

ESSENTIALS of INVESTMENTS

Sixth Edition

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ESSENTIALS OF INVESTMENTS

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A Note from the Authors...

The last two decades have brought rapid, profound, and ongoing change to the investments industry. This is due in part to an abundance of newly designed securities, in part to the creation of new trading strategies that would have been impossible without concurrent advances in computer and communications technology, and in part to continuing advances in the theory of investments. Of necessity, our text has evolved along with the financial markets. In this edition, we address many of the changes in the investment environment.

At the same time, many basic principles remain important. We continue to organize our book around one basic theme—that security markets are nearly efficient, meaning that most securities are usually priced appropriately given their risk and return attributes. There are few free lunches found in markets as competitive as the financial market. This simple observation is, nevertheless, remarkably powerful in its implications for the design of investment strategies, and our discussions of strategy are always guided by the implications of the efficient markets hypothesis. While the degree of market efficiency is, and will always be, a matter of debate, we hope our discussions throughout the book convey a good dose of healthy skepticism concerning much conventional wisdom.

This text also continues to emphasize asset allocation more than most other books. We prefer this emphasis for two important reasons. First, it corresponds to the procedure that most individuals actually follow when building an investment portfolio. Typically, you start with all of your money in a bank account, only then considering how much to invest in something riskier that might offer a higher expected return. The logical step at this point is to consider other risky asset classes, such as stock, bonds, or real estate. This is an asset allocation decision. Second, in most cases the asset allocation

choice is far more important than specific securityselection decisions in determining overall investment performance. Asset allocation is the primary determinant of the risk-return profile of the investment portfolio, and so it deserves primary attention in a study of investment policy.

Our book also focuses on investment analysis, which allows us to present the practical applications of investment theory, and to convey insights of practical value. In this edition of the text, we have continued to expand a systematic collection of Excel spreadsheets that give you tools to explore concepts more deeply than was previously possible. These spreadsheets are available on the text's Web site (www.mhhe.com/bkm), and provide a taste of the sophisticated analytic tools available to professional investors.

In our efforts to link theory to practice, we also have attempted to make our approach consistent with that of the CFA Institute. The Institute administers an education and certification program to candidates for the title of Chartered Financial Analyst (CFA). The CFA curriculum represents the consensus of a committee of distinguished scholars and practitioners regarding the core of knowledge required by the investment professional.

This text will introduce you to the major issues of concern to all investors. It can give you the skills to conduct a sophisticated assessment of current issues and debates covered by both the popular media as well as more specialized finance journals. Whether you plan to become an investment professional, or simply a sophisticated individual investor, you will find these skills essential.

Zvi Bodie Alex Kane Alan J. Marcus

Organization

of the Sixth Edition

Essentials of Investments, Sixth Edition, is intended as a textbook on investment analysis most applicable for a student's first course in investments. The chapters are written in a modular format to give instructors the flexibility to either omit certain chapters or rearrange their order. The highlights in the margins describe updates for this edition.

This part lays out the general framework for the invest-Part ONE ment process in a nontechnical manner. We discuss the major players in the financial markets and provide an Elements of Investments overview of security types and trading mechanisms. The organization of these chapters makes it possible for in-Investments: Background structors to assign term projects analyzing securities early and Issues 2 in the course. Financial Securities Thoroughly updated to reflect changes in financial markets such as electronic communication networks (ECNs), 3 Securities Markets online and Internet trading, and market consolidation-Mutual Funds and Other the most current textbook available! Investment Companies 97 Includes excerpts from the "Code of Ethics and Standards of Professional Conduct" of the CFA Institute. Part TWO Contains the core of modern portfolio theory. For courses emphasizing security analysis, this part may be skipped Portfolio Theory 125 without loss of continuity. All data is updated in this edition Risk and Return: Past and Prologue 126 This chapter introduces simple in-chapter spreadsheets that can be used to compute covariance matrixes, invest-Efficient ment opportunity sets, and the index model. The spread-Diversification 161 sheet material is modular; it can be integrated with class Capital Asset Pricing material, but also may be skipped without problem. and Arbitrage This chapter has greater focus on the use of factor and Pricing Theory 203 index models as a means to understand and measure various risk exposures as well as multifactor risk-return Efficient Markets and the relationships. Behavioral Critique 242 Our treatment of behavioral finance has been fully reworked, with more careful development of behavioral Part THREE hypotheses and their implications for security pricing. Debt Securities 275 First of three parts on security valuation We have added new spreadsheet material helpful in ana-9 Bond Prices and Yields 276 lyzing bond prices and yields, for example, pricing bonds 10 Managing Bond in-between coupon dates. Portfolios 319 Contains spreadsheet material on duration and convexity.

