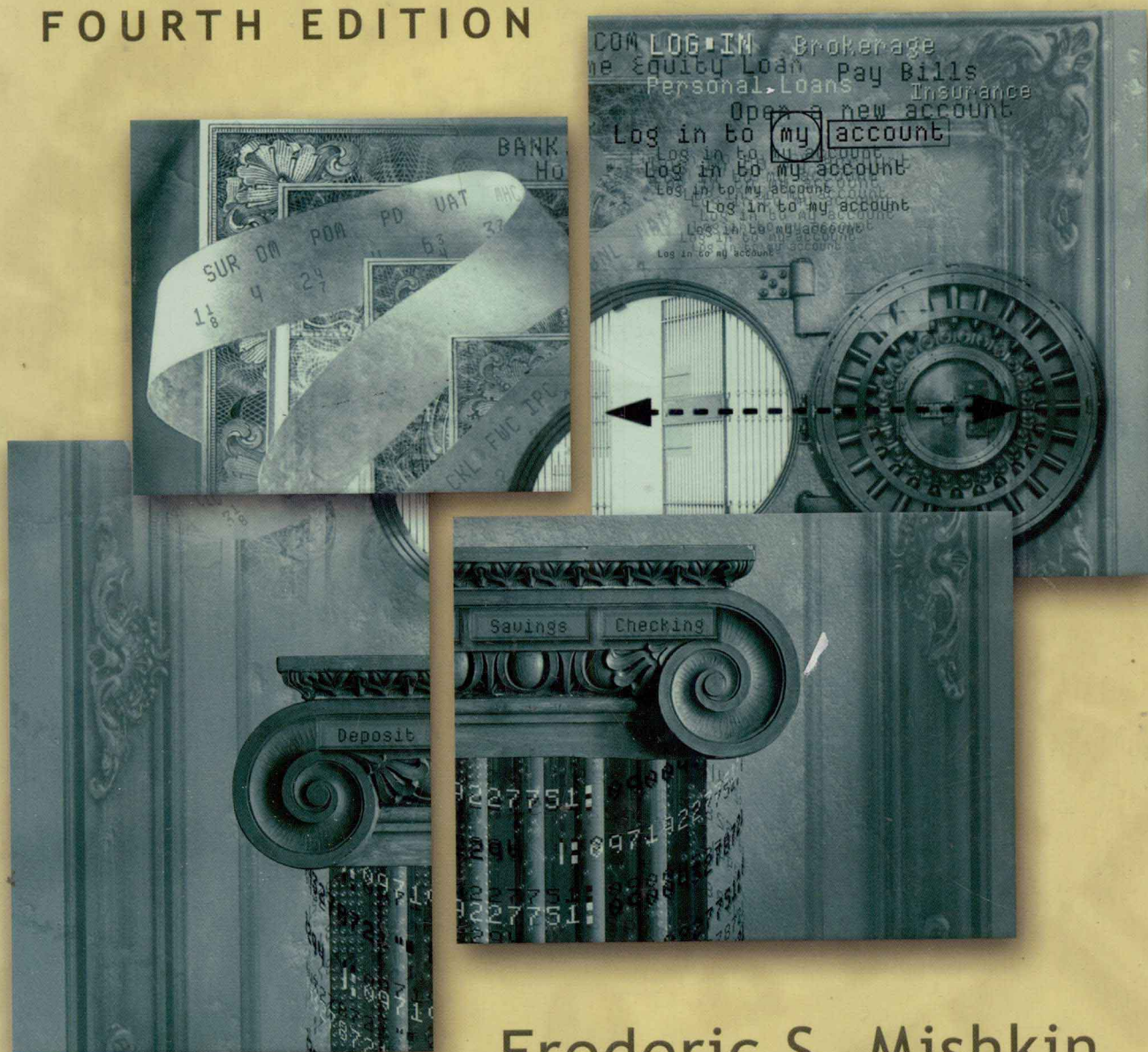


Financial Markets + Institutions

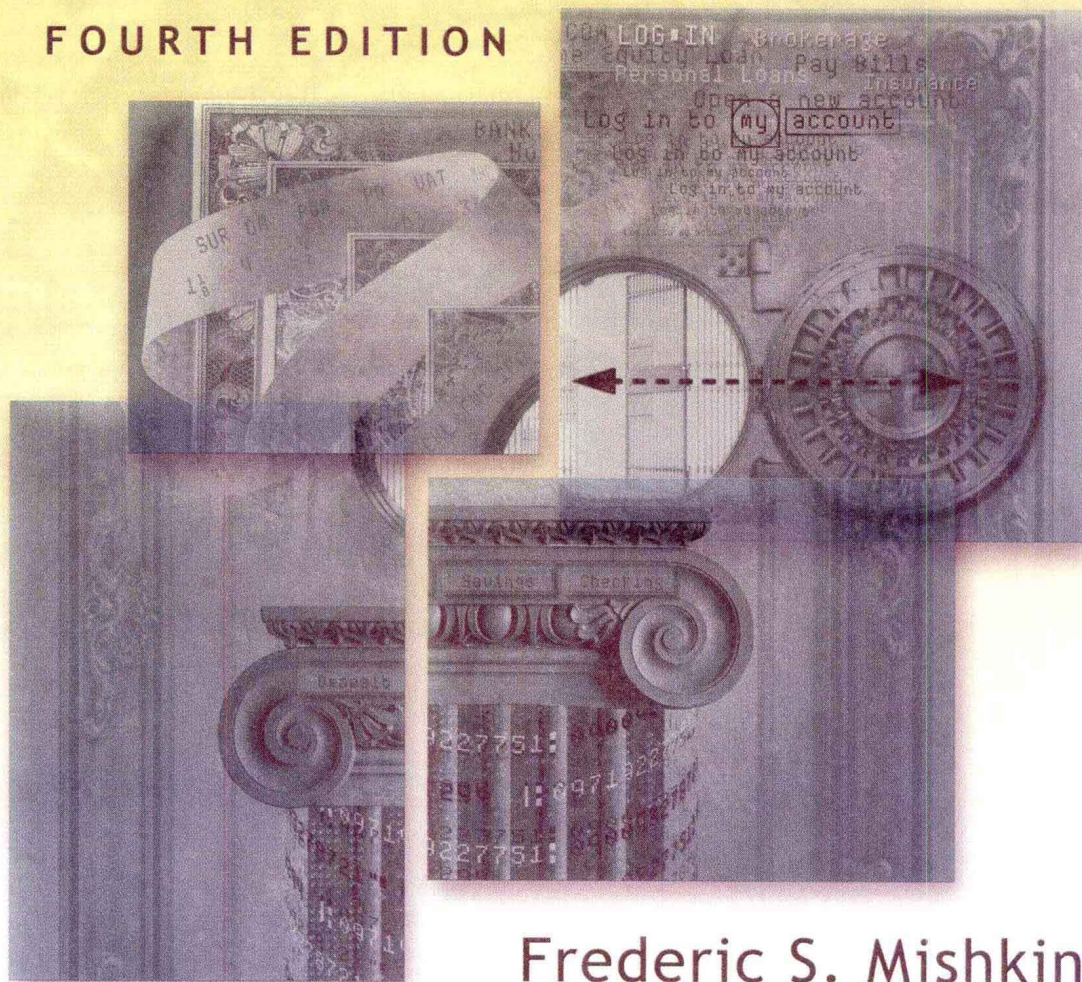
FOURTH EDITION



Frederic S. Mishkin
Stanley G. Eakins

Financial Markets + Institutions

FOURTH EDITION

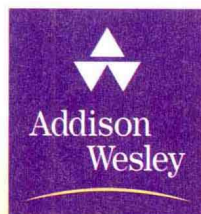


Frederic S. Mishkin

Graduate School of Business, Columbia University

Stanley G. Eakins

East Carolina University



Boston San Francisco New York
London Toronto Sydney Tokyo Singapore Madrid
Mexico City Munich Paris Cape Town Hong Kong Montreal

Editor in Chief: Denise Clinton
Sponsoring Editor: Donna Battista
Development Editor: Rebecca Ferris
Editorial Assistant: Amy Gembala
Production Supervisor: Meredith Gertz
Supplements Editor: Andrea Basso
Marketing Manager: Adrienne D'Ambrosio
Design Manager: Regina Hagen Kolenda
Media Producer: Jennifer Pelland
Project Coordination and Electronic Page Makeup: Electronic Publishing Services
Inc., NYC
Cover Designer: Joyce Wells
Cover Image: © 2003 SuperStock, Inc.

Financial Markets and Institutions

Copyright © 2003 by Frederic S. Mishkin and Stanley G. Eakins

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. Printed in the United States of America.

Library of Congress Cataloging-in-Publication Data

Mishkin, Frederic S.

Financial markets and institutions / Frederic S. Mishkin, Stanley G. Eakins—4th ed.
p. cm.

Includes index.

ISBN 0-201-78565-X (HC)

1. Financial institutions—United States. 2. Money—United States. 3. Money market—United States. 4. Banks and banking—United States. I. Eakins, Stanley G. II. Title.
HG181.M558 2002

332.1'0973—dc21

2002019650

CIP

10 9 8 7 6 5 4 3 2—QWT—06 05 04 03 02

Preface

