



INVESTMENTS

SIXTH EDITION

FRANK K. REILLY
EDGAR A. NORTON

INVESTMENTS

SIXTH EDITION

FRANK K. REILLY

Bernard J. Hank Professor
University of Notre Dame

EDGAR A. NORTON

Illinois State University

THOMSON

SOUTH-WESTERN

*To my best friend and wife,
Therese,
and the greatest gifts and
sources of our happiness,
Frank K. III, Charlotte, and Lauren
Clarence R. II and Michelle*

*Therese B. and Anita
Edgar B., Michele, Kayleigh, and Madison J. T.
—F.K.R.*

*To Dad and to the memory of Mom;
to my best friend and wife, Becky,
and our gifts from God, Matthew and Amy.
—E.A.N.*



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PREFACE

The pleasure of authoring a textbook comes from writing about a subject that you enjoy and find exciting. As authors, we hope that we can pass on to the reader not only knowledge but also the excitement that we feel for the subject. In addition, writing about investments brings an added stimulant because the subject can affect the reader during his or her entire business career and beyond. We hope what readers derive from this course will help them enjoy better lives because they will have learned how to manage their resources properly.

Throughout the book, a number of key points are emphasized:

1. Developed markets are nearly informationally efficient. That means news and its effect on investments are quickly reflected in asset prices. It is difficult to “beat the market averages” after taking differences in the risks between investments into account. Which leads us to our second key point . . .
2. There is a tradeoff between expected return and risk. Because markets tend to be efficient, higher returns are expected to occur only if an investor takes on additional risk. Risk and expected return are directly related. But it is likely inappropriate for an investor to take on higher and higher risks in the hopes of earning higher returns because of our third key point . . .
3. Investors need to invest at a risk level that is consistent with their risk preferences and constraints. Investors should take—and manage—prudent risks to maximize their after-tax returns in an effort to meet their financial goals. Taxes have a tremendous impact on investment returns, and investors must consider their effect. But investments need to be made based on one’s risk preferences and financial goals. If a financial goal appears to be unattainable, an investor should think carefully before committing to higher-risk investments.
4. Investors need to consider investing across different asset classes, industries, and country borders to take advantage of growing opportunities in the global marketplace. As portfolio theory shows, one may be able to invest in a diversified portfolio of high-risk assets with little or no increase in the risk of the overall portfolio.

The purpose of this book is to help you understand how to manage your money so that you will derive the maximum benefit from what you earn. To accomplish this purpose, you need to learn about the investment alternatives that are available today, and, more importantly, you must develop a way of analyzing and thinking about investments that will remain with you in the years ahead when new and different opportunities become available.

Because of its dual purpose, the book mixes description and theory. The descriptive material discusses available investment instruments and considers the purpose and operation of capital markets in the United States and around the world. The theoretical portion details how you should evaluate current investments and future opportunities so that you can construct a portfolio of investments that will satisfy your risk–return objectives.

Preparing this sixth edition has been both exciting and challenging for two reasons. First, many changes have occurred in the securities markets during the last few years in terms of theory, empirical research, financial instruments—particularly derivatives and their use in portfolio management—and trading practices. Second, as mentioned in prior editions, capital markets continue to become global and more integrated; cross-border investments are commonplace. New markets are being created or opening around the world. Consequently, very early in the book (in Chapter 3) we present a compelling case for global investing. Subsequently, to ensure that you are prepared to function in this new global environment, almost every chapter discusses how investment practice or theory is influenced by the globalization of investments and capital markets. This completely integrated treatment will ensure that you leave this course with a global mind-set on investments that will serve you during the twenty-first century.

INTENDED MARKET

This book is addressed to both undergraduate and graduate students who want an in-depth discussion of investments and portfolio management. The presentation of the material is intended to be rigorous without being overly quantitative. A proper discussion of the modern developments in investments and portfolio theory must be rigorous. The summary results of numerous empirical studies reflect our personal belief that it is essential for theories to be exposed to the real world and be judged on the basis of how well they help us understand and explain reality. We also share insights from practitioners to show how theory is practically applied. To help prepare students for a possible career in investment analysis and portfolio management, this book draws on the body of knowledge and readings recommended for those preparing for the Chartered Financial Analyst (CFA®) exams. Many end-of-chapter questions and problems are drawn from previous CFA® exams.

