice investor. If you have a spouse or partner, an IPS can help you work out (in advance) disagreements about how much money the two of you should save and how that money should be invested. In middle age, an IPS helps you assess the progress toward your long-term financial goals. Below we outline the major elements of a well-crafted IPS. Most of the tools and concepts covered in this text can be applied in a thorough IPS.

Summarize your current situation. In the opening section of the IPS, list the assets that you currently own. Set a target for how much money you think you can save and invest each month. Describe where the money that you plan to invest will come from. Given your income and your current spending habits, is it reasonable to expect that you will have surplus funds to invest? What tax rate do you face today, and how do you expect that to change in the future? Establish some broad guidelines for the initial asset allocation in your portfolio. What percentage of your funds do you want to invest in stocks, bonds, and other types of investments? Ask yourself how much money you think you can afford to lose, both in the short term (over a few months) and the long term (over a few years), and articulate your action plan when losses occur. Will you sell some of your investments, simply hold onto them, or continue making new investments each month according to the plan? Try to define your investment horizon. Will you need to access the funds you are investing in a year, in a decade, or at the end of your working life? If you plan to enlist the help of a professional investment advisor, describe the process that you will use to select that person. If you have already selected an advisor, list that person's contact information in your IPS and discuss the statement with him or her, perhaps even getting his or her signature on the document.

Specify your investment goals. Once you have outlined your current situation, write out your investment goals. **Investment goals** are the financial objectives you wish to achieve by investing. Are you trying to reach a specific target savings goal, such as accumulating enough money to make a down payment on a house? Or do you have a goal that is further out in the future, such as saving enough money to send your children to college or even to provide enough income for your own retirement? Is your investment goal to generate more cash flow in the form of interest or dividends, or are you trying to shelter income from taxation? Achieving each of these goals may call for

a different type of investment strategy. For each goal that you specify, try to determine how many years you will need to save and invest to achieve that goal, and how much money you need to invest each year to reach your goal.

Articulate your investment philosophy. In this part of the IPS, you'll want to spell out your investment philosophy, your views about the types of investments you're willing to make, how often you are willing to adjust your portfolio through trading, and other matters that will shape your investment portfolio. Perhaps the most important aspect of your investment philosophy is your tolerance for risk. Your investment philosophy should indicate how much volatility in the value of your portfolio that you are willing to tolerate. For example, you might say that your portfolio should be designed in such a way that a loss in a single year of more than 20% is highly unlikely. Your policy should indicate how important diversification is to you and how many types of investments you plan to own. Your philosophy will specify certain types of investments that you are not willing to purchase. Perhaps you will choose not to invest in certain industries for ethical reasons, or you will declare that only "plain vanilla" investments like stocks and bonds should be part of your portfolio (no derivatives or exotic investments, please). If you are working with a financial advisor, you may want to specify how frequently you want to make changes in the portfolio by trading, or you may want to provide guidelines about the trading costs or (in the case of mutual funds and ETFs) the management fees you're willing to pay. In this section of the IPS you may choose to articulate your assumptions about the returns that you expect different types of investments to earn over time.

Set investment selection guidelines. For each type of investment, or asset class, that you expect to hold in your portfolio (e.g., stocks, bonds, mutual funds), establish guidelines for how specific investments in that asset class will be selected. For example, if you plan to hold mutual funds, will you invest in actively or passively managed funds? In your selection process, how much importance will you place on a fund's track record (i.e., its past performance or the experience and education of the fund manager) and how much on its expense ratio and other costs of investing in the fund? If you plan to invest directly in stocks, will you focus on large, well-known companies, or are you more interested in emerging high-tech companies? Does it matter to you whether the stocks you invest in pay dividends? When you are deciding which bonds to invest in, will you focus more heavily on the creditworthiness of the bond issuer or on other features of the bond such as its maturity or the interest rate that it promises to pay?

