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We wrote the first edition of this textbook more than ten years ago. The intervening years have been a period of rapid and profound change in 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 technology, and in part to rapid advances in the theory of investments that have come out of the academic community. In no other field, perhaps, is the transmission of theory to real-world practice as rapid as is now commonplace in the financial industry. These developments place new burdens on practitioners and teachers of investments far beyond what was required only a short while ago.

Investments, Fifth Edition, is intended primarily as a textbook for courses in investment analysis. Our guiding principle has been to present the material in a framework that is organized by a central core of consistent fundamental principles. We make every attempt to strip away unnecessary mathematical and technical detail, and we have concentrated on providing the intuition that may guide students and practitioners as they confront new ideas and challenges in their professional lives.

This text will introduce you to major issues currently 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.

Our primary goal is to present material of practical value, but all three of us are active researchers in the science of financial economics and find virtually all of the material in this book to be of great intellectual interest. Fortunately, we think, there is no contradiction in the field of investments between the pursuit of truth and the pursuit of money. Quite the opposite. The capital asset pricing model, the arbitrage pricing model, the efficient markets hypothesis, the option-pricing model, and the other centerpieces of modern financial research are as much intellectually satisfying subjects of scientific inquiry as they are of immense practical importance for the sophisticated investor.

In our effort to link theory to practice, we also have attempted to make our approach consistent with that of the Institute of Chartered Financial Analysts (ICFA), a subsidiary of the Association of Investment Management and Research (AIMR). In addition to fostering research in finance, the AIMR and ICFA administer an education and certification program to candidates seeking 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.

There are many features of this text that make it consistent with and relevant to the CFA curriculum. The end-of-chapter problem sets contain questions from past CFA exams, and, for students who will be taking the exam, Appendix B is a useful tool that lists each CFA question in the text and the exam from which it has been taken. Chapter 3 includes excerpts from the "Code of Ethics and Standards of Professional Conduct" of the ICFA. Chapter 26, which discusses investors and the investment process, is modeled after the ICFA outline.

In the Fifth Edition, we have introduced a systematic collection of Excel spreadsheets that give students tools to explore concepts more deeply than was previously possible. These

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spreadsheets are available through the World Wide Web, and provide a taste of the sophisticated analytic tools available to professional investors.

UNDERLYING PHILOSOPHY

Of necessity, our text has evolved along with the financial markets. In the Fifth Edition, we address many of the changes in the investment environment.

At the same time, many basic *principles* remain important. We believe that attention to these few important principles can simplify the study of otherwise difficult material and that fundamental principles should organize and motivate all study. These principles are crucial to understanding the securities already traded in financial markets and in understanding new securities that will be introduced in the future. For this reason, we have made this book thematic, meaning we never offer rules of thumb without reference to the central tenets of the modern approach to finance.

The common theme unifying this book is that *security markets are nearly efficient*, meaning 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; as a result, our discussions of strategy are always guided by the implications of the efficient markets hypothesis. While the degree of market efficiency is, and always will be, a matter of debate, we hope our discussions throughout the book convey a good dose of healthy criticism concerning much conventional wisdom.

Distinctive Themes

Investments is organized around several important themes:

1. The central theme is the near-informational-efficiency of well-developed security markets, such as those in the United States, and the general awareness that competitive markets do not offer "free lunches" to participants.

A second theme is the risk—return trade-off. This too is a no-free-lunch notion, holding that in competitive security markets, higher expected returns come only at a price: the need to bear greater investment risk. However, this notion leaves several questions unanswered. How should one measure the risk of an asset? What should be the quantitative trade-off between risk (properly measured) and expected return? The approach we present to these issues is known as *modern portfolio theory*, which is another organizing principle of this book. Modern portfolio theory focuses on the techniques and implications of *efficient diversification*, and we devote considerable attention to the effect of diversification on portfolio risk as well as the implications of efficient diversification for the proper measurement of risk and the risk—return relationship.