MAJOR CHANGES AND ADDITIONS IN THE SIXTH EDITION

We've reduced the number of chapters from 22 in the fifth edition to 20 in this edition. Several chapters have undergone major revisions to keep them fresh, both in terms of content as well as new data and examples. The order of the chapters in this edition has been rearranged to better reflect how many users teach the subject of investments, particularly equity analysis. A firm grounding in investment principles, our four key points, and the investment environment is provided in Chapters 1 through 7. Concepts, theories, and practices of managing risk in a portfolio are reviewed in Chapters 8 through 12. Chapters relevant to stock analysis and equity-portfolio management follow each other sequentially (Chapters 13 through 17). After equity analysis is covered, bond valuation is discussed (Chapters 18 and 19) in a manner that builds on earlier chapters, which covered security valuation, financial statement analysis, and economic analysis. The final chapter ties portfolio theory and management together in a discussion of various performance evaluation tools and methods.

To reflect the growing use of the World Wide Web as a learning tool and a source of information, each chapter contains an annotated list of Web sites that relate to the chapter's topic. Students will want to surf the Net using these applications to gain further insight into the practice of investments and the textbook discussions. We go one step further to expose students to the practice of investments—all chapters have Web exercises to help the student learn the many investments-related resources available on the Internet. Further, virtually all chapters have spreadsheet exercises that offer students the opportunity to perform various analyses applying electronic spreadsheets to the chapter's topic.

A consistent industry and company example is used in the equity valuation-oriented chapters. We review the financial statements of Walgreens, analyze influences on the retail drugstore industry and the firm, and estimate the intrinsic value of Walgreens stock.

The text has been thoroughly updated. In addition to chapter revisions, this edition includes numerous new questions and problems, many from Chartered Financial Analyst exams. By chapter, some specific changes include the following:

- Chapter 1 Has been substantially revised to focus on introducing the text's key points and uses data to illustrate some basics of investing and investment theory. Includes discussions of the importance of ethics in the investments profession, job opportunities, and professional designations such as the CFA® and CFPTM.
- Chapter 2 A substantially revised chapter, it focuses on reviewing the relationship between risk and return and how to measure them, both ex-post and ex-ante, in an investments context for both domestic and overseas investments. We show the importance of reinvesting cash flows, provided that such a strategy is appropriate for the investor.
- Chapter 3 Much data is presented to illustrate the case for global investing and the effect on portfolio risk from diversifying globally.
- Chapter 4 The chapters on mutual funds have been moved toward the beginning of the text as many students are interested in learning about them as an alternative to security selection. This chapter incorporates recent research on mutual fund expenses and performance; discusses tax efficiency; and reviews the similarities and differences between mutual funds and other investments such as variable annuities and ETFs.
- Chapter 5 Our revision of the asset allocation chapter includes an overview of risk management strategies that may be reflected in asset allocation and investment decisions as well as the latest research on the effect of asset allocation on overall portfolio performance.
- Chapter 6 Because of the constant changes in the structure of capital markets around the world, this chapter includes new material on decimal pricing, the growth of margin debt, and how underwriting groups are being organized, along with an update on exchange mergers around the world and the shutdown of the New York Bond Market.
- Chapter 7 Security-market indexes are relevant to individual investors as daily indications of the stock-and-bond markets but also have a growing role in portfolio performance as benchmarks. Therefore, an update on the changing composition of these indexes is important along with a description of several new international indexes and alternative "style" indexes.
- Chapter 8 We demonstrate the portfolio model using major asset classes (stocks, bonds, cash), tying this presentation back to the asset allocation chapter.
- Chapter 9 We demonstrate the CAPM using both domestic and global benchmarks to illustrate the importance of "the benchmark error" problem.
- Chapter 10 Beyond an update of the voluminous research on the topic of the efficient market hypothesis (EMH) (including several new anomalies), there is a major addition involving behavioral finance wherein we discuss some major findings that are at odds with the EMH and the implications of these findings for analysts and portfolio managers.
- Chapter 11 We've moved this chapter toward the front so users, if they desire, can more easily incorporate derivatives into their course. Using payoff profiles

