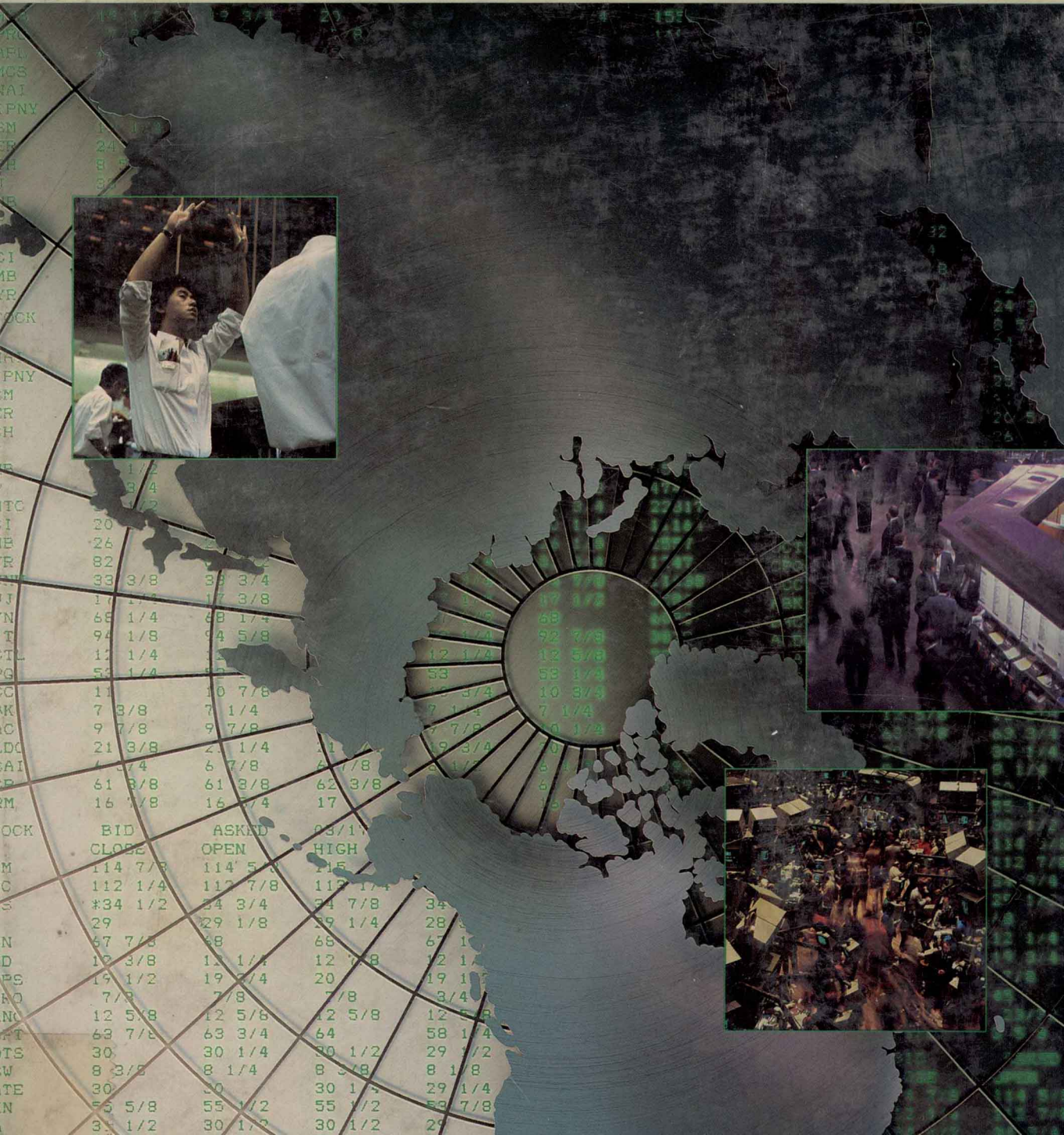
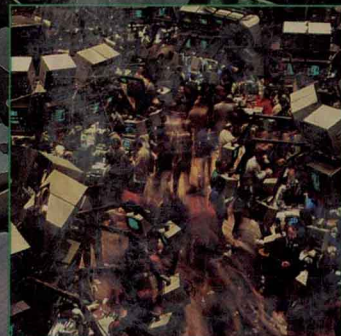


THIRD EDITION

INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT

FRANK K. REILLY



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WAM	12 5/8	12 5/8
SOFT	63 7/8	63 3/4
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SSW	8 3/8	8 1/4
TATE	30	30

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THIRD EDITION

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BERNARD J. HANK PROFESSOR
UNIVERSITY OF NOTRE DAME

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TO
MY BEST FRIEND AND WIFE,
THERESE,
AND OUR GREATEST GIFTS AND
SOURCES OF HAPPINESS,
FRANK K. III,
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PREFACE

Preparing this third edition has been challenging for two reasons. First, many changes have occurred in our securities markets during the last four years in terms of theory, new financial instruments, and trading practices. Second, and even more significant, capital markets have become global. Consequently, almost every chapter in this edition includes a discussion of how the investment practice or theory is influenced by the globalization of investments. This treatment is a departure from the traditional approach of discussing international investing in one chapter.