2. This text places greater emphasis on asset allocation than most of its competitors. We prefer this emphasis for two important reasons. First, it corresponds to the procedure that most individuals actually follow. 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 in determining overall investment performance than is the set of

- security selection decisions. 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.
- 3. This text offers a much broader and deeper treatment of futures, options, and other derivative security markets than most investments texts. These markets have become both crucial and integral to the financial universe and are the major sources of innovation in that universe. Your only choice is to become conversant in these markets—whether you are to be a finance professional or simply a sophisticated individual investor.

NEW IN THE FIFTH EDITION

Following is a summary of the content changes in the Fifth Edition:

How Securities Are Traded (Chapter 3)

Chapter 3 has been thoroughly updated to reflect changes in financial markets such as electronic communication networks (ECNs), online and Internet trading, Internet IPOs, and the impact of these innovations on market integration. The chapter also contains new material on globalization of stock markets.

Capital Allocation between the Risky Asset and the Risk-Free Asset (Chapter 7)

Chapter 7 contains new spreadsheet material to illustrate the capital allocation decision using indifference curves that the student can construct and manipulate in Excel.

The Capital Asset Pricing Model (Chapter 9)

This chapter contains a new section showing the links among the determination of optimal portfolios, security analysis, investors' buy/sell decisions, and equilibrium prices and expected rates of return. We illustrate how the actions of investors engaged in security analysis and optimal portfolio construction lead to the structure of equilibrium prices.

Market Efficiency (Chapter 12)

We have added a new section on behavioral finance and its implications for security pricing.

Empirical Evidence on Security Returns (Chapter 13)

This chapter contains substantial new material on the equity premium puzzle. It reviews new evidence questioning whether the historical-average excess return on the stock market is indicative of future performance. The chapter also examines the impact of survivorship bias in our assessment of security returns. It considers the potential effects of survivorship bias on our estimate of the market risk premium as well as on our evaluation of the performance of professional portfolio managers.

Bond Prices and Yields (Chapter 14)

This chapter has been reorganized to unify the coverage of the corporate bond sector. It also contains new material on innovation in the bond market, including more material on inflation-protected bonds.

The Term Structure of Interest Rates (Chapter 15)

This chapter contains new material illustrating the link between forward interest rates and interest-rate forward and futures contracts.

Managing Bond Portfolios (Chapter 16)

We have added new material showing graphical and spreadsheet approaches to duration, have extended our discussion on why investors are attracted to bond convexity, and have shown how to generalize the concept of bond duration in the presence of call provisions.

Equity Valuation Models (Chapter 18)

We have added new material on comparative valuation ratios such as price-to-sales or price-to-cash flow. We also have added new material on the importance of growth opportunities in security valuation.

Financial Statement Analysis (Chapter 19)

This chapter contains new material on economic value added, on quality of earnings, on international differences in accounting practices, and on interpreting financial ratios using industry or historical benchmarks.

Option Valuation (Chapter 21)

We have introduced spreadsheet material on the Black-Scholes model and estimation of implied volatility. We also have integrated material on delta hedging that previously appeared in a separate chapter on hedging.

Futures and Swaps: A Closer Look (Chapter 23)

Risk management techniques using futures contracts that previously appeared in a separate chapter on hedging have been integrated into this chapter. In addition, this chapter contains new material on the Eurodollar and other futures contracts written on interest rates.

Portfolio Performance Evaluation (Chapter 24)

We have added a discussion of style analysis to this chapter.

The Theory of Active Portfolio Management (Chapter 27)

We have expanded the discussion of the Treynor-Black model of active portfolio management, paying attention to how one should optimally integrate "noisy" analyst forecasts into the portfolio construction problem.

In addition to these changes, we have updated and edited our treatment of topics wherever it was possible to improve exposition or coverage.

ORGANIZATION AND CONTENT

The text is composed of seven sections that are fairly independent and may be studied in a variety of sequences. Since there is enough material in the book for a two-semester course, clearly a one-semester course will require the instructor to decide which parts to include.

