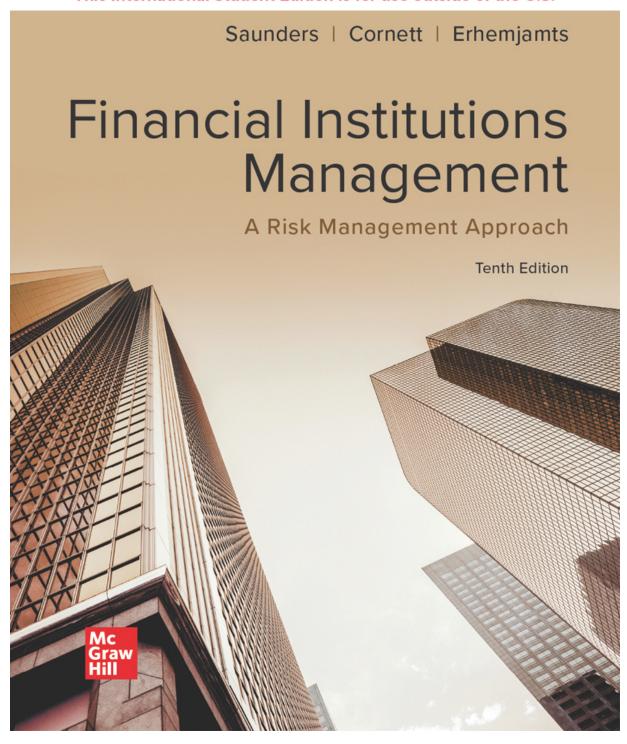
This International Student Edition is for use outside of the U.S.



page xv

Brief Contents

PART ONE

Introduction 1

- 1 Why Are Financial Institutions Special? 2
- 2 Financial Services: Depository Institutions 26
- 3 Financial Services: Finance Companies 70
- 4 Financial Services: Securities Firms and Investment Banks
 85
- 5 Financial Services: Mutual Fund and Hedge Fund Companies 116
- **6** Financial Services: Insurance Companies 157
- 7 Risks of Financial Institutions 184

PART TWO

Measuring Risk 207

- 8 Interest Rate Risk I 208
- 9 <u>Interest Rate Risk II 239</u>
- 10 <u>Credit Risk: Individual Loan Risk 278</u>
- 11 Credit Risk: Loan Portfolio and Concentration Risk 329

- **12** <u>Liquidity Risk 356</u>
- Foreign Exchange Risk 391
- **14** Sovereign Risk 423
- **15** Market Risk 450
- 16 Off-Balance-Sheet Risk 491
- 17 <u>Technology and Other Operational Risks 518</u>
- Fintech Risks 550

PART THREE

Managing Risk 575

- 19 <u>Liability and Liquidity Management 576</u>
- 20 <u>Deposit Insurance and Other Liability Guarantees 606</u>
- 21 <u>Capital Adequacy 645</u>
- **22** Product and Geographic Expansion 697
- **23** Futures and Forwards 736
- 24 Options, Caps, Floors, and Collars 773
- **25** Swaps 811
- **26** Loan Sales 842
- **27** Securitization 858

<u>Index 903</u>



page xvi

Contents

PART ONE INTRODUCTION 1

Chapter One

Why Are Financial Institutions Special? 2

Introduction 2

Financial Institutions' Specialness 4

FIs Function as Brokers 5

FIs Function as Asset Transformers 5

Information Costs 6

Liquidity and Price Risk 7

Other Special Services 7

Other Aspects of Specialness 8

The Transmission of Monetary Policy 8

Credit Allocation 9

Intergenerational Wealth Transfers or Time Intermediation 9

Payment Services 9

Denomination Intermediation 9

Specialness and Regulation 10

Safety and Soundness Regulation 11

Monetary Policy Regulation 12

Credit Allocation Regulation 13

Consumer Protection Regulation 13

Investor Protection Regulation 14

Entry Regulation 14

The Changing Dynamics of Specialness 15

Trends in the Uni	ted States 15
Global Trends 21	
nmary 22	•

Summary 22

Appendix 1A

The Financial Crisis: The Failure of Financial Services Institution

Specialness 25

(www.mhhe.com/saunders10e)

Appendix 1B

Monetary Policy Tools 25

(www.mhhe.com/saunders10e)

Chapter Two

Financial Services: Depository Institutions 26

Introduction 26

Commercial Banks 28

Size, Structure, and Composition of the Industry 29

Balance Sheet and Recent Trends 33

Other Fee-Generating Activities 40

Regulation 40

<u>Industry Performance 46</u>

Savings Institutions 49

Size, Structure, and Composition of the Industry 50

Balance Sheet and Recent Trends 52

Regulation 53

Industry Performance 54

Credit Unions 56

Size, Structure, and Composition of the Industry 56

Balance Sheet and Recent Trends 58

Regulation 59

Industry Performance 59

Global Financial Performance 61

Summary 64

Appendix 2A

Financial Statement Analysis Using a Return on Equity (ROE) Framework 69

(www.mhhe.com/saunders10e)