- to illustrate return patterns, this introductory chapter now includes additional applications of options to manage risks. We introduce and review strategies such as the straddle, strangle, and butterfly spread.
- Chapter 12 The chapter on advanced derivatives has undergone a major revision and now includes material on futures and options valuation, examples of arbitrage, and several advanced applications of derivatives. Options terms, such as delta and theta, are introduced and explained as are securities with embedded options, such as callable bonds, convertibles, and warrants.
- Chapter 13 This chapter, a revision and condensation of two chapters from the fifth edition, focuses on material needed for security analysis, and reviews the implications for economic and industry analysis on asset allocation. Expectational analysis is used as a framework for supporting investment decisions and monitoring their results.
- Chapter 14 This chapter on financial statements contains an expansion of the discussion on alternative measures of cash flow used in valuation models. There is also a detailed presentation of how one determines the value of capitalized leases and how this added debt and the implied interest on the debt have a significant impact on the financial risk ratios of Walgreens.
- Chapter 15 In this chapter we have combined the introduction to valuation with the application of alternative valuation techniques to a specific firm and its stock. We continue to provide a detailed application of these valuation models to Walgreens. There is an emphasis on the importance of estimating quarterly operating results and the effect of fair disclosure.
- Chapter 16 We have condensed this chapter with an emphasis on maintaining the overall reasoning behind technical analysis and a more in-depth discussion of the major trading techniques employed by the majority of technicians.
- Chapter 17 The equity-portfolio management chapter includes discussions and examples of recent research on equity styles and the need for tax-efficient investment strategies.
- Chapter 18 There is an expanded discussion of duration and convexity, two very relevant valuation concepts for bonds.
- Chapter 19 This bond-portfolio management chapter includes a discussion and demonstration of how you can use futures contracts to hedge against withdrawals and to change the systematic risk (duration) of a bond portfolio.
- Chapter 20 The revision of the portfolio performance chapter reviews several new ways of evaluating performance, including information ratios and M^2 or risk-adjusted performance measures. We review the importance of benchmark portfolios that need to be consistent with the client's investment policy. New information is included on methods for benchmarking taxable portfolios.

SUPPLEMENTS

The *Instructor's Manual/Test Bank*, prepared by Murli Rajan of the University of Scranton, contains the following aids for each chapter: an overview of the chapter; answers to all of the questions and problems; and a test bank of multiple-choice questions. A set of approximately 75 transparency masters is also available to instructors to facilitate the inclusion of key figures and illustrations from the book in classroom lectures.

A *Computerized Test Bank*, available in Windows format, is also free to instructors and contains all the test questions found in the printed *Test Bank*. The computerized

test bank program, ExamView, has many features that facilitate exam preparation: random question selection; key-word searches; adding and editing test items; conversion of multiple-choice questions into short-answer questions; and creation of customized exams by question scrambling.

Spreadsheet Templates in Microsoft Excel are available for students. Students can enter data or information on the various templates related to the concepts and techniques in the text, and the calculations are performed.

Lecture Presentation Software has been developed to cover all the essential concepts in each chapter. These slides, created in Microsoft PowerPoint, are designed to enhance the lecture experience.

A *Web page* can be accessed through <http://reilly.swcollege.com> that will provide up-to-date teaching and learning aids for instructors and students. The site provides students and instructors with access to the PowerPoint presentations, Excel Spreadsheet Models, and Internet applications and exercises. Instructors also may access the Instructor's Manual.

South-Western will provide complimentary supplements or supplement packages to those adopters qualified under our adoption policy. Please contact your local sales representative to learn how you may qualify.

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We are convinced that professors who want to write a book that is academically respectable, relevant, as well as realistic require help from the “real world.” We have been fortunate to develop relationships with a number of individuals (including a growing number of former students) whom we consider our contacts with reality.