Part FOUR

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Part FIVE

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Taxes, Inflation, and Investment Strategy 675

21 Investors and the Investment Process 699

Presented in a "top-down" manner, starting with the broad macroeconomic environment before moving to more specific analysis.

Current coverage of how international political developments have had major impacts on economic prospects.

Now contains free cash flow equity valuation models as well as a discussion of corporate earnings management strategies.

Contains new section on quality of earnings and the veracity of financial reports. Also contains section on economic value added.

These markets have become crucial and integral to the financial universe and are major sources of innovation.

Thorough introduction to option payoffs, strategies, and securities with embedded options.

In-chapter spreadsheet material on the Black-Scholes model and estimation of implied volatility.

Material on active management has been unified in one part. Ideal for closing-semester unit on applying theory to actual portfolio management.

New evidence on international correlation and the benefits of diversification.

Extensive new material on behavioral finance. This new material also provides a foundation for the study of technical analysis.

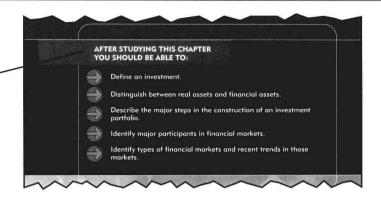
Extensive spreadsheet analysis of the interaction of taxes and inflation on long-term financial strategies.

Modeled after the CFA Institute curriculum, this chapter also includes guidelines on "How to Become a Chartered Financial Analyst."

Pedagogical Features

Chapter Objectives

Each chapter begins with a summary of the chapter objectives, providing students with an overview of the concepts they should understand after reading the chapter. A chapter overview follows.



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Related Web Sites

Web sites have been updated and expanded so students are able to easily reference the most current and relevant information on the Web.

Initial reals are flow equity. Prompte, a sine IBM of flow share stock wood constitute a seasoned new issue.

In the case of bonds, we also distinguish between two types of primary market issues, a public offering and a private placement. The former refers to an issue of bonds sold to the general investing public that can then be traded on the secondary market. The latter refers to an issue that usually is sold to one or a few institutional investors and is generally held to maturity.

Investment Banking

Public offerings of both stocks and bonds typically are marketed by investment bankers who in this role are called underwriters. More than one investment banker usually markets the securities from the carriers. A lead firm forms an underwriting syndicate of other investment banker to share the

Key Terms in the Margin

Key terms are indicated in color and defined in the margin the first time the term is used. A glossary is available on the book Web site www.mhhe.com/bkm.

Numbered Equations

Key equations are called out in the text and identified by equation numbers. Equations that are frequently used are also featured on the text's end sheets for convenient reference. 3. The risk premium on the market portfolio will be proportional to the variance of the market portfolio and investors' typical degree of risk aversion. Mathematically $E(r_M) - r_f = A^w \sigma_M^2$ (7.1) where σ_M is the standard deviation of the return on the market portfolio and A^w is a scale factor representing the degree of risk aversion of the average investor. The requirement of the proposition of the return of the average investor.



Why It's So Tough to Fix Your Portfolio

If your portfolio is out of whack, you could ask an investment adviser for help. But you might have better luck with your

therapist.

It's a common dilemma: You know you have the wrong mix of investments, but you cannot bring yourself to fix the mess. Why is it so difficult to change? At issue are three mental mistakes.

CHASING WINNERS

Looking to lighten up on bonds and get back into stocks? Looking to lighten up on bonds and get back into stocks? Sure, you know stocks are a long-term investment and, sure, you know they are best bought when cheap. Yet it's a lot easier to pull the trigger and buy stocks if

the market has lately been scoring gains. "People are in fluenced by what has happened most recently, and then they extrapolate from that," says Meir Statman, a finance ssor at Santa Clara University in California. "But of-they end up being optimistic and pessimistic at just

Blame it on the old "get even, then get out" syndron With stocks treading water, many investors are reluctan to sell, because they are a long way from recovering their bear-market losses. To be sure, investors who bought near the peak are underwater, whether they sell or not. But selling losers is still agonizing, because it means admitting you made a mistake

"If you're rational and you have a loss, you sell, take the tax loss and move on," Prof. Statman says. "But if you're a normal person, selling at a loss tears your heart out."

