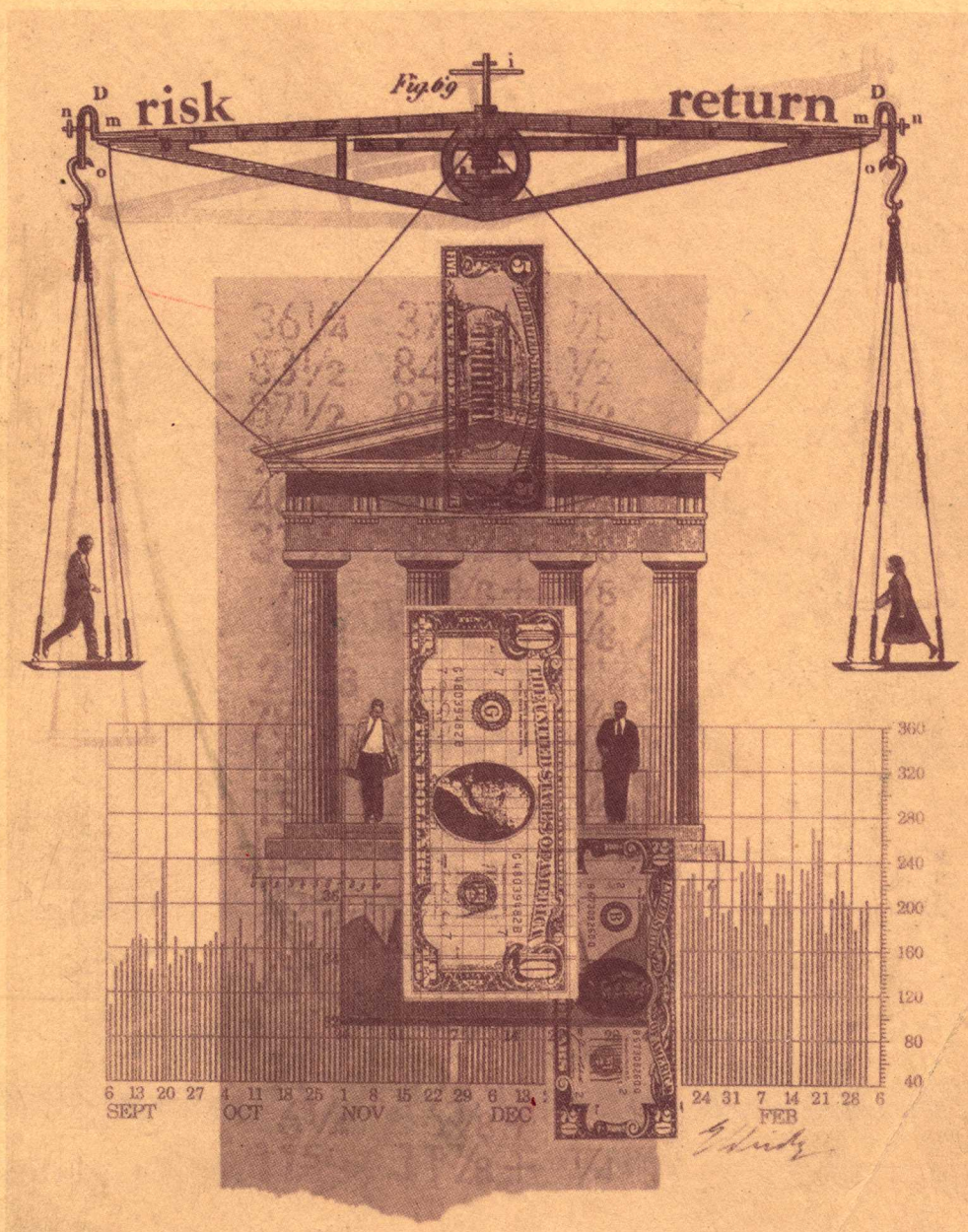


INSTRUCTOR'S MANUAL TO ACCOMPANY

Management of Investments

THIRD EDITION



JACK CLARK FRANCIS

INSTRUCTOR'S MANUAL TO ACCOMPANY

MANAGEMENT OF INVESTMENTS

THIRD EDITION

JACK CLARK FRANCIS

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Instructor's Manual to Accompany
MANAGEMENT OF INVESTMENTS