Appendix 2B

Commercial Banks' Financial Statements and Analysis 69

(www.mhhe.com/saunders10e)

Chapter Three

Financial Services: Finance Companies 70

Introduction 70

Size, Structure, and Composition of the Industry 70

Balance Sheet and Recent Trends 74

Assets 74

Liabilities and Equity 78

Industry Performance 79

Regulation 81

Global Issues 83

Summary 83

Chapter Four

<u>Financial Services: Securities Firms and Investment Banks</u> 85

Introduction 85

Size, Structure, and Composition of the Industry 86

page xvii

Balance Sheet and Recent Trends 99

Recent Trends 99

Balance Sheet 102

Regulation 104

Global Issues 109

Summary 112

Chapter Five

<u>Financial Services: Mutual Fund and Hedge Fund</u> <u>Companies 116</u>

T . 1	•	4 4	-
Introd	11011011	11	4
шиоч	luction	11	v

Size, Structure, and Composition of the Mutual Fund Industry 117

Historical Trends 117

<u>Different Types of Mutual Funds 119</u>

Mutual Fund Objectives 124

Investor Returns from Mutual Fund Ownership 126

Mutual Fund Costs 132

Balance Sheet and Recent Trends for the Mutual Fund Industry 136

Money Market Funds 136

Long-Term Funds 137

Regulation of Mutual Funds 138

Global Issues in the Mutual Fund Industry 142

Hedge Funds 144

Types of Hedge Funds 145

Fees on Hedge Funds 151

Offshore Hedge Funds 152

Regulation of Hedge Funds 152

Summary 154

Chapter Six

Financial Services: Insurance Companies 157

Introduction 157

Life Insurance 158

Size, Structure, and Composition of the Industry 158

Balance Sheet and Recent Trends 162

Regulation 165

Property-Casualty Insurance 167

Size, Structure, and Composition of the Industry 167

Balance Sheet and Recent Trends 169

Regulation 178

Global Issues 179

Summary 181

Chapter Seven

Risks of Financial Institutions 184

Introduction 184

Interest Rate Risk 185

Credit Risk 187

Liquidity Risk 189

Foreign Exchange Risk 191

Country or Sovereign Risk 193

Market Risk 194

Off-Balance-Sheet Risk 195

Technology and Operational Risks 197

FinTech Risk 198

Insolvency Risk 200

Other Risks and the Interaction of Risks 200

Summary 201

PART TWO

MEASURING RISK 207

Chapter Eight Interest Rate Risk I 208

Introduction 208

The Level and Movement of Interest Rates 209

The Repricing Model 211

Rate-Sensitive Assets 213

Rate-Sensitive Liabilities 214

Equal Changes in Rates on RSAs and RSLs 217

Unequal Changes in Rates on RSAs and RSLs 218

Weaknesses of The Repricing Model 221

Market Value Effects 221

Overaggregation 221

The Problem of Runoffs 222

Cash Flows from Off-Balance-Sheet Activities 222

Summary 223

Appendix 8A

The Maturity Model 232

(www.mhhe.com/saunders10e)

Appendix 8B

Term Structure of Interest Rates 232

Chapter Nine Interest Rate Risk II 239

Introduction 239

Duration: A Simple Introduction 240

A General Formula for Duration 242

The Duration of Interest-Bearing Bonds 244

The Duration of Zero-Coupon Bonds 246

The Duration of Consol Bonds (Perpetuities) 246

page xviii

Features of Duration 247

Duration and Maturity 247

Duration and Yield 248

Duration and Coupon Interest 248

The Economic Meaning of Duration 249

Semiannual Coupon Bonds 253

Duration and Interest Rate Risk 254

<u>Duration and Interest Rate Risk Management on a Single Security 254</u> <u>Duration and Interest Rate Risk Management on the Whole Balance</u> Sheet of an FI 257

<u>Immunization and Regulatory Considerations 264</u>

<u>Difficulties in Applying the Duration Model 265</u>

Duration Matching Can Be Costly 266

Immunization Is a Dynamic Problem 266

Large Interest Rate Changes and Convexity 267

Summary 2

Appendix 9A

The Basics of Bond Valuation 277

(www.mhhe.com/saunders10e)

Appendix 9B

<u>Incorporating Convexity into the Duration Model 277</u>

(www.mhhe.com/saunders10e)