This text is addressed to both graduate and advanced undergraduate students who are looking for an in-depth discussion of investments and portfolio management. The presentation of the material is intended to be rigorous and empirical, without being overly quantitative. A proper discussion of the modern developments in investments and portfolio theory must be rigorous. The detailed discussion of numerous empirical studies reflects my personal belief that it is essential for our theories to be exposed to the real world and to be judged on the basis of how well they help us understand and explain reality. To make room for the most recent studies and results in this edition, I have condensed some of the older studies and have deleted a few.

The text has been thoroughly updated. In addition to chapter revisions, we have also greatly enhanced the problem sets. This edition includes approximately 70 new problems and 25 new CFA exam questions.

**MAJOR
CHANGES
AND ADDITIONS
IN THE THIRD
EDITION**

- Chapter 1 Consideration of the impact of exchange rate risk on the risk premium.
- Chapter 2 Discussion of the world bond market and equity market, along with a description of bonds and equity in the United States and the world. Includes discussion of returns on art and antiques and a new appendix on tax considerations.
- Chapter 3 Combination of Chapters 3 and 4 of the second edition. The new appendix includes detailed discussion of the October 1987 market crash from the Brady Commission Report. The chapter also includes detailed discussion of the operation of equity markets in Japan and London.
- Chapter 4 Consideration of major U.S. bond series and a number of the non-U.S. equity and bond series in addition to the well-known U.S. equity market indicator series. More than 25 market indicator series are described.
- Chapter 6 Discussion of evidence on the efficient market hypothesis (EMH) expanded to consider recent evidence on the January effect, the day-of-the-week effect, the Value Line Enigma, and the small-firm anomaly.
- Chapter 10 Consideration of the world bond market, along with detailed analysis of the operation of bond markets in Japan, the United Kingdom, and Germany and fixed-income securities available in these countries. The two bond chapters (10 and 11) have been moved forward in the book because bonds are often easier to understand than equity securities.
- Chapter 11 Detailed discussion of not only duration but also convexity.
- Chapter 12 Use of a new example throughout the chapter based on Quaker Oats. Includes a three-way component breakdown of the return on equity consistent with the DuPont analysis, a discussion of cash flows relative to long-term debt and total debt, and a composite summary analysis that includes Quaker Oats, the food industry, and the S&P 400 Index. All debt ratios have been computed with and without deferred taxes.
- Chapter 13 Analysis of the aggregate U.S. economy and market, plus an example of an analysis of non-U.S. economies and security markets. The estimates indicate the differences among economies and security markets and the difficulty of this global analysis.
- Chapter 15 Combination of the company analysis and growth company analysis.
- Chapter 16 Discussion of technical analysis includes new techniques, such as the CBOE put-call ratio, speculators' bull-

- ish stock index futures, stocks above 200-day moving average, and block uptick-downtick ratio. Also shows how technical analysis is applied to non-equity markets, interest rates, and international analysis (non-U.S. equity markets and exchange rates).
- Chapter 17 Discussion on testing the asset-pricing model considers recent evidence on the CAPM and the continuing controversy on tests and evidence related to the APT.
- Chapter 18 Discussion of bond portfolio strategy considers new developments in active bond portfolio management (e.g., the analysis of junk bonds), dedication, immunization, and contingent immunization, along with an example of a world bond portfolio allocation strategy.
- Chapter 21 Extensive discussion of international and global investment funds and a new appendix listing these funds.
- Chapter 22 New, separate chapter on options, including a detailed discussion of options on various stock market and industry indexes. Also includes a discussion of options on foreign currencies and how these can be used to hedge the purchase or sale of non-U.S. stocks and bonds.
- Chapter 23 Expanded discussion of warrants and convertibles, along with consideration of Americus Trusts and foreign currency warrants.
- Chapters 24 and 25 Consideration of the use of futures contracts in program trading, portfolio insurance, and the hedging of global portfolios for exchange rate risk.
- Appendix B The CFA Code of Ethics

ANCILLARIES

The *Instructor's Manual and Test Bank*, by Frank K. Reilly and Stan Jacobs, Central Washington University, contains more than 500 new multiple-choice questions and problems, with solutions, as well as chapter outlines and notes, answers to the end-of-chapter questions, a discussion of how to use the new stock market simulation disk, and suggestions for using the excerpt from the 1988 Brady Commission report.

The *Stock Market Simulation*, prepared by Peter Bobko, Guilford College, allows students to select a portfolio of securities, track the performance of the selected portfolio, mutual funds, bonds, and the stock market over a period of time, and then observe the effects of diversification. The disk is packaged free with each new copy of *Investment Analysis and Portfolio Management*, third edition.