We have continually strived to improve this textbook with each new edition, and the fourth edition of *Financial Markets and Institutions* is no exception. The book continues to offer features that make it highly distinctive from other textbooks in this field. Other textbooks are almost entirely descriptive and so do not adequately prepare students either for jobs in the financial services industry or for successful interaction with financial institutions, whatever their jobs. In contrast, *Financial Markets and Institutions* provides the following features:

- A unifying analytic framework that uses a few basic principles to organize students' thinking, including:
 - asymmetric information (agency) problems
 - transaction costs
 - supply and demand
 - asset market equilibrium
 - efficient markets
 - measurement and management of risk
- A financial practitioner's approach to financial markets and institutions through emphasis of an applied managerial perspective that includes nearly 20 special applications called "The Practicing Financial Institution Manager"
- A careful step-by-step development of models that enables students to master the material more easily
- A high degree of flexibility that allows professors to teach the course however they want
- Complete integration of an international perspective throughout the text
- Special features called "Following the Financial News" and "Reading the *Wall Street Journal*" to encourage the reading of a financial newspaper
- Numerous applications that increase students' interest by applying theory to real-world data and examples

WHAT'S NEW IN THE FOURTH EDITION

In addition to the expected updating of all data through the end of 2001 whenever possible, there is major new material in every part of the text.