Assign responsibility for selecting and monitoring investments. In this part of the IPS, you indicate whether you will make your own investment selections or whether you will enlist the help of an advisor to do that. Likewise, you establish a plan for monitoring your investments. Do you plan to evaluate your investment performance quarterly, semiannually, or just once a year?

What criteria will you use to determine whether your investments are meeting your expectations or not? Any risky investment is bound to have periods when it performs poorly, so your IPS should provide some guidance about how long you are willing to tolerate subpar performance before making a change in the portfolio. Similarly, an investment that performs particularly well for a year or two will inevitably account for a rising fraction of the portfolio's overall value. Your IPS may describe the conditions under which you might sell some of your better performing investments simply to rebalance the portfolio.

WATCH YOUR BEHAVIOR

Watch your investments, but not too closely. Researchers have uncovered an interesting aspect of investor behavior. Individuals who monitor their portfolios most frequently tend to invest less in risky assets. Almost by definition, risky investments will frequently experience periods of low or even negative returns, even though over long periods of time risky assets tend to earn higher returns than safe assets do. When investors check their portfolios frequently, they apparently find it uncomfortable to observe the periods when risky investments perform badly, so they simply take less risk. In the long run, taking very little risk leads to very low returns, so it is not clear that watching investments too closely is a good thing.

(Source: "Myopic Loss Aversion and the Equity Premium Puzzle," *Quarterly Journal of Economics*, 1995, Vol. 110, pp. 75–92.)

Considering Personal Taxes

Knowledge of the tax laws can help you reduce taxes and increase the amount of after-tax dollars you have for investing. Because tax laws are complicated and subject to frequent revision, we present only the key concepts and how they apply to popular investment transactions.

Basic Sources of Taxation The two major types of taxes to consider when forming your investment plans are those levied by the federal government and those levied by state and local governments. The federal *income tax* is the major form of personal taxation. Federal rates currently range from 10% to 39.6% of taxable income, although with rising federal budget deficits, many experts believe that those tax rates will rise in the future.

State and local taxes vary from area to area. Top earners in California face a tax rate of 13.3%, and six other states have tax rates on high-income households that range from 8% to 11%. Some cities, especially large East Coast cities, also have local income taxes that typically range between 1% and 5%. In addition to income taxes, state and local governments rely heavily on sales and property taxes as a source of revenue.

Income taxes at the federal, state, and local levels have a great impact on the returns that investors earn from security investments. Property taxes can have a sizable impact on real estate and other forms of property investment.

Types of Income The income of individuals is classified into *three basic categories*:

- *Active income* consists of everything from wages and salaries to bonuses, tips, pension income, and alimony. Active income is made up of income earned on the job as well as most other forms of *noninvestment* income.
- *Portfolio income* includes earnings generated from various types of investments. This category covers most (but not all) types of investments from savings accounts, stocks, bonds, and mutual funds to options and futures. For the most part, portfolio income consists of interest, dividends, and capital gains (the profit on the sale of an investment).
- *Passive income* is a special category of income composed chiefly of income derived from real estate, limited partnerships, and other forms of tax-advantaged investments.

Tax laws limit the amount of deductions (write-offs) that can be taken for each category, particularly for portfolio and passive income. The amount of allowable deductions for portfolio and passive income is *limited to the amount of income derived from these two sources*. For example, if you had a total of $380 in portfolio income for the year, you could deduct no more than $380 in investment-related interest expense. For deduction purposes, the portfolio and passive income categories cannot be mixed or combined with each other or with active income. *Investment-related expenses can be used only to offset portfolio income*, and (with a few exceptions) *passive investment expenses can be used only to offset the income from passive investments*.

Ordinary Income Whether it's classified as active, portfolio, or passive, ordinary income is taxed at the federal level at one of seven rates: 10%, 15%, 25%, 28%, 33%, 35%, or 39.6%. There is one structure of tax rates for taxpayers who file *individual* returns and another for those who file *joint* returns with a spouse. Table 1.2 shows the 2015 tax rates and income brackets for these two categories. Note that the rates are *progressive*; that is, income is taxed in a tiered progression—the first portion of a taxpayer's income is taxed at one rate, the next portion at a higher rate, and so on. An example will demonstrate how ordinary income is taxed.