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FRANK K. REILLY
Notre Dame, Indiana

EDGAR A. NORTON
Normal, Illinois

ABOUT THE AUTHORS

Frank K. Reilly is the Bernard J. Hank Professor of Finance, and former dean of the Mendoza College of Business, at the University of Notre Dame. Holding degrees from the University of Notre Dame (B.B.A.), Northwestern University (M.B.A.), and the University of Chicago (Ph.D.), Professor Reilly has taught at the University of Illinois, the University of Kansas, and the University of Wyoming in addition to the University of Notre Dame. He has several years of experience as a senior securities analyst, as well as experience in stock-and-bond trading. A Chartered Financial Analyst (CFA), he has been a member of the Council of Examiners, the Council on Education and Research, the grading committee, and was Chairman of the Board of Trustees of the Institute of Chartered Financial Analysts and Chairman of the Board of the Association of Investment Management and Research (AIMR). Professor Reilly has been president of the Financial Management Association, the Midwest Business Administration Association, the Eastern Finance Association, the Academy of Financial Services, and the Midwest Finance Association. He is or has been on the board of directors of the First Interstate Bank of Wisconsin, Norwest Bank of Indiana, the Investment Analysts Society of Chicago, UBS Brinson Global Funds (Chairman), Fort Dearborn Income Securities, Discover Bank, NIBCO, Inc., International Board of Certified Financial Planners, Battery Park High Yield Bond Fund, Inc., Morgan Stanley Trust FSB, and the Association for Investment Management and Research.

As the author of more than 100 articles, monographs, and papers, his work has appeared in numerous publications including *Journal of Finance*, *Journal of Financial and Quantitative Analysis*, *Journal of Accounting Research*, *Financial Management*, *Financial Analysts Journal*, *Journal of Fixed Income*, and *Journal of Portfolio Management*. In addition to *Investments*, Sixth Edition, Professor Reilly is the co-author of another textbook, *Investment Analysis and Portfolio Management*, Seventh Edition (South-Western, 2003) with Keith C. Brown.

Professor Reilly was named on the list of *Outstanding Educators in America* and has received the University of Illinois Alumni Association Graduate Teaching Award, the Outstanding Educator Award from the M.B.A. class at the University of Illinois, and the Outstanding Teacher Award from the M.B.A. class and the Senior Class at Notre Dame. He also received from the Association of Investment Management and Research (AIMR) both the C. Stewart Sheppard Award for his contribution to the educational mission of the Association and the Daniel J. Forrestal III Leadership Award for Professional Ethics and Standards of Investment Practice. Recently he was part of the inaugural group selected as a Fellow of the Financial Management Association International. He is editor of *Readings and Issues in Investments*, *Ethics and the Investment Industry*, and *High Yield Bonds: Analysis and Risk Assessment*, and is or has been a member of the editorial boards of *Financial Management*, *The Financial Review*, *International Review of Economics and Finance*, *Journal of Financial Education*, *Quarterly Review of Eco-*

nomics and Finance, and the *European Journal of Finance*. He is included in the *Who's Who in Finance and Industry*, *Who's Who in America*, *Who's Who in American Education*, and *Who's Who in the World*.

Edgar A. Norton is professor of finance and associate dean for the College of Business at Illinois State University. He holds a double major in computer science and economics from Rensselaer Polytechnic Institute, where he graduated magna cum laude. Professor Norton received his M.S. and Ph.D. from the University of Illinois at Urbana-Champaign. A Chartered Financial Analyst (CFA), he regularly receives certificates of achievement, signifying his continual development in the field of investments. Professor Norton has served as a grader for Chartered Financial Analyst exams and has served as a curriculum consultant for the Chartered Financial Analyst equity specialization program. He has taught at Fairleigh Dickinson University, Liberty University, and Northwest Missouri State University.

Professor Norton has authored or co-authored more than 30 papers that have been published in journals and conference proceedings, as well as presented at international, national, and regional conferences. His papers have been published in journals such as *Financial Review*, *Academy of Management Executive*, *Journal of the Midwest Finance Association*, *Journal of Business Venturing*, *Journal of Business Ethics*, *Journal of Small Business Finance*, *Journal of Business Research*, *Small Business Economics*, and *Journal of Small Business Management*. He co-authored a paper that received an Award of Excellence at the 36th International Council of Small Business World Conference, held in Vienna, Austria. He is co-author of several books, including *Finance: An Introduction to Institutions, Investments, and Management*; *Foundations of Financial Management*; and *Economic Justice in Perspective: A Book of Readings*. Professor Norton has been listed in *Who's Who in the East*, *Who's Who in American Education*, and *Who's Who Among Young American Professionals*.



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