

financial institutions **management**

A RISK MANAGEMENT APPROACH

5TH EDITION

ANTHONY SAUNDERS
MARCIA MILLON CORNETT

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Financial Institutions Management

A Risk Management Approach

Fifth Edition

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This book is dedicated to Pat, Nicholas,
and Emily and to my mother, Evelyn.

Anthony Saunders

To the Millons and the Cornetts, especially
Galen.

Marcia Millon Cornett

About the Authors



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Anthony Saunders is the John M. Schiff Professor of Finance and Chair of the Department of Finance at the Stern School of Business at New York University. Professor Saunders received his PhD from the London School of Economics and has taught both undergraduate- and graduate-level courses at NYU since 1978. Throughout his academic career, his teaching and research have specialized in financial institutions and international banking. He has served as a visiting professor all over the world, including INSEAD, the Stockholm School of Economics, and the University of Melbourne. He is currently on the Executive Committee of the Salomon Center for the Study of Financial Institutions, NYU.

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Preface

The financial services industry continues to undergo dramatic changes. Not only have the boundaries between traditional industry sectors, such as commercial banking and investment banking, broken down but competition is becoming increasingly global in nature. Many forces are contributing to this breakdown in interindustry and intercountry barriers, including financial innovation, technology, taxation, and regulation. It is in this context that this book is written. Although the traditional nature of each sector's product activity is analyzed, a greater emphasis is placed on *new* areas of activities such as asset securitization, off-balance-sheet banking, and international banking.

When the first edition of this text was released in 1994, it was the first to analyze modern financial institutions management from a risk perspective. Thus, the title, *Financial Institutions Management: A Modern Perspective*. At that time, traditional texts presented an overview of the industry sector by sector, concentrating on balance sheet presentations and overlooking management decision making and risk management. Over the last decade other texts have followed this change, such that a risk management approach to analyzing modern financial institutions is now well accepted. Thus, the revised title: *Financial Institutions Management: A Risk Management Approach*.

The fifth edition of this text takes the same innovative approach taken in the first four editions and focuses on managing return and risk in modern financial institutions (FIs). *Financial Institutions Management's* central theme is that the risks faced by FI managers and the methods and markets through which these risks are managed are similar whether an institution is chartered as a commercial bank, a savings bank, an investment bank, or an insurance company.

As in any stockholder-owned corporation, the goal of FI managers should always be to maximize the value of the financial intermediary. However, pursuit of value maximization does not mean that risk management can be ignored.

Indeed, modern FIs are in the risk-management business. As we discuss in this book, in a world of perfect and frictionless capital markets, FIs would not exist and individuals would manage their own financial assets and portfolios. But since real-world financial markets are not perfect, FIs provide the positive function of bearing and managing risk on behalf of their customers through the pooling of risks and the sale of their services as risk specialists.

Intended Audience

Financial Institutions Management: A Risk Management Approach is aimed at upper-level undergraduate and MBA audiences. Occasionally there are more technical sections that are marked with a footnote. *These sections may be included or dropped from the chapter reading, depending on the rigor of the course, without harming the continuity of the chapters.*

Main Features

Throughout the text, special features have been integrated to encourage students' interaction with the text and to aid them in absorbing the material. Some of these features include:

- **Standard & Poor's Market Insight Questions**, which are included in the end-of-chapter questions and problems and which guide the student through this website to access data on specific financial institutions or industry sectors.
- **In-chapter Internet Exercises and references**, which guide the student to access the most recent data on the Web.
- **International material highlights**, which call out material relating to global issues.
- **In-chapter Examples**, which provide numerical demonstrations of the analytics described in various chapters.
- **Bold key terms and marginal glossary**, which highlight and define the main terms and concepts throughout the chapter.
- **Concept Questions**, which allow students to test themselves on the main concepts within each major chapter section.
- **Ethical Dilemmas, Industry Perspectives, and Technology in the News boxes**, which demonstrate the application of chapter material to real current events.

Organization

Since our focus is on return and risk and the sources of that return and risk, this book relates ways in which the managers of modern FIs can expand return with a managed level of risk to achieve the best, or most favorable, return-risk outcome for FI owners.