TABLE 1.2 FEDERAL INCOME TAX RATES AND BRACKETS FOR INDIVIDUAL AND JOINT RETURNS (DUE BY APRIL 15, 2015)

	Taxable Income	
Tax Rates	Individual Returns	Joint Returns
10.0%	$0 to $9,075	$0 to $18,150
15.0%	$9,076 to $36,900	$18,151 to $73,800
25.0%	$36,901 to $89,350	$73,801 to $148,850
28.0%	$89,351 to $186,350	$148,851 to $226,850
33.0%	$186,351 to $405,100	$226,851 to $405,100
35.0%	$405,101 to $406,750	$405,101 to $457,600
39.6%	Over $406,750	Over $457,600

NOTE Excel Spreadsheet exercises at the end of each chapter will assist you in learning some useful applications of this tool in the personal investing process.

Example

Consider the Ellis sisters, Joni and Cara. Both are single. Joni's taxable income is $25,000. Cara's is $50,000. Using the tax rates and income brackets in Table 1.2, we can calculate their taxes as follows:

Joni:

$$(0.10 \times \$9{,}075) + [0.15 \times (\$25{,}000 - \$9{,}075)] = \$907.50 + \$2{,}388.75 = \underline{\$3{,}296.25}$$

Cara:

$$(0.10 \times \$9{,}075) + [0.15 \times (\$36{,}900 - \$9{,}075)] + [0.25 \times (\$50{,}000 - \$36{,}900)$$
$$= \$907.50 + \$4{,}173.75 + \$3{,}275 = \underline{\$8{,}356.25}$$

Notice that Joni pays about 13.2% of her income in taxes ($3,296.25 ÷ $25,000) while Cara's taxes amount to 16.7% of her income ($8,356.25 ÷ $50,000). The progressive nature of the federal income tax structure means that Cara pays a higher fraction of her income in taxes—although her taxable income is twice Joni's, Cara's income tax is about 2.5 times Joni's. You can build a spreadsheet model like the one below to automate these calculations, so you can calculate the tax bill for an individual taxpayer with any income level.

Excel@Investing

NOTE This icon indicates that there is a downloadable Excel file available on MyFinanceLab that matches the text's content at the point where the icon appears.

	A	B	C	D	E	F	G
1	TAX RATES, INCOME BRACKETS, AND INCOME TAX FOR INDIVIDUALRETURNS (2014)						
2							
3		Individual Returns					
4	Tax Rates (% of income)	Taxable Income			Base Tax	+	(Marginal rate x amount over base bracket)
5	10.0%	$0	to	$9,075	$0.00	+	(10% x amount over $0)
6	15.0%	$9,076	to	$36,900	$907.50	+	(15% x amount over $9,075)
7	25.0%	$36,901	to	$89,350	$5,081.25	+	(25% x amount over $36,900)
8	28.0%	$89,351	to	$186,350	$18,193.75	+	(28% x amount over $89,350)
9	33.0%	$186,351	to	$405,100	$45,353.75	+	(33% x amount over $186,350)
10	35.0%	$405,101	to	$406,750	$117,541.25	+	(35% x amount over $405,100)
11	39.6%	Over		$406,750	$118,118.75	+	(39.6% x amount over $406,750)
12							
13				Joni's Income	$25,000		
14				Joni's Income Tax	$3,296.25		
15							
16				Cara's Income	$50,000		
17				Joni's Income Tax	$8,356.25		

Capital Gains and Losses A *capital asset* is property owned and used by the taxpayer for personal reasons, pleasure, or investment. The most common types are securities

and real estate, including one's home. A *capital gain* represents the amount by which the proceeds from the sale of a capital asset *exceed* its original purchase price. How heavily capital gains should be taxed is a contentious political issue, so tax rates on gains change frequently, especially when political power shifts between parties, as it did in 2008. At the time this text was going to press in late 2015, several tax rates applied to capital gains income depending on the length of the investment holding period and the taxpayer's income.