Third Edition

Jack Clark Francis

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MANAGEMENT OF INVESTMENTS

Third Edition

Jack Clark Francis

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PREFACE

This INSTRUCTOR'S MANUAL for MANAGEMENT OF INVESTMENTS (MOI) contains improvements over the second edition. Many of these improvements are the result of the able assistance of Richard W. Taylor, Ph.D., CFA, a professor at Arkansas State University; Susan Mangiero, MBA, CFA (and a forthcoming Ph.D.), a professor at Sacred Heart University in Fairfield, Connecticut; and, Avner Wolf, a professor at Baruch College in New York City. These people are all experienced finance instructors.

There are a number of teaching aids in this INSTRUCTOR'S MANUAL and in an accompanying INSTRUCTOR'S MANUAL FOR TRANSPARENCY MASTERS. The list of topics below outlines the teaching aids in this INSTRUCTOR'S MANUAL.

- Part 1 - Suggestions for Different Course Outlines, page 1
- Part 2 - Books to Supplement the Third edition of MANAGEMENT OF INVESTMENTS (MOI), page 5
- Part 3 - Detailed answers for End-of-Chapter Questions and Problems, page 6
- Part 4 - Test Bank Questions, page 215
- Part 5 - Suggested Term Project Assignments, page 336
- Part 6 - A Summary of Symbols and Formulas, page 347
- Part 7 - How to Contact Your Local McGraw-Hill Representative for Supplies, Page 355

At least 10 true-false and at least 10 multiple choice questions for each chapter are included in this INSTRUCTOR'S MANUAL'S test question bank. Answers accompany every question. Some chapters have considerably more than 10 true-false questions and/or more than 10 multiple choice questions. I am not inclined to create tricky questions. Nevertheless, I'm sure that some students will be able to get themselves confused by a few of them. I apologize for whatever student-teacher tensions problematical questions may create. If you will call me or drop me a line and point out troublesome questions, I will reedit or delete them from the next edition's INSTRUCTOR'S MANUAL.

If you would like to see something else included or something deleted in the next INSTRUCTOR'S MANUAL, please share your thoughts with me.

Jack Clark Francis

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Course Outline for First Semester Investments Course for Under-graduates or MBAs

One-Semester Investments Course Outline

Prerequisite classes for this course: Introduction to Accounting, Introduction to Economics, Introduction to Finance, Introduction to Statistics.

Required textbook: MANAGEMENT OF INVESTMENTS, third edition, Jack Clark Francis, McGraw-Hill Inc., 1993.

Optional reading: SCHAUM'S INVESTMENTS OUTLINE, co-authored by J. C. Francis and R. Taylor, published by the Schaum's Division of McGraw-Hill Inc., 1992, ISBN 0-07-021807-2.

Optional reading: THE WALL STREET JOURNAL, Student subscriptions are available at half price -- for one semester, or for an entire year.

Hand-held calculators: Proficiency with a hand-held calculator will aid you in the exams, and you are permitted to use one. See end-of-book Appendix B if you are considering buying one.

Weekly Schedule

Week	Reading assignment
-----	-----
1	Ch. 1 Introduction (Some Instructors may wish to discuss the appendixes to this chapter.)
1	Ch. 1 Appendix A - Geometric Mean Return
1	Ch. 1 Appendix B - Employment Opportunities In Investments

Note: If the instructor wishes to stress computer applications in the class, end-of-book Appendix A should be assigned here. In addition, the students should be told how to gain access to (1) the college's personal computers (PCs) and (2) the floppy disks containing the investments analysis software that the Instructor can obtain from McGraw-Hill. Furthermore, the students should be invited to make copies of whatever floppy disks the Instructor wants them to use so that they can use this software at home on their own PC, if they own one.

Week	Reading assignment
-----	-----
2	Ch. 2 Debt Securities
2	Ch. 3 Equity and Asset-Backed Securities
3	Ch. 4 Securities Markets
4	Ch. 5 Measures of Market Price Movements
4	Ch. 6 Regulating The Securities Markets
5	Ch. 7 Federal Taxes
5	Ch. 8 Investment Information Sources

Midterm exam's weight is 30%. Midterm exam is optional, but no makeup exams are given. The final exam is weighted 90% if you miss the midterm.