E-Focus

The incredible advances in electronic (computer and telecommunications) technology in recent years have had a major impact on the financial system. The fourth edition of this text reflects these developments by adding many new features with an electronic focus.

Web Enhancement The fourth edition embraces the exploding world of information now available over the World Wide Web. There are few areas where the Internet has been as valuable as in providing financial information. Data that were

once difficult and tedious to collect are now readily available. To help students appreciate what they can access on-line we have added a number of new features.

1. **Web Exercises.** This edition of the text adds a new type of end-of-chapter problem called Web Exercises. These require that students collect information from on-line sources or use on-line resources to enhance their learning experience. The Web Exercises are designed to be relatively quick and easy to do, while still accomplishing the goal of familiarizing students with on-line sources of data.
2. **Web Sources.** Much of the data used to create the many tables and charts were collected from sources found on-line. Wherever a URL is available, it is exactly reported as the source. The interested student or instructor can use this URL to see what has happened since the chart or table was created.
3. **Marginal Web References.** In addition to listing the sources of data used to create the charts and graphs, we have also included in the margins URLs to websites that provide information or data that supplement the text material. These references include a brief description of what students will find at the site. The interested student can use these sites to extend their study, and instructors can use these sites to enhance their lecture notes. Because the URLs for web sources and references do sometimes change, the Mishkin-Eakins companion website (located at http://www.aw.com/mishkin_eakins) will provide the new URLs when they are needed.

E-Finance Boxes Since electronic technology is permeating financial markets in more and more ways, we included a new type of special interest box in this edition. The E-Finance boxes relate how changes in technology have affected financial markets or institutions. The placement of these boxes throughout the text helps demonstrate the impact technology has had in a broad range of areas in finance.

Expanded Coverage of the Stock Market

With the wide swings in stock prices in recent years, students of financial markets and institutions have become increasingly interested in what drives the stock market. As a result, we have expanded our discussion of this market by including simple valuation methods. These include using the Gordon Growth Model and the price/earnings ratio to determine stock prices. This material has been merged with the material on efficient capital markets to create a new Chapter 10, “The Stock Market and the Efficient Markets Hypothesis.”

Venture Capital

This edition has greatly expanded coverage of venture capital because of its importance to the economy and especially to the technology sector. We discuss the process followed by venture capitalist firms in selecting companies to finance, and follow the life cycle of the typical venture capital deal in Chapter 20, which has been renamed “Venture Capital Firms, Finance Companies, and Financial Conglomerates.” We also discuss the role venture capital firms had in fueling the technology bubble and how they are affected by the recession that started in 2001.

Investment Banks and Mutual Funds

In Chapter 21, which has been renamed “Investment Banks, Brokerage Firms, and Mutual Funds,” we have extended our discussion of investment banks, which have also grown in importance because they have helped finance the technology sector, to include more details about how new securities are brought to the public. We have also extended our discussion of mutual funds by increasing the amount of detail regarding the various types of funds available and how they may be used by investors.

Other New Material on Financial Institutions

Continuing changes in financial markets and institutions have resulted in the following additional new material.

- Discussion of the rapid collapse of Enron, which resulted in the largest bankruptcy in U.S. history (Chapter 14)
- Discussion of the Gramm-Leach-Bliley Financial Services Modernization Act of 1999, which has overturned the Glass-Steagall separation of the banking and securities industry (Chapter 16, 18, and 21)
- New material on the Basel Committee on Bank Supervision and where the Basel Accord is heading (Chapter 18)
- Discussion of the spread of deposit insurance throughout the world (Chapter 18)

Increased International Perspective

The growing importance of the global economy continues to encourage us to add new material with an international perspective. A global icon is used to designate text sections and applications, while special-interest boxes with international material are designated as “Global.” New material in this edition includes:

- Extensive treatment of the European Monetary Union and the introduction of the euro, including discussion of how it has fared in the currency markets in its first three years (Chapter 12), the birth of the European Monetary Union and the euro (Chapter 13), and whether the euro will challenge the dollar as a reserve currency (Chapter 13)
- New sections on capital controls and the role of the International Monetary Fund in preventing financial crises (Chapter 13)
- Discussion of dollarization and recent developments in Argentina’s currency board (Chapter 13)

Streamlined Organization

Helpful comments from reviewers have also encouraged us to improve the flow and streamline the organization of the text. Most important, the material in the previous edition’s Chapters 23 and 24 on financial derivatives has been shortened considerably and consolidated into a new Chapter 23 to focus on key issues that should be more relevant to the student.