MUSTERING COURAGE

confidence to act. And right now, investors just aren't con fident. "There's this status-quo bias," says John Nof-singer, a finance professor at Washington State University in Pullman, Washington. "We're afraid to do anything, because we're afraid we'll regret it."

by recent market action. When

On the Market Front Boxes

Current articles from financial publications such as The Wall Street Journal are featured as boxed readings. Each box is referred to within the narrative of the text, and its real-world relevance to the chapter material is clearly defined for the students.

WebMaster Exercises

Expanded for this edition, WebMaster exercises allow students to test their skills on the Internet. Each exercise consists of an activity related to practical problems and real-world scenarios. One exercise is featured within the body of the chapter and another at the end of the chapter.



Stock Market Index

Not all stock market indexes are create equal. Different methods are used to calculate various indexes, and different indexes will yield different assessments of "market performance." Using one of the following data sources, retrieve the stock price for 5 different firms on the first and last trading days of the previous month.

www.nasdag.com www.nyse.com www.bloomberg.com

- finance.vahoo.com Compute the monthly return on a price-weighted index of the 5 stocks
- Compute the monthly return on a value-weighted index of the 5 stocks
- Compare the two returns, explain the differences, and defend which you think is a better measure of the "true" performance of this sector of the market.



The Equity Fund sells Class A shares with a front-end load of 4% and Class B The Equity Fund sells Class A shares with a front-end load of 4% and Class B shares with 12b-1 fees of, 5% annually as well as back-end load fees that start at 5% and fall by 1% for each full year the investor holds the portfolio (until the fifth year). Assume the rate of return on the fund portfolio net of operating expenses is 10% annually. What will be the value of a \$10,000 investment in Class A and Class B shares if the shares are sold after (a) 1 year. (b) 4 years (c) 10 years? Which fee structure provides higher net proceeds at the end of

Concept Checks

These self-test questions/problems in the body of the chapter enable students to determine whether the preceding material has been understood and then reinforce understanding before students read further. Detailed solutions to the Concept Checks are found at the end of each chapter.

Numbered Examples

Numbered and titled examples are integrated in the chapters. Using the worked-out solutions to these examples as models, students can learn how to solve specific problems step-by-step as well as gain insight into general principles by seeing how they are applied to answer concrete questions.

Consider two firms with the same ROA of 10% per year. The first is a supermarket chain and the

Consider two firms with the same ROA of 10% per year. The first is a supermarket chain and the second is a gos and electric utility.

• As Table 13.7 shows, the supermarket chain has a "low" profit margin of 2% and ochieves a 10% ROA by "turning over" is assets five times per year. The capital-intensive utility, on the other hand, has a "low" ATO of only 0.5 times per year and achieves its 10% ROA through its higher, 20%, profit margin. The point here is that a "low" margin or ATO ratio need not indicate a troubled firm. Each ratio must be interpreted in light of industry norms.

the other care rand must be interpreted in light or industry norms.

Even within an industry, margin and ATO sometimes can differ markedly among firms pursuing different marketing strategies. In the retailing industry, for example, Neiman-Marcus pursues a high-margin, low-ATO policy compared to Wal-Mart, which pursues a low-margin, high-ATO



Pedagogical Features (Continued)

Excel Applications

Since many courses now require students to perform analyses in spreadsheet format, Excel has been integrated throughout the book once again. It is used in examples as well as in this chapter feature which shows students how to create and manipulate spreadsheets to solve specific problems. This feature starts with an example presented in the chapter, briefly discusses how a spreadsheet can be valuable for investigating the topic, shows a sample spreadsheet, and then directs the student to the Web to work with an interactive version of the spreadsheet. The student can obtain the actual spreadsheet from the book's Web site (www.mhhe.com/bkm); available spreadsheets are denoted by an icon. At this site, there is a more detailed discussion on how the spreadsheet is built, and how it can be used to solve problems. As extra guidance, the spreadsheets include a comment feature that documents both inputs and outputs. Solutions for these exercises are located on the password-protected instructor site only, so instructors can assign these exercises either for homework or just for practice.