Week	Reading assignment
6	Ch. 9 Analysis of Financial Statements
6	Ch. 10 The Default Risk Factor
7	Ch. 11 The Interest Rate Risk Factor
8	Ch. 12 Bond Selection
9	Ch. 13 Common Stock Analysis
9	Ch. 14 Analyzing Earnings
10	Ch. 15 Technical Analysis
10	Ch. 16 The Efficient Markets Hypothesis
11	Ch. 17 The Market Risk Factor
11	Ch. 18 Purchasing-Power Risk & Other Risk Factors
12	Ch. 19 The Management Risk Factor & Other Risk Factors
12	Ch. 20 Making Buy-Sell Decisions
13	Ch. 21 Options, Warrants, and Convertibles
14	Ch. 23 Investing in Real Assets

Final exam's weight is 60% (or 90% if you missed the midterm). This exam covers material from the entire semester, but the material after the midterm is weighted heavier.

Grading breakdown:	Recommended	Optional
Midterm exam.....	30%	Zero
Final exam.....	60%	90%
Class participation.....	10%	10%
Total.....	100%	100%

Course Outline for Second-Semester (or Advanced) Investments
Course for Undergraduates or MBAs

One-Semester Investments Course Outline

Prerequisite classes for this course: Introduction to Accounting, Introduction to Economics, Introduction to Finance, Introduction to Statistics.

Required textbook: MANAGEMENT OF INVESTMENTS, third edition, Jack Clark Francis, McGraw-Hill Inc., 1993.

Optional reading: SCHAUM'S INVESTMENTS OUTLINE, co-authored by J. C. Francis and R. Taylor, published by the Schaum's Division of McGraw-Hill Inc., 1992, ISBN 0-07-021807-2.

Optional reading: The Wall Street Journal, Student subscriptions are available at half price -- for one semester, or for an entire year.

Hand-held calculators: Proficiency with a hand-held calculator will aid you in the exams, and you are permitted to use one. See end-of-book Appendix B if you are considering buying one.

Weekly Schedule

Week	Reading assignment
-----	-----
1	Ch. 1 Introduction
1	Ch. 1 Appendix A - Geometric Mean Return

Note: If the instructor wishes to stress computer applications in the class, end-of-book Appendix A should be assigned here. In addition, the students should be told how to gain access to (1) the college's personal computers (PCs) and (2) the floppy disks containing the investments analysis software that the Instructor can obtain from McGraw-Hill. Furthermore, the students should be invited to make copies of whatever floppy disks the Instructor wants them to use so that they can use this software at home on their own PC, if they own one.

Week	Reading assignment
-----	-----
2	Ch. 9 Analysis of Financial Statements
2	Ch. 10 The Default Risk Factor
3	Ch. 11 The Interest Rate Risk Factor
4	Ch. 12 Bond Selection
5	Ch. 13 Common Stock Analysis
5	Ch. 14 Analyzing Earnings

Midterm exam's weight is 30%. Midterm exam is optional, but no makeup exams are given. The final exam is weighted 90% if you miss the midterm.

- 6 Ch. 15 Technical Analysis
- 6 Ch. 16 The Efficient Markets Hypothesis
- 7 Ch. 17 The Market Risk Factor
- 7 Ch. 18 Purchasing-Power Risk & Other Risk Factors
- 8 Ch. 19 The Management Risk Factor
- 8 Ch. 20 Making Buy-Sell Decisions
- 9 Ch. 22 Commodity Futures
- 10 Ch. 24 Portfolio Analysis
- 11 Ch. 25 Capital Market Theory
- 12 Ch. 26 Arbitrage Pricing Theory
- 13 Ch. 27 International Investing
- 14 Ch. 28 Investment Performance Evaluation

Final exam's weight is 60% (or 90% if you missed the midterm). This exam covers material from the entire semester, but the material after the midterm is weighted heavier.