For assets held more than 12 months, capital gains are classified as long-term, and the capital gains tax rate is 0% for taxpayers in the 10% and 15% tax brackets. For taxpayers in the 25%, 28%, 33%, and 35% tax brackets, the tax rate on long-term capital gains income is 15%. For taxpayers in the 39.6% tax bracket, the tax rate on long-term capital gains is 20%. Dividends on stock in domestic corporations is essentially tax using the same rates that apply to long-term capital gains. If the asset is held for fewer than 12 months, then the amount of any capital gain realized is added to other sources of income, and the total is taxed at the rates given in Table 1.2.

Example

For example, imagine that James McFail, a single person who has other taxable income totaling $75,000, sold 500 shares of stock at $12 per share. He purchased this stock at $10 per share. The total capital gain on this transaction was $1,000 [500 shares × ($12/share – $10/share)]. James's taxable income totals $76,000, and he is in the 25% tax bracket (see Table 1.2).

If the $1,000 capital gain resulted from an asset that was held for more than 12 months, the capital gain would be taxed at the maximum rate of 15%. His total tax would be calculated as follows:

Ordinary income ($75,000)

$$(0.10 \times \$9{,}075) + [0.15 \times (\$36{,}900 - \$9{,}075)] + [0.25 \times (\$75{,}000 - \$36{,}900)]$$
$$= \$907.50 + \$4{,}173.75 + \$9{,}525 = \$14{,}606.25$$

Capital gain ($1,000)

$$(0.15 \times \$1{,}000) = \$150$$

Total tax

$$\$14{,}606.25 + \$150 = \underline{\$14{,}756.25}$$

James's total tax would be $14,756.25. Had his other taxable income been below $36,900 (i.e., in the 15% bracket), the $1,000 capital gain would have been taxed at 0% rather than 15%. Had James held the asset for fewer than 12 months, his $1,000 capital gain would have been taxed as ordinary income, which in James's case would result in a 25% rate.

Capital gains are appealing because they are not taxed until you actually realize them. For example, if you own a stock originally purchased for $50 per share that at the end of the tax year has a market price of $60 per share, you have a "paper gain" of $10 per share. This *paper* (*unrealized*) *gain* is not taxable because you still own the stock. *Only realized gains are taxed*. If you sold the stock for $60 per share during the tax year, you would have a realized—and therefore taxable—gain of $10 per share.

A **capital loss** results when a capital asset is sold for *less than* its original purchase price. Before taxes are calculated, all gains and losses must be netted out. Taxpayers

can apply up to $3,000 of **net losses** against ordinary income in any year. Losses that cannot be applied in the current year may be carried forward and used to offset future income, subject to certain conditions.

A final tax issue arises from the Affordable Care Act's Net Investment Income Tax. This tax applies to married taxpayers with incomes exceeding $250,000 and single taxpayers with incomes over $200,000. For these taxpayers, investment income that they receive is subject to an addition 3.8% tax rate.

WATCH YOUR BEHAVIOR

Cut Your Taxes and Your Losses
Several researchers have found that investors are very reluctant to sell stocks that have gone down in value, presumably because they hope to "get even" in the future. Holding losers rather than selling them is often a mistake because the tax code provides an incentive to sell these stocks. Investors can deduct investment losses (up to a point) against other forms of income, thereby lowering their tax liabilities.

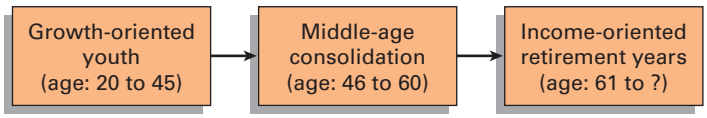
Investments and Taxes The opportunities created by the tax laws make tax planning important in the investment process. **Tax planning** involves looking at your earnings, both current and projected, and developing strategies that will defer and minimize the level of taxes. The tax plan should guide your investment activities so that over the long run you will achieve maximum after-tax returns for an acceptable level of risk.