Part I is introductory and contains important institutional material focusing on the financial environment. We discuss the major players in the financial markets, provide an overview of the types of securities traded in those markets, and explain how and where securities are traded. We also discuss in depth mutual funds and other investment companies, which have become an increasingly important means of investing for individual investors. Chapter 5 is a general discussion of risk and return, making the general point that historical returns on broad asset classes are consistent with a risk–return trade-off.

The material presented in Part I should make it possible for instructors to assign term projects early in the course. These projects might require the student to analyze in detail a particular group of securities. Many instructors like to involve their students in some sort of investment game and the material in these chapters will facilitate this process.

Parts II and III contain the core of modern portfolio theory. We focus more closely in Chapter 6 on how to describe investors' risk preferences. In Chapter 7 we progress to asset allocation and then in Chapter 8 to portfolio optimization.

After our treatment of modern portfolio theory in Part II, we investigate in Part III the implications of that theory for the equilibrium structure of expected rates of return on risky assets. Chapters 9 and 10 treat the capital asset pricing model and its implementation using index models, and Chapter 11 covers the arbitrage pricing theory. We complete Part II with a chapter on the efficient markets hypothesis, including its rationale as well as the evidence for and against it, and a chapter on empirical evidence concerning security returns. The empirical evidence chapter in this edition follows the efficient markets chapter so that the student can use the perspective of efficient market theory to put other studies on returns in context.

Part IV is the first of three parts on security valuation. This Part treats fixed-income securities—bond pricing (Chapter 14), term structure relationships (Chapter 15), and interest-rate risk management (Chapter 16). The next two Parts deal with equity securities and derivative securities. For a course emphasizing security analysis and excluding portfolio theory, one may proceed directly from Part I to Part III with no loss in continuity.

Part V is devoted to equity securities. We proceed in a "top down" manner, starting with the broad macroeconomic environment (Chapter 17), next moving on to equity valuation (Chapter 18), and then using this analytical framework, we treat fundamental analysis including financial statement analysis (Chapter 19).

Part VI covers derivative assets such as options, futures, swaps, and callable and convertible securities. It contains two chapters on options and two on futures. This material covers both pricing and risk management applications of derivatives.

Finally, **Part VII** presents extensions of previous material. Topics covered in this Part include evaluation of portfolio performance (Chapter 24), portfolio management in an international setting (Chapter 25), a general framework for the implementation of investment strategy in a nontechnical manner modeled after the approach presented in CFA study materials (Chapter 26), and an overview of active portfolio management (Chapter 27).

WALKTHROUGH

NEW AND ENHANCED PEDAGOGY

This book contains several features designed to make it easy for the student to understand, absorb, and apply the concepts and techniques presented.

Concept Check

A unique feature of this book is the inclusion of Concept Checks in the body of the text. These self-test question and problems enable the student to determine whether he or she has understood the preceding material. Detailed solutions are provided at the end of each chapter.

CONCEPT CHECK QUESTION 1

Why does it make sense for shelf registration to be limited in time?

Private Placements

Primary offerings can also be sold in a **private placement** rather than a public offering. In this case, the firm (using an investment banker) sells shares directly to a small group of institutional or wealthy investors. Private placements can be far cheaper than public offerings. This is because Rule 144A of the SEC allows corporations to make these placements without preparing the extensive and costly registration statements required of a public offering. On the other hand, because private placements are not made available to the general public, they generally will be less suited for very large offerings. Moreover, private placements do not trade in secondary markets such as stock exchanges. This greatly reduces their liquidity and presumably reduces the prices that investors will pay for the issue.

SOLUTIONS TO CONCEPT CHECKS

1. NAV =
$$\frac{\$105,496 - \$844}{773.3}$$
 = \$135.33

2. The net investment in the Class A shares after the 4% commission is \$9,600. If the fund earns a 10% return, the investment will grow after *n* years to \$9,600 × (1.10)ⁿ. The Class B shares have no front-end load. However, the net return to the investor after 12b-1 fees will be only 9.5%. In addition, there is a back-end load that reduces the sales proceeds by a percentage equal to (5 – years until sale) until the fifth year, when the back-end load expires.