FLEXIBILITY

There are as many ways to teach financial markets and institutions as there are instructors. Thus, there is a great need to make a textbook flexible in order to satisfy the diverse needs of instructors, and that has been a primary objective in writing this book. This textbook achieves this flexibility in the following ways:

- Core chapters provide the basic analysis used throughout the book, and other chapters or sections of chapters can be assigned or omitted according to instructor preferences. For example, Chapter 2 introduces the financial system and basic concepts such as transaction costs, adverse selection, and moral hazard. After covering Chapter 2, an instructor can decide to teach a more detailed treatment of financial structure in Chapter 14, or can skip this chapter or take any of a number of different paths.
- The approach to internationalizing the text using separate, marked international sections within chapters and separate chapters on the foreign exchange market and the international monetary system is comprehensive yet flexible. Although many instructors will teach all the international material, others will choose not to. Instructors who want less emphasis on international topics can easily skip Chapter 12 (on the foreign exchange market) and Chapter 13 (on the international financial system).
- “The Practicing Financial Institution Manager” applications, as well as Part VI on the management of financial institutions, are self-contained and so can be skipped without loss of continuity. Thus, an instructor wishing to teach a less managerially oriented course, who might want to focus more on public policy issues, will have no trouble doing so. Alternatively, Part VI can be taught earlier in the course, immediately after Chapter 15 on bank management.

The course outlines listed next for a semester teaching schedule illustrate how this book can be used for courses with a different emphasis. More detailed information about how the text can be used flexibly in your course is available in the *Instructor's Resource Manual*.

Financial markets and institutions emphasis: Chapters 1–5, 8–10, 14–16, 18, and six other chapters

Financial markets and institutions with international emphasis: Chapters 1–5, 8–10, 12–16, 18, and four other chapters

Managerial emphasis: Chapters 1–5, 15, 16, 18, 22, 23, and eight other chapters

Public policy emphasis: Chapters 1–7, 14, 15, 18, and eight other chapters

MAKING IT EASIER TO TEACH FINANCIAL MARKETS AND INSTITUTIONS

The demands for good teaching at business schools have increased dramatically in recent years. To meet these demands, we have provided the instructor with supplementary materials, unavailable with any competing text, that should make teaching the course substantially easier.

Along with the usual items in the *Instructor's Resource Manual*—sample course outlines, chapter outlines, overviews, teaching tips, and answers to the end-of-chapter problems that are not included in the text—this manual includes

over 300 pages of lecture notes. The lecture notes are comprehensive and outline all the major points covered in the text. They have been class-tested successfully by the authors and should make it much easier for other instructors to prepare their lecture notes as well. The lecture notes are perforated so that they can be easily detached for class use or to make transparency masters.

This edition of the book comes with a powerful teaching tool: an *Instructor's Resource CD-ROM*. Fully compatible with Windows and Macintosh computers, the CD-ROM contains Word files for the entire contents of the *Instructor's Resource Manual* (including the lecture notes), PowerPoint presentations, and Computerized Test Bank files. Using this handy supplement, instructors can prepare student handouts such as solutions to problem sets made up of end-of-chapter problems or the outline of the lecture of the day. We have used handouts of this type in our classes and have found them to be very effective. To facilitate classroom presentation even further, the PowerPoint presentations include all the book's figures and tables in full color, as well as all the lecture notes; all are fully customizable. The Computerized Test Bank software (TestGen-EQ with QuizMaster-EQ for Windows and Macintosh) is a valuable test preparation tool that allows professors to view, edit, and add questions. Instructors have our permission and are encouraged to reproduce all of the materials on the CD-ROM and use them as they see fit in class.

SUPPLEMENTARY MATERIALS

The fourth edition of *Financial Markets and Institutions* includes the most comprehensive program of supplementary materials of any textbook in its field. These items are available to qualified domestic adopters but in some cases may not be available to international adopters. These include the following items:

For the Professor

1. ***Instructor's Resource Manual***, prepared by the authors, which includes sample course outlines, chapter outlines, overviews, teaching tips, and answers to questions and problems in the text. In addition it has **Lecture Notes**, numbering over 300 in transparency master format, that comprehensively outline the major points covered in the text.
2. ***Instructor's Resource CD-ROM***, which contains Word files for the *Instructor's Resource Manual*, PowerPoint presentations, and the Computerized Test Bank.
3. **Test Bank**, available in both print and electronic form, which comprises over 2500 multiple-choice, true-false, and essay test items. The Test Bank is computerized so that the instructor can easily produce exams automatically.
4. **Mishkin-Eakins Companion Website** (located at http://www.aw.com/mishkin_eakins), which features mini-case exercises, new managerially focused cases corresponding to the chapters in each of the text's six parts, and links to relevant data sources and Federal Reserve websites. The site also offers multiple-choice quizzes for each chapter. An on-line syllabus builder allows instructors to create a calendar of assignments for each class.

For the Student

1. **Study Guide and Workbook**, which includes chapter synopses and completions, exercises, self-tests, and answers to the exercises and self-tests.
2. **Readings in Financial Markets and Institutions**, edited by James W. Eaton of Bridgewater College and Frederic S. Mishkin. Updated annually, with over half the articles new each year, this valuable resource is available on-line at the text's website (www.aw.com/mishkin_eakins).

PEDAGOGICAL AIDS

A textbook must be a solid motivational tool. To this end, we have incorporated a wide variety of pedagogical features.