Chapter 1 introduces the special functions of FIs and takes an analytical look at how financial intermediation benefits today's economy. Chapters 2 to 6 provide an overview describing the key balance sheet and regulatory features of the major sectors of the U.S. financial services industry. We discuss depository institutions in Chapter 2, insurance institutions in Chapter 3, securities firms and investment banks in Chapter 4, mutual funds in Chapter 5, and finance companies in Chapter 6. In Chapter 7 we preview the risk measurement and management sections with an overview of the risks facing a modern FI. We divide the chapters on risk measurement and management into two sections: measuring risk and managing risk.

In Chapters 8 and 9 we start the risk-measurement section by investigating the net interest margin as a source of profitability and risk, with a focus on the effects of interest rate volatility and the mismatching of asset and liability durations on FI risk exposure. In Chapter 10 we analyze market risk, a risk that results when FIs actively trade bonds, equities, and foreign currencies.

In Chapter 11 we look at the measurement of credit risk on individual loans and bonds and how this risk adversely impacts an FI's profits through losses and provisions against the loan and debt security portfolio. In Chapter 12 we look at the risk of loan (asset) portfolios and the effects of loan concentrations on risk exposure. Modern FIs do more than generate returns and bear risk through traditional maturity mismatching and credit extensions. They also are increasingly engaging in off-balance-sheet activities to generate fee income (Chapter 13), making technological

investments to reduce costs (Chapter 14), pursuing foreign exchange activities and overseas financial investments (Chapter 15), and engaging in sovereign lending and securities activities (Chapter 16). Each of these has implications for the size and variability of an FI's profits and/or revenues. In addition, as a by-product of the provision of their interest rate and credit intermediation services, FIs face liquidity risk. We analyze the special nature of this risk in Chapter 17.

In Chapter 18 we begin the risk-management section by looking at ways in which FIs can insulate themselves from liquidity risk. In Chapter 19 we look at the key role deposit insurance and other guaranty schemes play in reducing liquidity risk. At the core of FI risk insulation is the size and adequacy of the owners' capital or equity investment in the FI, which is the focus of Chapter 20. Chapters 21 to 23 analyze how and why product diversification and geographic diversification—both domestic and international—can improve an FI's return-risk performance and the impact of regulation on the diversification opportunity set. Chapters 24 through 28 review various new markets and instruments that have been innovated or engineered to allow FIs to better manage three important types of risk: interest rate risk, credit risk, and foreign exchange risk. These markets and instruments and their strategic use by FIs include futures and forwards (Chapter 24); options, caps, floors, and collars (Chapter 25); swaps (Chapter 26); loan sales (Chapter 27); and securitization (Chapter 28).

Changes in this Edition

Each chapter in this edition has been revised thoroughly to reflect the most up-to-date information available. End-of-chapter questions and problem material have also been revised to provide a more complete selection of testing material.

The following are some of the new features of this revision:

- In-chapter discussions of the many ethical controversies involving financial institutions (such as those involving commercial banks, investment banks, and mutual funds) have been added to most chapters.
- Ethical Dilemmas boxes have been added to many chapters which highlight specific news stories relating to the ethical controversies involving financial institutions in the early 2000s.
- The latest information pertaining to new capital adequacy rules (or Basel II) that are scheduled for implementation at the end of 2006 has been added to Chapter 20. The latest changes to deposit insurance premiums charged to financial institutions, insurance coverage for financial institutions customers, and the Federal Reserve's discount window lending programs are discussed in Chapter 19.
- Discussions of the impact of the Patriot Act and the Sarbanes-Oxley Act on financial institutions management are included in several chapters.
- The impact of the economic slowdown, the subsequent economic recovery in the United States and worldwide, and the impact of historically low interest rates on financial institutions are highlighted and discussed.
- The impact of the newest wave of bank mergers (domestic and international) is highlighted in Chapters 22 through 24.
- A discussion of the controversy surrounding the federal government's implicit backing of Fannie Mae and Freddie Mac and the impact the increased level of risk in these two agencies posed to the U.S. economy in the early 2000s is added to Chapter 28.