Grading breakdown:	Recommended	Optional
-----	-----	-----
Midterm exam.....	30%	Zero
Final exam.....	60%	90%
Class participation.....	10%	10%
	----	----
Total.....	100%	100%

Part 2 - Books to supplement the third edition of MANAGEMENT OF INVESTMENTS

INVESTMENTS STUDY GUIDE

SCHAUM'S INVESTMENTS OUTLINE, co-authored by Jack Clark Francis and Richard Taylor, published by the Schaum's Division of McGraw-Hill Inc., New York City, 1992, ISBN 0-07-021807-2.

BOOKS OF CASES AND INVESTMENTS READINGS

Keith V. Smith, CASE PROBLEMS AND READINGS: A SUPPLEMENT FOR INVESTMENTS AND PORTFOLIO MANAGEMENT, McGraw-Hill Inc., New York, 1990, 351 pages.

Michael A. Berry and S. David Young, MANAGING INVESTMENTS: A CASE APPROACH, Dryden Press, 1990, 545 pages.

INVESTMENT ANALYSIS SOFTWARE

Richard Bookstaber, THE COMPLETE INVESTMENT BOOK, Scott, Foresman & Company, Glenview, Illinois, 1985.

Wayne E. Boyet, SECURITY ANALYSIS FOR INVESTMENT DECISIONS, The Dryden Press, 1989.

Jack Clark Francis, MANAGEMENT OF INVESTMENTS, third edition. (Adopters should consult McGraw-Hill for the software and data described in Appendix A of the text.)

Stuart M. Turnbull, OPTION VALUATION, 1987, Holt, Rinehart and Winston of Canada, Ltd., Dryden Press.

ADVANCED INVESTMENTS TEXTBOOKS

Gordon Alexander and Jack Clark Francis, PORTFOLIO ANALYSIS, third edition, Prentice-Hall, 1986. This is a book for advanced MBA students or Ph.D. students.

Jack Clark Francis, INVESTMENTS: ANALYSIS AND MANAGEMENT, fifth edition, McGraw-Hill, 1991. A book for MBA students or advanced undergraduates.

BOOKS OF CASES AND INVESTMENT RESEARCH
Detailed Answers for Questions & Problems

Robert V. Smith, CASE PROBLEMS AND READING: A SUPPLEMENT FOR
INVESTMENTS AND PORTFOLIO MANAGEMENT, McGraw-Hill, New York,
1980, 761 pages.

Michael A. Goryunov and S. David Young, MANAGING INVESTMENTS: A CASE
APPROACH, Dryden Press, 1980, 445 pages.

INVESTMENT ANALYSIS SOFTWARE

Richard Bookbinder, THE COMPLETE INVESTMENT BOOK, Ross Education
& Company, Glenview, Illinois, 1982.

James E. Dwyer, INVESTMENT ANALYSIS FOR INVESTMENT DECISIONS, The
Dryden Press, 1982.

Jack Clark Francis, MANAGEMENT OF INVESTMENTS, third edition,
(Students should consult McGraw-Hill for the software and data
described in appendix A of the text.)

Stewart A. Thompson, OPTION VALUATION, 1987, McGraw-Hill and
University of Canada, Ltd., Dryden Press.

ADVANCED INVESTMENT TECHNIQUES

Joseph Alexander and Jack Clark Francis, PORTFOLIO ANALYSIS,
third edition, McGraw-Hill, 1982. This is a book for advanced
students at M.B.A. programs.

Jack Clark Francis, INVESTMENT ANALYSIS AND MANAGEMENT, third
edition, McGraw-Hill, 1981. A book for advanced students in advanced
undergraduate.