Excel application spreadsheets are available for the following:

Chapter 3: Buying on Margin; Short Sales

Chapter 6: Efficient Frontier for Many Stocks

Chapter 7: Estimating the Index Model

Chapter 10: Immunization; Convexity

Chapter 14: Spreads and Straddles; Options, Stocks, and Lending

Chapter 16: Parity and Spreads

Chapter 17: Performance Attribution; Performance Measures

Chapter 18: International Portfolios

Spreadsheet exhibits templates are also available for the following:

Chapter 6: Spreadsheets 6.1-6.6

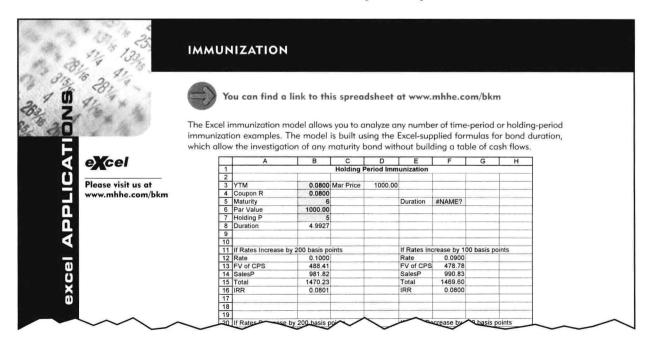
Chapter 9: Spreadsheets 9.1 & 9.2

Chapter 10: Spreadsheets 10.1 & 10.2

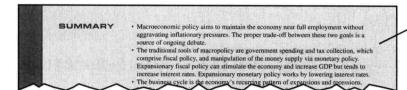
Chapter 12: Spreadsheets 12.1 & 12.2

Chapter 15: Spreadsheet 15.1

Chapter 20: Spreadsheets 20.1-20.10



End-of-Chapter Fac



Summary

This bulleted feature helps the student review key points and provides closure to the chapter.

secondary market, 59

stock exchanges, 72

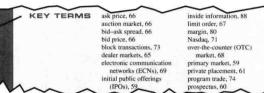
short sale, 82

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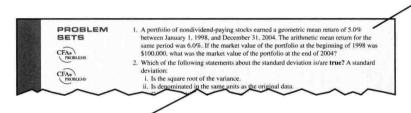
Key Terms

The list of key terms includes page references, facilitating student review of the chapter's key concepts.



Problem Sets

The end-of-chapter problems progress from the simple to the complex. We strongly believe that practice in solving problems is a critical part of learning investments, so we provide a good variety of problems. Many of the problems are new or revised from the previous edition.



CFA Questions

We provide several questions from recent CFA exams in applicable chapters. These questions represent the kinds of questions that professionals in the field believe are relevant to the practicing money manager. These problems are identified by an icon in the text margin. Appendix B lists each CFA question and the level and year of the CFA Exam it was included in, for easy reference when studying for the exam.

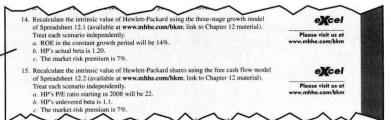


S&P Problems

Relevant chapters contain several new problems directly related to Standard & Poor's Educational Version of Market Insight. Because of our unique relationship with S&P, students have access to this remarkable database. Problems are based on market data provided by 1,000 real companies to gain better understanding of practical business situations. The site is updated daily to ensure the most current information is available.

Excel Problems

New to this edition, selected end-ofchapter questions have been included that require the use of Excel. These problems are denoted with an icon. A template is available at the book Web site www.mhhe.com/bkm.



Supplements

For the Instructor

INSTRUCTOR'S RESOURCE CD

ISBN-13: 9780073041643

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This comprehensive CD contains all of the following instructor supplements. We have compiled them in electronic format for easier access and convenience. Print copies are available through your McGraw-Hill representative.

Instructor's Manual

Prepared by Richard D. Johnson, Colorado State University, this instructional tool provides an integrated learning approach revised for this edition. Each chapter includes a Chapter Overview, Learning Objectives, and Presentation of Material—which outlines and organizes the material around the PowerPoint Presentation.

Test Bank

Prepared by Matt Will, University of Indianapolis, the Test Bank contains more than 1,200 questions and will include over 300 new questions. Each question is ranked by level of difficulty (easy, medium, hard), which allows greater flexibility in creating a test. A computerized format for Windows is also available.

Computerized Test Bank

Utilizing McGraw-Hill's *EZ Test* testing software for Windows to quickly create customized exams, this user-friendly program allows instructors to sort questions by format; edit existing questions or add new ones; and scramble questions for multiple versions of the same test.