For example, the fact that capital gains are not taxed until actually realized allows you to defer tax payments on them as well as control the timing of these payments. However, investments that are likely to produce the largest capital gains generally have higher risk than those that provide significant current income. Therefore, you should not choose investments solely on tax considerations. Instead you must strike a balance of tax benefits, investment returns, and risk. *It is the after-tax return and associated risk that matter.*

Tax-Advantaged Retirement Savings Plans The federal government has established a number of plans that offer special tax incentives designed to encourage people to save for retirement. Those that are employer sponsored include profit-sharing plans, thrift and savings plans, and 401(k) plans. These plans allow employees to defer paying taxes on funds that they save and invest during their working years until they withdraw those funds during retirement. Individuals who are self-employed can set up their own tax-sheltered retirement programs such as Keogh plans and SEP-IRAs. Other savings plans with tax advantages are not tied directly to the employer. Almost anyone can set up an individual retirement arrangement (IRA), although the law limits the tax benefits of these plans for high-income taxpayers. In a traditional IRA, contributions to the plan as well as investment earnings generated on those contributions are not taxed until the participant withdraws funds during retirement. In a Roth IRA, contributions are taxed up front, but subsequent investment earnings and withdrawals are tax-free. For most investors, these plans offer an attractive way to both accumulate funds for retirement and reduce taxes.

Investing over the Life Cycle

Investors tend to follow different investment philosophies as they move through different stages of life. Generally speaking, most investors tend to be more aggressive when they're young and more conservative as they grow older. Typically, investors move through these investment stages:



Most young investors in their twenties and thirties prefer growth-oriented investments that stress capital gains rather than current income. Often young investors don't

AN ADVISOR'S PERSPECTIVE

Rick Loek, *CEO*, Calrima Financial and Insurance Agency

"There are three financial phases that we go through in life."

MyFinanceLab

NOTE An Advisor's Perspective boxes consist of short video clips of professional investment advisors who share their practical insights about the material covered in this text.

have much in the way of investable funds, so they view capital gains as the quickest (if not necessarily the surest) way to build capital. Young investors tend to favor growth-oriented and speculative investments, particularly high-risk common stocks.

As investors approach middle age, family demands and responsibilities such as educational expenses and retirement contributions become more important. The whole portfolio often shifts to a less aggressive posture. Stocks that offer a balance between growth and income—high-grade bonds, preferred stocks, convertibles, and mutual funds—are all widely used at this stage.

Finally, when investors approach their retirement years, preservation of capital and current income become the principal concerns. A secure, high level of income is paramount. Investors place less emphasis on growing their portfolio. Instead, they structure their portfolios to generate regular cash flow with relatively low exposure to risk. The investment portfolio now becomes *highly conservative*. It consists of low-risk income stocks and mutual funds, government bonds, quality corporate bonds, bank certificates of deposit (CDs), and other short-term investments. At this stage, investors reap the rewards of a lifetime of saving and investing.

Investing over the Business Cycle

Common stocks and other equity-related securities (convertible securities, stock mutual funds, stock options, and stock index futures) are highly responsive to conditions in the economy. The *business cycle* refers to the recurring sequence of growth and decline, boom and recession that characterizes economies around the world. The business cycle reflects the current status of a variety of economic variables, including gross domestic product (GDP), industrial production, personal disposable income, the unemployment rate, and more.

A strong economy is reflected in an expanding business cycle. Stocks tend to be a leading indicator of the business cycle, meaning that stock prices tend to rise prior to periods when business is good and profits are up. Growth-oriented and speculative stocks tend to do especially well in strong markets. To a lesser extent, so do low-risk and income-oriented stocks. In contrast, stock values often fall several months before periods when economic activity is declining. The reason that stocks tend to move ahead of changes in the business cycle is that stock prices reflect investors' beliefs about the future prospects of companies. When investors believe that business conditions will deteriorate, stock prices will fall even before those poor business conditions materialize. Of course, the same thing happens in reverse when investors believe the economy will perform better. Stock prices rise in anticipation of strong future economic performance.