Current Event Boxes

Short articles from business periodicals are included in boxes throughout the text. The

articles are chosen for relevance, clarity of presentation, and consistency with good sense.

FLOTATION THERAPY

Nothing gets online traders clicking their "buy" icons so fast as a hot IPO. Recently, demand from small investors using the Internet has led to huge price increases in shares of newly floated companies after their initial public offerings. How frustrating, then, that these online traders can rarely buy IPO shares when they are handed out. They have to wait until they are traded in the market, usually at well above the offer price.

Now, help may be at hand from a new breed of Internet-based investment banks, such as E*Offering, Wit Capital and W. R. Hambrecht, which has just completed its first online IPO. Wit, a 16-month-old veteran, was formed by Andrew Klein, who in 1995 completed the

Burnham, an analyst with CSFB, an investment bank, Wall Street only lets them in on a deal when it is "hard to move."

The new Internet investment banks aim to change this by becoming part of the syndicates that manage share-offerings. This means persuading company bosses to let them help take their firms public. They have been hiring mainstream investment bankers to establish credibility, in the hope, ultimately, of winning a leading role in a syndicate. This would win them real influence over who gets shares. (So far, Wit has been a co-manager in only four deals.)

Established Wall Street houses will do all they can to

Excel Applications

New to the Fifth Edition are boxes featuring Excel Spreadsheet Applications. A sample spreadsheet is presented in the text with an interactive version and related questions available on the book website at www.mhhe.com/bkm.

EXCEL APPLICATIONS

BUYING ON MARGIN

The accompanying spreadsheet can be used to measure the return on investment for buying stocks on margin. The model is set up to allow the holding period to vary. The model also calculates the price at which you would get a margin call based on a specified mainte-

	A	В	С	D	E
1				1 2 2	104-10-1
2	Buying on Margin			Ending	Return on
3				St Price	
4	Initial Equity Investment	10,000.00			-42.00%
5	Amount Borrowed	10,000.00		20	-122.00%
6	Initial Stock Price	50.00		25	-102.00%
7	Shares Purchased	400		30	-82.00%
8	Ending Stock Price	40.00		35	-62.00%
9	Cash Dividends During Hold Per.	0.50		40	-42.00%
10	Initial Margin Percentage	50 00%		15	22 000/

Summary and End of Chapter Problems

At the end of each chapter, a detailed Summary outlines the most important concepts presented. The problems that follow the Summary progress from simple to challenging and many are taken from CFA examinations. These represent the kinds of questions that professionals in the field believe are relevant to the "real world" and are indicated by an icon in the text margin.

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SUMMARY

- 1. Firms issue securities to raise the capital necessary to finance their investments. Investment bankers market these securities to the public on the primary market. Investment bankers generally act as underwriters who purchase the securities from the firm and resell them to the public at a markup. Before the securities may be sold to the public, the firm must publish an SEC-approved prospectus that provides information on the firm's prospects.
- 2. Issued securities are traded on the secondary market, that is, on organized stock exchanges, the over-the-counter market, or, for large traders, through direct negotiation. Only members of exchanges may trade on the exchange. Brokerage firms holding seats on the exchange sell their services to individuals, charging commissions for executing trades on their behalf. The NYSE has fairly strict listing requirements. Regional exchanges provide listing opportunities for local firms that do not meet the requirements of the national exchanges.

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PROBLEMS

You manage a risky portfolio with an expected rate of return of 18% and a standard deviation of 28%. The T-bill rate is 8%.

- 1. Your client chooses to invest 70% of a portfolio in your fund and 30% in a T-bill money market fund. What is the expected value and standard deviation of the rate of return on his portfolio?
- **2.** Suppose that your risky portfolio includes the following investments in the given proportions:

Stock A: 25%

Stock B: 32% Stock C: 43%

What are the investment proportions of your client's overall nortfolio including the po-

Vis



- 18. Which indifference curve represents the greatest level of utility that can be achieved by the investor?
 - a. 1.
 - b. 2.
 - c. 3.
 - d. 4.



- 19. Which point designates the optimal portfolio of risky assets?
 - a. E.
 - b. F.
 - c. G.