1. **Chapter Previews** at the beginning of each chapter tell students where the chapter is heading, why specific topics are important, and how they relate to other topics in the book.
2. **Applications** demonstrate how the analysis in the book can be used to explain many important real-world situations. A special set of applications called "Reading the *Wall Street Journal*" shows students how to read daily columns in this leading financial newspaper.
3. **"The Practicing Financial Institution Manager"** is a set of special applications that introduce students to real-world problems that managers of financial institutions have to solve.
4. **Numerical Examples** guide students through solutions to financial problems using formulas, time lines, and calculator key strokes.
5. **"Following the Financial News" Boxes** introduce students to relevant news articles and data that are reported daily in the press and explain how to read them.
6. **"Inside the Fed" Boxes** give students a feel for what is important in the operation and structure of the Federal Reserve System.
7. **Global Boxes** include interesting material with an international focus.
8. **E-Finance Boxes** relate how changes in technology have affected financial markets and institutions.
9. **Special-Interest Boxes** highlight dramatic historical episodes, interesting ideas, and intriguing facts related to the subject matter.
10. **Study Guides** are highlighted statements scattered throughout the text that provide hints on how to think about or approach a topic as students work their way through it.
11. **Summary Tables** are useful study aids for reviewing material.
12. **Key Statements** are important points that are set in boldface type so that students can easily find them for later reference.
13. **Graphs** with captions, numbering over 60, help students understand the interrelationship of the variables plotted and the principles of analysis.

- 14. Summaries** at the end of each chapter list the chapter's main points.
- 15. Key Terms** are important words or phrases that appear in boldface type when they are defined for the first time and are listed at the ends of the chapters.
- 16. End-of-Chapter Questions and Problems**, numbering 400, help students learn the subject matter by applying economic concepts, and feature a special class of problems that students find particularly relevant, titled "Predicting the Future."
- 17. Web Exercises** encourage students to collect information from on-line sources or use on-line resources to enhance their learning experience.
- 18. Web Sources** report the URL source of the data used to create the many tables and charts.
- 19. Marginal Web References** point the student to websites that provide information or data that supplement the text material.
- 20. Glossary** at the back of the book defines all the key terms.
- 21. Solutions to Problems** at the back of the book provides the solutions to about half the questions and problems, indicated in the text by an asterisk (*).

ACKNOWLEDGMENTS

As always in so large a project, there are many people to thank. My special gratitude goes to Bruce Kaplan, former economics editor at HarperCollins; Donna Battista, finance editor at Addison-Wesley; and Jane Tufts and Rebecca Ferris, development editors. I also have been assisted by comments from my colleagues at Columbia and from my students.

In addition, I have been guided in this edition and its predecessors by the thoughtful comments of outside reviewers and correspondents. Their feedback has made this a better book. In particular, I thank:

Ibrahim J. Affanen, Indiana University
of Pennsylvania
Ronald Anderson, University of Nevada—Las
Vegas
Bala G. Arshanapalli, Indiana University
Northwest
James C. Baker, Kent State University
Joel Barber, Florida International University
Thomas M. Barnes, Alfred University
Marco Bassetto, Northwestern University
Matej Blusko, University of Georgia
Dallas R. Blevins, University of Montevallo
Paul J. Bolster, Northeastern University
Yea-Mow Chen, San Francisco State University
N.K. Chidambaran, Tulane University
Jeffrey A. Clark, Florida State University
Robert Bruce Cochran, San Jose State University

William Colclough, University of Wisconsin—La
Crosse
Elizabeth Cooperman, University of Baltimore
Carl Davison, Mississippi State University
Erik Devos, Binghamton University
Franklin R. Edwards, Columbia University
Marty Eichenbaum, Northwestern University
Elyas Elyasiani, Temple University
Edward C. Erickson, California State University,
Stanislaus
E. Bruce Fredrikson, Syracuse University
James Gatti, University of Vermont
Paul Girma, SUNY—New Paltz
Susan Glanz, St. John's University
Beverly L. Hadaway, University of Texas
John A. Halloran, University of Notre Dame
Billie J. Hamilton, East Carolina University

John H. Hand, Auburn University
 Don P. Holdren, Marshall University
 Adora Holstein, Robert Morris College
 Sylvia C. Hudgins, Old Dominion University
 Jerry G. Hunt, East Carolina University
 Boulis Ibrahim, Heroit-Watt University
 William E. Jackson, University of North
 Carolina—Chapel Hill
 Joe James, Sam Houston State University
 Melvin H. Jameson, University of Nevada—
 Las Vegas
 Kurt Jessewein, Texas A&M International
 University
 Jack Jordan, Seton Hall University
 Taeho Kim, Thunderbird: The American
 Graduate School of International
 Management
 Taewon Kim, California State University, Los
 Angeles
 Glen A. Larsen Jr., University of Tulsa
 James E. Larsen, Wright State University
 Rick LeCompte, Wichita State University
 Boyden E. Lee, New Mexico State University
 John Litvan, Southwest Missouri State
 Richard A. Lord, Georgia College
 Robert L. Losey, American University
 Anthony Loviscek, Seton Hall University
 James Lynch, Robert Morris College
 Judy E. Maese, New Mexico State University
 William Marcum, Wake Forest University
 David A. Martin, Albright College
 Joseph S. Mascia, Adelphi University
 Khalid Metabdin, College of St. Rose