PowerPoint Presentation System

These presentation slides, also developed by Richard D. Johnson, contain Figures and Tables from the text, key points, and summaries in a visually stimulating collection of slides. These slides follow the order of the chapters, but if you have PowerPoint software, you may customize the program to fit your lecture.

Solutions Manual

Prepared by Bruce Swensen, Adelphi University, provides detailed solutions to the end of chapter problems.

Excel Templates

Eric Sandburg of Interactive Learning created the electronic templates in Excel. There are templates for selected spreadsheets featured within the text, as well as the ones featured among the Excel Applications boxes. Selected end-of-chapter problems have also been designated as Excel problems, in which there is a template available for students to solve the problem and gain experience using spreadsheets. Each template can also be found at the book Web site www.mhhe.com/bkm and are denoted by an icon.

VIDEOS

VHS ISBN-13: 9780073041674 ISBN-10: 007304167X DVD ISBN-13: 9780073257662 ISBN-10: 0073257664

There are seven video segments covering careers, financial markets, bonds, going public, derivatives, portfolio management, and foreign exchange.

For the Student

SOLUTIONS MANUAL

ISBN-13: 9780073041568

ISBN-10: 0073041564

Revised by Bruce Swensen, Adelphi University, provides detailed solutions to the end-of-chapter problems. The authors' involvement in the completion of the Solutions Manual ensures consistency between the solution approaches in the examples featured within the text and those presented in the manual.

STUDENT PROBLEM MANUAL

ISBN-13: 9780073041629

ISBN-10: 0073041629

Prepared by Maryellen Epplin, University of Central Oklahoma, this useful supplement contains problems created to specifically relate to the concepts discussed in each chapter. Solutions are provided at the end of each chapter in the manual. Perfect for additional practice in working through problems!

READY NOTES

ISBN-13: 9780073041599

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This note-taking supplement contains a reduced copy of every image from the PowerPoint Presentation. Take notes next to each image for a more complete and organized method for recording lecture notes.

Online Support

ONLINE LEARNING CENTER

www.mhhe.com/bkm

Find a wealth of information online! At this book Web site instructors will have access to teaching supports such as electronic files of the ancillary materials. Students will have access to study materials created specifically for this text and much more. All Excel spreadsheets, denoted by an icon in the text, will also be located at this site. Links to the following support material, as described below, will also be included.

Investments PowerWeb

This online reservoir of course-specific articles and current events complements textbook concepts with real-world applications. Type in a discipline-specific topic for instant access to articles, essays, and news for your class. All articles have been recommended to PowerWeb by professors, which means you will have fruitful search results every time. Students can take a self-grading quiz, work through interactive exercises, click through an interactive glossary, and even check the daily news. An expert analyzes the day's news to show students how it is relevant to their field of study.

Standard & Poor's Educational Version of Market Insight

McGraw-Hill/Irwin has partnered exclusively with Standard and Poor's to bring you the Educational Version of Market Insight. This rich online resource provides six years of financial data for 1,000 companies in the renowned COMPUSTAT® database. S&P problems can be found at the end of relevant chapters of the text.

Investments Online

This exclusive Web tool from the McGraw-Hill/Irwin site provides 36 exercises for 18 different investment topics and allows students to complete challenging exercises and discussions that draw on recent articles, company reports, government data, and other Web-based resources. The "Finance Tutor Series" provides questions and problems that not only assess and improve students' understanding of the subject, but also help students apply their understanding to real-world contexts.

Finance around the World

An outstanding global financial resource for researching and exploring corporate finance and investments online. It includes country facts, daily coverage and analysis of financial markets and companies, as well as general finance and business news/articles for over 35 countries.

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Please contact your McGraw-Hill/Irwin sales representative to find out more about these exciting packaging options now available for your class.

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Financial Times Package

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Excel Applications for Investments

ISBN-13: 9780073205571

ISBN-10: 0073205575

Prepared by Troy Adair, University of Michigan-Ann Arbor can be packaged with *Essentials of Investments* at a discounted price. This supplement teaches students how to build financial models in Excel and shows students how to use these models to solve a variety of common corporate investment problems.

Acknowledgments

We received help from many people as we prepared this book. An insightful group of reviewers commented on this and previous editions of this text. Their comments and suggestions improved the exposition of the material considerably. These reviewers all deserve special thanks for their contributions.

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