- Tables and figures in all chapters have been revised to include the most recently available data.
- Sections of the text that include a discussion of international issues and events are highlighted. These sections have been updated to contain the most recent issues pertaining to financial institutions worldwide.
- Appendices for Chapters 8, 11, 18, and 25 are available on the book's Web site at www.mhhe.com/saunders5e. The presence of an online appendix is specifically noted in the end-of-chapter material.
- Internet problems included in the end-of-chapter problems have been substantially enhanced. These problems now guide students through the Web site as they collect the requested data. Further, these problems now ask students to evaluate the data collected at the Web site.
- Internet Exercises have been added to the body of various chapters. These exercises guide the student to access the most recent data on the Web as it is discussed in the body of the chapter.
- S&P Market Insight problems have been added to the end-of-chapter problems. These problems require the use of the Educational Version of Market Insight, a Standard and Poor's Compustat® database. Over 600 companies (of which more than 100 are financial institutions) and key financial data pertaining to them are available as a problem-solving resource.
- Chapter Notation used in each chapter has been summarized and added to the book's Web site (located at www.mhhe.com/saunders5e). These have been summarized and are listed by chapter at the Web site.

We have retained and updated these features:

- The risk approach of *Financial Institutions Management* has been retained, keeping the first section of the text as an introduction and the last two sections as a risk measurement and risk management summary, respectively.
- We again present a detailed look at what is new in each of the different sectors of the financial institutions industry in the first six chapters of the text. We have highlighted the continued international coverage with a global issues icon throughout the text.
- The discussion of how the Financial Services Modernization Act of 1999 continues to affect financial institutions remains in several chapters.
- Chapter 14 includes material on electronic technology and the Internet's impact on financial services. Technological changes occurring over the last decade have changed the way financial institutions offer services to customers, both domestically and overseas. The effect of technology is also referenced in other chapters where relevant.
- Coverage of Credit Risk models (including newer models, such as KMV, CreditMetrics, and CreditRisk+) remains in the text.
- Coverage in the "Product Diversification" chapter and the "Geographic Diversification" chapter explores the increased inroads of banks into the insurance field, the move towards nationwide banking (in the United States), and the rapid growth of foreign banks and other intermediaries in the United States.
- A Web site has been expanded as a supplement to the text. The Web site, www.mhhe.com/saunders5e, will include information about the book and an Instructor's site containing the password protected Instructor's Manual and PowerPoint material.

- Numerous highlighted in-chapter Examples remain in the chapters.
- Technology in the News boxes on how technology and the Internet are affecting financial institutions as an industry have been updated.
- Internet references remain throughout each chapter as well as at the end of each chapter and Internet questions are found after the end-of-chapter questions.
- An extensive problem set can be found at the end of each chapter that allows students to practice a variety of skills using the same data or set of circumstances.

Ancillaries

To assist in course preparation, the following ancillaries are offered:

- New to this edition is the Saunders/Cornett *Financial Institutions Management* Web site: www.mhhe.com/saunders5e. This site will be accessible to both professors and students, having a username and password protecting the instructor's portion of the site. The site will include: About the Authors, Table of Contents, Internet Problems, URLs, PowerPoint, Instructor's Manual, Online Quizzes, and an Update Section.
- New to the fifth edition are online quizzes, available at www.mhhe.com/saunders5e, that provide students with chapter-specific interactive quizzing for self-evaluation.
- The *Instructor's Manual/Test Bank*, prepared by Ernie Swift, Georgia State University, is included on the Instructor's Resource CD and includes detailed chapter contents, additional examples for use in the classroom, PowerPoint teaching notes, complete solutions to end-of-chapter questions and problem material, and additional problems for test material.
- The PowerPoint Presentation System was created by Kenneth Stanton of the University of Baltimore and is included on the Instructor's Resource CD. It contains useful and graphically enhanced outlines, summaries, and exhibits from the text. The slides can be edited, printed, or arranged to fit the needs of your course.
- Brownstone, our computerized version of the test bank, allows the instructor to pick and choose the order and number of questions to include for each test, and is included on the Instructor's Resource CD.
- PowerWeb: Ethics in Finance offers current articles, curriculum-based materials, weekly updates with assessment, informative and timely world news, Web links, research tools, and interactive exercises, as well as providing instructors an easy way to integrate the Internet into a course. Free with the purchase of a new book, this feature can be found at www.dushkin.com/powerweb.
- As an interactive, online map, Finance around the World—an outstanding global financial resource that provides “live real-time links” for researching and exploring finance—allows you to access finance and business news and analysis from your favorite global region of interest.
- As an adopter of a McGraw-Hill text, you can easily provide a 15-week subscription to *The Wall Street Journal* in print and online for your students. For only \$20, in addition to the price of the text, you can package a student subscription to *The Wall Street Journal* with your textbook. Experience with the *Journal* will give your students the tools to integrate the theories you teach in the classroom with real world examples. Please contact your McGraw-Hill/Irwin representative for ordering information.

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