

SIXTH EDITION

# Financial Institutions Management

A RISK MANAGEMENT  
APPROACH

**Anthony Saunders**  
**Marcia Millon Cornett**



# Financial Institutions Management

**A Risk Management Approach**

**Sixth Edition**

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## FINANCIAL INSTITUTIONS MANAGEMENT: A RISK MANAGEMENT APPROACH

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# Financial Institutions Management

A Risk Management Approach



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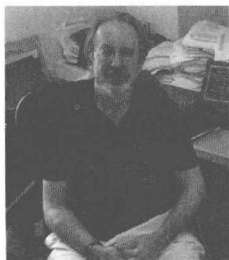
This book is dedicated to Pat, Nicholas,  
and Emily and to my mother, Evelyn.

Anthony Saunders

To the Millons and the Cornetts,  
especially Galen.

Marcia Millon Cornett

# About the Authors



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# 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 title: *Financial Institutions Management: A Risk Management Approach*.

The sixth edition of this text takes the same innovative approach taken in the first five 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 Web site 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 through 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 and hedge 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) pursuing foreign exchange activities and overseas financial investments (Chapter 15), engaging in sovereign lending and securities activities (Chapter 16), and making technological investments to reduce costs (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 and 22 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 23 through 27 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 23); options, caps, floors, and collars (Chapter 24); swaps (Chapter 25); loan sales (Chapter 26); and securitization (Chapter 27).

## 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 expanded and updated to provide a complete selection of testing material.

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

- The discussion of hedge funds in Chapter 5 has been expanded and included in the body of Chapter 5. These relatively unregulated investment companies now manage over \$2 trillion in assets and have become a major sector of the financial institutions industry.
- Chapter 6 includes a discussion of the crash in the subprime mortgage market and the impact on finance companies that were deeply involved in this area of mortgage lending.
- The impact of the devastating hurricane season in 2005, including Hurricane Katrina, on insurance companies has been added to Chapter 3.
- Integrated Mini Cases have been added to several chapters. These exercises combine the various numerical concepts within a chapter into one overall problem.
- Additional end-of-chapter problems have been added to many of the chapters.
- A more detailed look at the interaction of interest rates, inflation, and foreign exchange rates has been added to Chapter 14.
- Chapters 21 and 22 in the previous edition of the text have been combined so that domestic and international geographic expansion are viewed as part of an overall expansion strategy for financial institutions rather than as independent activities.

- The order of Chapters 14 through 16 has been changed so that client-based risk measures are now all presented first followed by risk measures associated with the internal operations of the financial institution.
- The growth of the financial services holding company as a corporate form, first allowed under the 1999 Financial Services Modernization Act, is highlighted in several chapters. These entities can combine the various sectors of the financial institutions industry into one holding company that offers a whole variety of financial services.
- Ethical dilemmas continue to be an issue for financial institutions. In-chapter discussions of the many ethical controversies involving financial institutions (such as those involving commercial banks, investment banks, and mutual funds) have been updated.
- The latest information pertaining to new capital adequacy rules (or Basel II) that were implemented in 2006 has been highlighted in Chapter 20. The changes, implemented in 2007, to the bank and savings institution insurance fund, deposit insurance premiums charged to financial institutions, and insurance coverage for financial institutions customers are discussed in Chapter 19.
- The impact of the rise in interest rates in the mid-2000s on financial institutions is highlighted and discussed.
- Tables and figures in all chapters have been revised to include the most recently available data.

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 16 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 Expansion" chapter explores the increased inroads of banks into the insurance field, the move toward 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/saunders6e](http://www.mhhe.com/saunders6e), will include information about the book and an instructor's site containing the password-protected Instructor's Manual and Power-Point 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, including S&P Market Insight, Excel, and Internet exercises, 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:

- The Online Learning Center at [www.mhhe.com/saunders6e](http://www.mhhe.com/saunders6e) includes the following:
- The *Instructor's Manual/Test Bank* 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, both in Word and computerized testing format.
- 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.
- Online quizzes are available at [www.mhhe.com/saunders6e](http://www.mhhe.com/saunders6e) that provide students with chapter-specific interactive quizzing for self-evaluation.

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