A. H. Moini, University of Wisconsin—Whitewater
 Terry Nixon, Indiana University
 William E. O'Connell, Jr., The College of
 William and Mary
 Masao Ogaki, Ohio State University
 Evren Ors, Southern Illinois University
 Coleen C. Pantalone, Northeastern University
 Scott Pardee, University of Chicago
 James Peters, Fairleigh Dickinson University
 Fred Puritz, SUNY—Oneonta
 Mahmud Rahman, Eastern Michigan University
 Anoop Rai, Hofstra University
 Mitchell Ratner, Rider University
 David Reps, Pace University—Westchester
 Jack Rubens, Bryant College
 Charles B. Ruscher, James Madison University
 William Sackley, University of Southern Mississippi
 Kevin Salyer, University of California—Davis
 Siamack Shojai, Manhattan College
 Donald Smith, Boston University
 Sonya Williams Stanton, Ohio State University
 Michael Sullivan, Florida International University
 Richard S. Swasey, Jr., Northeastern University
 Anjan Thackor, University of Michigan
 Janet M. Todd, University of Delaware
 James Tripp, Western Illinois University
 Carlos Ulibarri, Washington State University
 John Wagster, Wayne State University
 David A. Whidbee, California State University—
 Sacramento
 Arthur J. Wilson, George Washington University
 Shee Q. Wong, University of Minnesota—Duluth
 Criss G. Woodruff, Radford University

Finally, I want to thank my wife, Sally; my son, Matthew; and my daughter, Laura, who provide me with a warm and happy environment that enables me to do my work, and my father, Sydney, now deceased, who a long time ago put me on the path that led to this book.

Frederic S. Mishkin

I would like to thank Rick Mishkin for his excellent comments on my contributions. By working with Rick on this text, not only have I gained greater skill as a writer, but I have also gained a friend. I would also like to thank my wife, Laurie, for patiently reading each draft of this manuscript and for helping make this my best work. Through the years, her help and support have made this aspect of my career possible.

About the Authors



© Peter Murphy

Frederic S. Mishkin is the Alfred Lerner Professor of Banking and Financial Institutions at the Graduate School of Business, Columbia University. He is also a research associate at the National Bureau of Economic Research. Since receiving his Ph.D. from the Massachusetts Institute of Technology in 1976, he has taught at the University of Chicago, Northwestern University, Princeton University, and Columbia. He has also received an honorary professorship from the People's University of China (Renmin). From 1994 to 1997 he was executive vice president and director of research at the Federal Reserve Bank of New York and an associate economist of the Federal Open Market Committee of the Federal Reserve System.

Professor Mishkin's research focuses on monetary policy and its impact on financial markets and the aggregate economy. He is the author of more than ten books, including *A Rational Expectations Approach to Macroeconometrics: Testing Policy Ineffectiveness and Efficient Markets Models* (University of Chicago Press, 1983); *Money, Interest Rates, and Inflation* (Edward Elgar, 1993); *Inflation Targeting: Lessons from the International Experience* (Princeton University Press, 1999); *The Economics of Money, Banking, and Financial Markets*, 6th edition (Addison-Wesley, 2001); and has published over 100 articles in professional journals and books.

Professor Mishkin has served on the editorial board of the *American Economic Review*, has been an associate editor at the *Journal of Business and Economic Statistics* and *Journal of Applied Econometrics*, and was the editor of the Federal Reserve Bank of New York's *Economic Policy Review*. He is currently an associate editor (member of the editorial board) at seven academic journals: the *Journal of Money, Credit and Banking*; *Macroeconomics and Monetary Economics Abstracts*; *Journal of International Money and Finance*; *International Finance*; *Finance India*; *Economic Policy Review*; and the *Journal of Economic Perspectives*. He has been a consultant to the Board of Governors of the Federal Reserve System, the World Bank, and the International Monetary Fund, as well as to many central banks throughout the world. He was also a member of the International Advisory Board to the Financial Supervisory Service of South Korea. He is currently an academic consultant to and serves on the Economic Advisory Panel of the Federal Reserve Bank of New York.



Stanley G. Eakins has notable experience as a financial practitioner, serving as vice president and comptroller at the First National Bank of Fairbanks and as a commercial and real estate loan officer. A founder of Denali title and escrow agency, a title insurance company in Fairbanks, Alaska, he also ran the operations side of a bank and was the chief finance officer for a multimillion-dollar construction and development company.

Professor Eakins received his Ph.D. from Arizona State University. He is the Chairman of the Finance Department at East Carolina University. His research is focused primarily on the role of institutions in corporate control and how they influence investment practices. He is also interested in integrating multimedia tools into the learning environment and has received grants from East Carolina University in support of this work.

A contributor to journals such as the *Quarterly Journal of Business and Economics*, the *Journal of Financial Research*, and the *International Review of Financial Analysis*, Professor Eakins is also the author of *Finance: Institutions, Investments, and Management* (Addison-Wesley, 2002).