Websites

Another new feature in this edition is the inclusion of website addresses. The sites have been chosen for relevance to the chapter and

for accuracy so students can easily research and retrieve financial data and information.

WEBSITES

http://www.nasdaq.com www.nyse.com http://www.amex.com

The above sites contain information of listing requirements for each of the markets. The sites also provide substantial data for equities.

Internet Exercises: E-Investments

These exercises were created to provide students with a structured set of steps to finding financial data on the Internet. Easy-to-

follow instructions and questions are presented so students can utilize what they've learned in class in today's Web-driven world.

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E-INVESTMENTS: MUTUAL FUND REPORT

Go to: http://morningstar.com. From the home page select the Funds tab. From this location you can request information on an individual fund. In the dialog box enter the ticker JANSX, for the Janus Fund, and enter Go. This contains the report information on the fund. On the left-hand side of the screen are tabs that allow you to view the various components of the report. Using the components of the report answer the following questions on the Janus Fund.

Report Component	Questions	
Morningstar analysis	What is the Morningstar rating? What has been the fund's year-to-date return?	
Total returns	What is the 5- and 10-year return and how does that compare with the return of the S&P?	
Ratings and risk	What is the beta of the fund? What is the mean and standard deviation of returns? What is the 10-year rating on the fund?	
Portfolio		
Nuts and bolts	What is the fund's total expense ratio? Who is the current manager of the fund and what was his/her start date? How long has the fund been in operation?	



For the Instructor

Instructor's Manual The Instructor's Manual, prepared by Richard D. Johnson, Colorado State University, has been revised and improved in this edition. Each chapter includes a chapter overview, a review of learning objectives, an annotated chapter outline (organized to include the Transparency Masters/PowerPoint package), and teaching tips and insights. Transparency Masters are located at the back of the book.

PowerPoint Presentation Software These presentation slides, also developed by Richard D. Johnson, provide the instructor with an electronic format of the Transparency Masters. These slides follow the order of the chapters, but if you have PowerPoint software, you may customize the program to fit your lecture presentation.

Test Bank The Test Bank, prepared by Maryellen Epplin, University of Central Oklahoma, has been revised to increase the quantity and variety of questions. Short-answer essay questions are also provided for each chapter to further test student comprehension and critical thinking abilities. The Test Bank is also available in computerized version. Test bank disks are available in Windows compatible formats.

For the Student

Solutions Manual The Solutions Manual, prepared by the authors, includes a detailed solution to each end-of-chapter problem. This manual is available for packaging with the text. Please contact your local McGraw-Hill/Irwin representative for further details on how to order the Solutions manual/textbook package.

Standard & Poor's Educational Version of Market Insight

McGraw-Hill/Irwin and the Institutional Market Services division of Standard & Poor's is pleased to announce an **exclusive partnership** that offers instructors and students access to the **educational version** of Standard & Poor's Market Insight. The Educational Version of Market Insight is a rich online source that provides six years of fundamental financial data for 100 U.S. companies in the renowned COMPUSTAT® database. S&P and McGraw-Hill/Irwin have selected 100 of the best, most often researched companies in the database.

PowerWeb

Introducing *PowerWeb*—getting information online has never been easier. This McGraw-Hill website is a reservoir of course-specific articles and current events. Simply type in a discipline-specific topic for instant access to articles, essays, and news for your class.

All of the articles have been recommended to PowerWeb by professors, which means you won't get all the clutter that seems to pop up with typical search engines. However, PowerWeb is much more than a search engine. Students can visit PowerWeb to take a self-grading quiz, work through an interactive exercise, click through an interactive glossary, and even check the daily news. In fact, an expert for each discipline analyzes the day's news to show students how it is relevant to their field of study.

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Throughout the development of this text, experienced instructors have provided critical feedback and suggestions for improvement. These individuals deserve a special thanks for their valuable insights and contributions. The following instructors played a vital role in the development of this and previous editions of *Investments*:

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Zvi Bodie Alex Kane Alan J. Marcus

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