Bonds and other forms of fixed-income securities (bond funds and preferred stocks) are also sensitive to the business cycle because they are highly sensitive to movements in interest rates. In fact, interest rates represent the most important variable in determining bond price behavior and returns to investors. Interest rates and bond prices move in opposite directions (Chapters 10 and 11). Therefore, rising interest rates are unfavorable for bonds already held in an investor's portfolio. Of course, high interest rates enhance the attractiveness of new bonds because these bonds must offer high returns to attract investors.

If you had a crystal ball and could foresee the future, our advice to you would be to load up on high-risk investments each time the economy was nearing the end of a recession and to discard those investments in favor of safer assets near the end of each economic boom. Of course, no one has such a crystal

WATCH YOUR BEHAVIOR

James Grant, *Founder*, Grant's Interest Rate Observer

"The biggest mistake we investors make is being human."

MyFinanceLab

FAMOUS FAILURES IN FINANCE

Ethical Failure—Massaging the Numbers

In recent years, business headlines were full of allegations of massive financial fraud committed by prominent business leaders. These allegations shocked the investment community and resulted in spectacular bankruptcies of large corporations. Civil and criminal charges against the key executives involved in the fraud soon followed. Among the list of business leaders charged or convicted of financial fraud were Bernie Madoff, Ramalinga Raju of Satyam Computer Services, Hank Greenberg of American International Group (AIG), and David Glenn of Freddie Mac.

In many cases, the primary weapon of fraudulent CEOs was the use of corporate accounting to report huge, fictitious profits or hide financial problems. To cite just one example, prior to its 2008 bankruptcy, the investment banking firm Lehman Brothers had repeatedly engaged in a transaction known as Repo 105. In this transaction, just before it issued a quarterly financial report, Lehman Brothers essentially borrowed money on a short-term basis (usually for 7 to 10 days) from another entity. However, on Lehman's balance sheet that loan was recorded as an asset sale. On Lehman's publicly released financial statements, this transaction made it appear that Lehman Brothers had more cash and less debt than it actually did. More than 13 years after the passage of the Sarbanes-Oxley Act, legislation designed to prevent this kind of corporate fraud, investors have learned the hard way that corporate fraud is a significant risk that remains difficult to anticipate or detect until it is too late.

Critical Thinking Question Why do you think Lehman engaged in Repo 105 transactions?

NOTE Famous Failures in Finance boxes highlight important problems that sometimes occur in the investments field. These problems may deal with ethical lapses, as in the box above, or they may involve various kinds of failures that take place in the marketplace.

ball, and unfortunately professional economic forecasters and investment professionals do not have a particularly strong record at predicting turns in the economy and financial markets. Perhaps the best advice that we can offer regarding investments and the business cycle is this: Do not overreact to the ups and downs that appear to be an unavoidable (and unpredictable) part of economic life. Investors who load up on risky assets after the market has already risen from its bottom and who dump their stocks after the market has begun a slide will probably perform worse than investors who apply a consistent investment strategy over many years through many business cycles.

CONCEPTS IN REVIEW

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

1.12 What should an investor establish before developing and executing an investment program? Briefly describe the elements of an investment policy statement.

1.13 Define and differentiate among the following. Explain how each is related to federal income taxes.

a. Active income
b. Portfolio and passive income
c. Capital gain
d. Capital loss
e. Tax planning
f. Tax-advantaged retirement investments

1.14 Describe the differing investment philosophies typically applied during each of the following stages of an investor's life cycle.

a. Youth (ages 20 to 45)
b. Middle age (ages 46 to 60)
c. Retirement years (age 61 and older)

1.15 Discuss the relation between stock prices and the business cycle.