Contents in Brief

<i>Contents in Detail</i>	ix
<i>Preface</i>	xxvii
<i>About the Authors</i>	xxxv

Part 1	INTRODUCTION	I
1	Why Study Financial Markets and Institutions?	3
2	Overview of the Financial System	15
Part 2	FUNDAMENTALS OF INTEREST RATES	35
3	Understanding Interest Rates	37
4	The Behavior of Interest Rates	75
5	The Risk and Term Structure of Interest Rates	119
Part 3	CENTRAL BANKING AND THE CONDUCT OF MONETARY POLICY	147
6	Structure of Central Banks and the Federal Reserve System	149
7	Conduct of Monetary Policy: Tools, Goals, and Targets	171
Part 4	FINANCIAL MARKETS	213
8	The Money Markets	215
9	The Capital Markets	241
10	The Efficient Market Hypothesis	267
11	The Mortgage Markets	291
12	The Foreign Exchange Market	311
13	The International Financial System	339
Part 5	THE FINANCIAL INSTITUTIONS INDUSTRY	369
14	Theory of Financial Structure	371
15	The Banking Firm and Bank Management	401
16	Commercial Banking Industry: Structure and Competition	437
17	Savings Associations and Credit Unions	465
18	Banking Regulation	491
19	Insurance Companies and Pension Funds	519
20	Venture Capital Firms, Finance Companies, and Financial Conglomerates	547
21	Investment Banks, Brokerage Firms, and Mutual Funds	567
Part 6	THE MANAGEMENT OF FINANCIAL INSTITUTIONS	595
22	Risk Management in Financial Institutions	597
23	Hedging with Financial Derivatives	617
	GLOSSARY	649
	ANSWERS TO SELECTED QUESTIONS AND PROBLEMS	663
	INDEX	677

Contents in Detail

Preface xxvii

About the Authors xxxv

Part 1 INTRODUCTION I

Chapter 1 Why Study Financial Markets and Institutions? 3

Preview 3

Why Study Financial Markets? 3

Debt Markets and Interest Rates 4

The Stock Market 5

The Foreign Exchange Market 6

Why Study Financial Institutions? 7

Central Banks and the Conduct of Monetary Policy 8

Structure of the Financial System 8

Banks and Other Financial Institutions 8

Financial Innovation 8

Managing Risk in Financial Institutions 9

Applied Managerial Perspective 9

How We Will Study Financial Markets and Institutions 10

Exploring the Web 10

Web Exercise 11

Concluding Remarks 13

■ **Summary** 13

■ **Key Terms** 14

■ **Questions and Problems** 14

Chapter 2 Overview of the Financial System 15

Preview 15

Function of Financial Markets 16

Structure of Financial Markets 18

Debt and Equity Markets 18

Primary and Secondary Markets 18

Exchanges and Over-the-Counter Markets 19

Money and Capital Markets 20

Internationalization of Financial Markets 20

International Bond Market, Eurobonds, and Eurocurrencies 20

World Stock Markets 21

Function of Financial Intermediaries 21

FOLLOWING THE FINANCIAL NEWS Foreign Stock Market Indexes 22

Transaction Costs 22

BOX 1: GLOBAL The Importance Of Financial Intermediaries to Securities
Markets: An International Comparison 23

Asymmetric Information: Adverse Selection and Moral Hazard 24

Financial Intermediaries 26

Depository Institutions 26

<i>Contractual Savings Institutions</i>	28
<i>Investment Intermediaries</i>	28
Regulation of the Financial System	29
<i>Increasing Information Available to Investors</i>	29
<i>Ensuring the Soundness of Financial Intermediaries</i>	30
<i>Improving Control of Monetary Policy</i>	32
<i>Financial Regulation Abroad</i>	32
■ Summary	33
■ Key Terms	33
■ Questions and Problems	34
■ Web Exercises	34

Part 2 FUNDAMENTALS OF INTEREST RATES 35

Chapter 3 Understanding Interest Rates 37

Preview	37
Measuring Interest Rates	38
<i>Present Value</i>	39
APPLICATION Cost of the S&L Bailout: Was It Really \$500 Billion?	41
<i>Yield to Maturity</i>	41
BOX 1: GLOBAL Negative T-Bill Rates? Japan Shows the Way	49
Other Measures of Interest Rates	49
<i>Current Yield</i>	50
<i>Yield on a Discount Basis</i>	51
APPLICATION Reading the <i>Wall Street Journal</i> : The Bond Page	53
FOLLOWING THE FINANCIAL NEWS Treasury Bonds and Notes	54
FOLLOWING THE FINANCIAL NEWS Treasury Bills	55
FOLLOWING THE FINANCIAL NEWS Corporate Bonds	56
The Distinction Between Real and Nominal Interest Rates	56
BOX 2 With TIPS, Real Interest Rates Have Become Observable in the United States	59
The Distinction Between Interest Rates and Returns	59
<i>Maturity and the Volatility of Bond Returns: Interest-Rate Risk</i>	62
BOX 3 Helping Investors Select Desired Interest-Rate Risk	63
<i>Reinvestment Risk</i>	63
<i>Summary</i>	64
APPLICATION Should Retirees Invest in “Gilt-Edged” Long-Term Bonds?	64
THE PRACTICING FINANCIAL INSTITUTION MANAGER Calculating Duration to Measure Interest-Rate Risk	65
<i>Calculating Duration</i>	66
<i>Duration and Interest-Rate Risk</i>	69
■ Summary	71
■ Key Terms	72
■ Questions and Problems	72
■ Web Exercises	73