Chapter 1 - Introduction

Answers to Essay Questions:

1-1 The formula for a bond's one period rate of return before income taxes and other transactions costs are deducted is:

$$\begin{array}{|l|} \hline \text{Bond's} \\ \text{before-} \\ \text{tax rate} \\ \text{of return} \\ \hline \end{array} = \frac{\begin{array}{|l|} \hline \text{Price change during} \\ \text{the holding period} \\ \hline \end{array} + \begin{array}{|l|} \hline \text{Coupon} \\ \text{interest} \\ \hline \end{array}}{\text{Beginning of period purchase price}}$$

The formula for a bond's one period rate of return after income taxes and other transactions costs (such as brokerage commissions, interest expense if margins are used, and/or any transfer taxes) are deducted is:

$$\begin{array}{|l|} \hline \text{Bond's} \\ \text{after-} \\ \text{tax rate} \\ \text{of return} \\ \hline \end{array} = \frac{\left(\begin{array}{|l|} \hline \text{Price} \\ \text{change} \\ \hline \end{array} + \begin{array}{|l|} \hline \text{Coupon} \\ \text{interest} \\ \hline \end{array} - \begin{array}{|l|} \hline \text{Commissions \& any} \\ \text{transactions costs} \\ \hline \end{array} \right) (1.0 - \text{inc. tax rate})}{\left[\begin{array}{|l|} \hline \text{Bond's beginning of period purchase price plus} \\ \text{the purchase commissions} \\ \hline \end{array} \right]}$$

1-2 The statement that "the probability of heads is six-tenths and the probability of tails is five-tenths when flipping a coin" is a naive statement that describes an impossible situation. The probabilities of the two mutually exclusive outcomes add up to more than one (or equivalently, more than 100 percent). More than 100 percent of anything does not exist; therefore, it is impossible.

$$\text{Probability(heads)} = .6$$

$$\text{Probability(tails)} = .5$$

$$1.1 = 110\% \text{ is impossible}$$

Even the probabilities of dishonest outcomes must add up to 1.0 (or 100 percent).

1-3 (a) The "probability of occurring in the future" is a subjectively estimated (ex ante) measure of the likelihood that some future event occurs. (b) The "relative frequency in the past" is an objectively determined (ex post) measure of the proportion of 100 percent of past outcomes that actually occurred. Both quantities are an index of likelihood.

Since investments are undertaken based on some expectation

about their future rates of return, the "probability of occurring in the future" is a more relevant measure than the "relative frequency in the past." Therefore, expected rates of return should be calculated using the subjectively estimated "probability of occurring in the future." Of course, studying past events to discern the "relative frequency in the past" is a logical form of investment analysis since the past probabilities will still be relevant in the future in some cases. Stated differently, the past is often a good predictor of the future.

1-4 Over the course of a 1-year investment the following formula represents the position of the investor who invests an initial amount of wealth represented by the symbol w_0 , which is a fixed (or constant) as soon as the investment is made. For this one period (or, 1-year) investor the investment goal of maximizing terminal wealth, denoted w_1 , is equivalent to maximizing the investor's one period rate of return, denoted r_1 , as shown in the formula below.

$$\text{Max: } w_1 = (w_0)(1.0 + r_1)$$

Over a multi-year horizon the answer to this question is not as obvious as it is in the one period case above. Consider a 3-year investment that earns three annual rates of return denoted: r_1 , r_2 , and r_3 . Maximizing the geometric mean rate of return over these three (or any number of) time periods is equivalent to maximizing the investor's terminal wealth, denoted w_3 , as shown below.

$$\text{Max: } w_3 = [1 + \text{GMR}]^3(w_0) = [(1 + r_1)(1 + r_2)(1 + r_3)](w_0)$$

Maximizing the arithmetic average of the annual rates of return is not equivalent to maximizing the investor's geometric mean return (or terminal wealth) after multiple time periods, as explained in Appendix A to Chapter 1.

1-5 The risk-return tradeoff is an economic relationship that lies at the heart of many economic theories and models. Economic theory assumes that all people prefer to have less risk instead of more risk. This kind of economic behavior is called risk-aversion. Implicitly, it assumes that positive marginal utility of wealth (or returns) decreases at a diminishing rate. Assuming that everyone is risk-averse means that, essentially, no investor will purchase a risky investment unless that investor can expect to earn a higher rate of return than could be earned from a riskless investment, as compensation for taking the risk. As a result of such economic choices by numerous risk-averse investors, the risk-return tradeoff illustrated in Figure 1-4 is expected to prevail in all markets in the world at all times.

Real life examples of the risk-return tradeoff include the illustration shown as Figures 1-3, 1-4, and 1-5 in the textbook