Available for purchase:

Security Analysis for Portfolio Construction and Management, by Wayne E. Boyet, Nicholls State University, is a software package and workbook that allows students to input and manipulate data using sophisticated models

and statistical programs used in investment analysis. An accompanying manual contains complete instructions for using the disks, with textual discussions of each program. The package is an ideal supplement to this text and also suitable for use with any investments text.

Managing Investments: A Case Approach, by Michael A. Berry, The Darden School of the University of Virginia, and S. David Young, Tulane University, contains 36 Harvard-style cases and 10 technical notes. It is appropriate for use either as the core text or as a supplement for investments courses. Based on real-world problems, the book gives students hands-on experience in applying theoretical principles and models to decisions faced by individual investors and portfolio managers. A comprehensive *Instructor's Manual*, which includes detailed teaching notes for the cases, and a Lotus template disk with data and models to enhance the case analysis process are available upon adoption of *Managing Investments*.

ACKNOWLEDGMENTS So many people have helped me in a myriad of ways that I almost hesitate to list them since I may miss someone. I must begin with the University of Notre Dame because of its direct support and the understanding of my associates. Also, I want to thank the Bernard J. Hank family, who have endowed the Chair that helped bring me back to this beautiful place called Notre Dame and provided support for my work. Several of my colleagues at Notre Dame have been extremely helpful. Jim Wittenbach did a great job of updating the tax appendix, which made the "simplified" new tax laws comprehensible. Shanta Hegde helped a lot on the commodity futures chapter (Chapter 24) and was almost wholly responsible for the financial futures chapter (Chapter 25). Kevin Scanlon was my "super" reviewer who provided rapid turnaround and very insightful suggestions.

Other reviewers for this edition were:

George Aragon, <i>Boston College</i>	Stan Jacobs, <i>Central Washington University</i>
Carol Billingham, <i>Central Michigan University</i>	Christopher Ma, <i>Texas Tech University</i>
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Eurico Ferreira, <i>Clemson University</i>	John Peavy, <i>Southern Methodist University</i>

I was fortunate to have the following excellent reviewers for earlier editions:

- | | |
|---|---|
| Robert Angell, <i>East Carolina University</i> | Danny Litt, <i>Century Software Systems/UCLA</i> |
| Brian Belt, <i>University of Missouri at Kansas City</i> | Miles Livingston, <i>University of Florida</i> |
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I am convinced that professors who want to write a book that is academically respectable but also relevant and realistic require help from “the real world.” I have been very fortunate to develop relationships with a number of individuals (including some former students) whom I consider my “contacts with reality.”

I especially want to thank Robert Conway, who was the managing director of the London office of Goldman Sachs & Co., for suggesting in 1986 that it was essential to globalize all facets of the new edition because of the rapidly evolving global market. This was some of the most important advice I have ever received, and it has had a profound effect on this book.

The following individuals graciously provided important insights and material:

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Thankfully, Phyllis Sandfort forgets the pain between editions, so she agreed to type this third edition. Her patience, understanding, and willingness to type late at night and provide rapid and accurate turnaround (with some help from her daughter Cindy) made it possible for this to be a 1989 edition rather than 1990. My secretary, Donna Smith, kept the rest of my life in some sort of order; and, believe me, that is not a trivial task.

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Frank K. Reilly
Notre Dame, Indiana
March 1989

ABOUT THE AUTHOR

Frank K. Reilly is the Bernard J. Hank Professor of Business Administration, and former dean of the College of Business Administration 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) and a member of the Council of Examiners, the Council on Education and Research, and the grading committee of the Institute of Chartered Financial Analysts, Professor Reilly has been president of the Financial Management Association, the Midwest Business Administration Association, and the Eastern Finance Association. He is also on the board of directors of the First Interstate Bank of Northern Indiana, the Investment Analysts Society of Chicago, and the Academy of Financial Services. As the author of more than one hundred articles, monographs, and papers, his work has appeared in numerous publications, including *Journal of Finance*, *Journal of Financial and Quantitative Analysis*, *Financial Management*, *Financial Analysts Journal*, *Financial Review*, and *Journal of Portfolio Management*. In addition to *Investment Analysis and Portfolio Management*, Third Edition, Professor Reilly is the author of another textbook, *Investments*, Second Edition (The Dryden Press, 1986).

Professor Reilly was named on the list of *Outstanding Educators in America* and has received both the University of Illinois Alumni Association Graduate Teaching Award and the Outstanding Educator Award from the M.B.A. class at the University of Illinois. He is editor of *Readings and Issues in Investments* and has been a member of the editorial boards of *Financial Management*, *The Financial Review*, *Journal of Financial Education*, and *Quarterly Review of Economics and Business*. He is included in *Who's Who in Finance and Industry*, *Who's Who in America*, and *Who's Who in the World*.

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