Chapter 4 The Behavior of Interest Rates 75

Preview	75
Determinants of Asset Demand	75
<i>Wealth</i>	76
<i>Expected Returns</i>	76

<i>Risk</i>	77
<i>Liquidity</i>	78
<i>Summary</i>	79
Benefits of Diversification	79
Loanable Funds Framework: Supply and Demand in the Bond Market	81
<i>Demand Curve</i>	81
<i>Supply Curve</i>	83
<i>Market Equilibrium</i>	83
<i>Supply and Demand Analysis</i>	84
Changes in Equilibrium Interest Rates	86
<i>Shifts in the Demand for Bonds</i>	86
<i>Shifts in the Supply of Bonds</i>	89
APPLICATION Changes in the Equilibrium Interest Rate Due to Expected Inflation or Business Cycle Expansions	91
<i>Changes in Expected Inflation: The Fisher Effect</i>	92
<i>Business Cycle Expansion</i>	93
APPLICATION Explaining Low Japanese Interest Rates	94
APPLICATION Reading the <i>Wall Street Journal</i> : The “Credit Markets” Column	95
APPLICATION Have Negative Savings Rates in the United States Led to Higher Interest Rates?	96
Liquidity Preference Framework: Supply and Demand in the Market for Money	96
FOLLOWING THE FINANCIAL NEWS The “Credit Markets” Column	97
Changes in Equilibrium Interest Rates	100
<i>Shifts in the Demand for Money</i>	101
<i>Shifts in the Supply of Money</i>	101
APPLICATION Changes in the Equilibrium Interest Rate Due to Changes in Income, the Price Level, or the Money Supply	101
<i>Changes in Income</i>	101
<i>Changes in the Price Level</i>	102
<i>Changes in the Money Supply</i>	102
APPLICATION Money and Interest Rates	103
<i>Does a Higher Rate of Growth of the Money Supply Lower Interest Rates?</i>	106
THE PRACTICING FINANCIAL INSTITUTION MANAGER Profiting from Interest-Rate Forecasts	109
FOLLOWING THE FINANCIAL NEWS Forecasting Interest Rates	110
■ Summary	111
■ Key Terms	112
■ Questions and Problems	112
■ Web Exercises	113
Appendix to Chapter 4 Applying the Asset Market Approach to a Commodity Market: The Case of Gold	114
Supply and Demand in the Gold Market	114
<i>Demand Curve</i>	114
<i>Supply Curve</i>	115
<i>Market Equilibrium</i>	116
Changes in the Equilibrium Price of Gold	116
<i>Shift in the Demand Curve for Gold</i>	116
<i>Shifts in the Supply Curve for Gold</i>	116
APPLICATION Changes in the Equilibrium Price of Gold Due to a Rise in Expected Inflation	117

APPLICATION	Reading the <i>Wall Street Journal</i> : The “Commodities” Column	117
FOLLOWING THE FINANCIAL NEWS	The “Commodities” Column	118

Chapter 5 The Risk and Term Structure of Interest Rates 119

Preview	119
Risk Structure of Interest Rates	119
<i>Default Risk</i>	120
APPLICATION	The Stock Market Crash of 1987 and the Junk Bond–Treasury Spread 123
APPLICATION	What If Treasury Securities Were No Longer Default-Free? 123
<i>Liquidity</i>	124
<i>Income Tax Considerations</i>	124
APPLICATION	Effects of the Bush Tax Cut on Bond Interest Rates 127
Term Structure of Interest Rates	127
FOLLOWING THE FINANCIAL NEWS	Yield Curves 128
<i>Pure Expectations Theory</i>	129
<i>Market Segmentation Theory</i>	133
<i>Liquidity Premium Theory</i>	135
<i>Evidence on the Term Structure</i>	137
<i>Summary</i>	139
APPLICATION	Interpreting Yield Curves, 1980–2002 139
THE PRACTICING FINANCIAL INSTITUTION MANAGER	Using the Term Structure to
Forecast Interest Rates	140
■ Summary	143
■ Key Terms	144
■ Questions and Problems	144
■ Web Exercises	145

Part 3 CENTRAL BANKING AND THE CONDUCT OF MONETARY POLICY 147

Chapter 6 Structure of Central Banks and the Federal Reserve System 149

Preview	149
Origins of the Federal Reserve System	149
Formal Structure of the Federal Reserve System	150
BOX 1: INSIDE THE FED	The Political Genius of the Founders of the Federal Reserve System 150
<i>Federal Reserve Banks</i>	151
BOX 2: INSIDE THE FED	Special Role of the Federal Reserve Bank of New York 153
<i>Member Banks</i>	154
<i>Board of Governors of the Federal Reserve System</i>	154
<i>Federal Open Market Committee (FOMC)</i>	155
BOX 3: INSIDE THE FED	Role of the Research Staff 156
<i>The FOMC Meeting</i>	156
BOX 4: INSIDE THE FED	Green, Blue, and Beige: What Do These Colors Mean at the Fed? 157
Informal Structure of the Federal Reserve System	158
BOX 5: INSIDE THE FED	Role of Member Banks in the Federal Reserve System 159
How Independent Is the Fed?	161
Structure and Independence of Foreign Central Banks	162
<i>Bank of Canada</i>	162
<i>Bank of England</i>	163