Chapter Ten

Credit Risk: Individual Loan Risk 278

Introduction 278

Credit Quality Problems 279

Types of Loans 282

Commercial and Industrial Loans 282

Real Estate Loans 284

Individual (Consumer) Loans 286

Other Loans 287

Calculating the Return on a Loan 288

The Contractually Promised Return on a Loan 288

The Expected Return on a Loan 291

Retail Versus Wholesale Credit Decisions 292

Retail 292

Wholesale 293

Measurement of Credit Risk 294

Default Risk Models 295

Qualitative Models 295

Quantitative Models 298

Newer Models of Credit Risk Measurement and Pricing 302

Summary 319

Appendix 10A

Credit Analysis and Loan Underwriting 328

(www.mhhe.com/saunders10e)

Appendix 10B

Black-Scholes Option Pricing Model 328

(www.mhhe.com/saunders10e)

Chapter Eleven

Credit Risk: Loan Portfolio and Concentration Risk 329

Introduction 329

Simple Models of Loan Concentration Risk 330

Loan Portfolio Diversification and Modern Portfolio Theory (MPT) 333

Moody's Analytics Portfolio Manager Model 336

Partial Applications of Portfolio Theory 339

Regulatory Models 343

Summary 345

Appendix 11A

CreditMetrics 350

Appendix 11B

CreditRisk+ 353

Chapter Twelve Liquidity Risk 356

Introduction 356

Causes of Liquidity Risk 357

<u>Liquidity Risk at Depository Institutions 358</u>

Liability-Side Liquidity Risk 358

Asset-Side Liquidity Risk 362

Measuring a DI's Liquidity Risk Exposure 364

New Liquidity Risk Measures Implemented by the Bank for

<u>International Settlements 366</u>

Liquidity Planning 374

<u>Liquidity Risk, Unexpected Deposit Drains, and Bank Runs 375</u>

Bank Runs, the Discount Window, and Deposit Insurance 376

<u>Liquidity Risk at Other Types of Financial Institutions 377</u>

Life Insurance Companies 377

<u>Property–Casualty Insurers 378</u>

Investment Funds 378

Summary 381

Appendix 12A

Illustrative Template for the LCR 388

page xix

Chapter Thirteen Foreign Exchange Risk 391

Introduction 391

Foreign Exchange Rates and Transactions 391

Foreign Exchange Rates 391

Foreign Exchange Transactions 392

Sources of Foreign Exchange Risk Exposure 395

Foreign Exchange Rate Volatility and FX Exposure 399

Foreign Currency Trading 400

FX Trading Activities 401

Foreign Asset and Liability Positions 403

The Return and Risk of Foreign Investments 403

Risk and Hedging 405

Multicurrency Foreign Asset-Liability Positions 409

Interaction of Interest Rates, Inflation, and Exchange Rates 410

Purchasing Power Parity 411

Interest Rate Parity Theorem 413

Summary 415

Chapter Fourteen Sovereign Risk 423

Introduction 423

Credit Risk Versus Sovereign Risk 427

Debt Repudiation versus Debt Rescheduling 429

Country Risk Evaluation 431

Outside Evaluation Models 431

OECD Country Risk Classifications 433

Internal Evaluation Models 434

<u>Using Market Data to Measure Risk: The Secondary Market for LDC</u> <u>and Emerging Market Debt 443</u>

Summary 445

Appendix 14A

Mechanisms for Dealing with Sovereign Risk Exposure 449

(www.mhhe.com/saunders10e)

Chapter Fifteen Market Risk 450

Introduction 450

Calculating Market Risk Exposure 454

The RiskMetrics Model 455

The Market Risk of Fixed-Income Securities 456

Foreign Exchange 459

Equities 460

Portfolio Aggregation 461

Historic (Back Simulation) Approach 464

The Historic (Back Simulation) Model versus RiskMetrics 467

The Monte Carlo Simulation Approach 468

Expected Shortfall 472

Regulatory Models: The BIS Standardized Framework 475

The BIS Regulations and Large-Bank Internal Models 481

Summary 485

Chapter Sixteen Off-Balance-Sheet Risk 491

Introduction 491

Off-Balance-Sheet Activities and FI Solvency 492

Returns and Risks of Off-Balance-Sheet Activities 496

Loan Commitments 498

Commercial Letters of Credit and Standby Letters of Credit 501

Derivative Contracts: Futures, Forwards, Swaps, and Options 504

Forward Purchases and Sales of When-Issued Securities 507

Loans Sold 508

Non-schedule L Off-Balance-Sheet Risks 509

Settlement Risk 509

Affiliate Risk 510

The Role of OBS Activities in Reducing Risk 511

Summary 513

Appendix 16A

A Letter of Credit Transaction 517

(www.mhhe.com/saunders10e)

Chapter Seventeen

Technology and Other Operational Risks 518

Introduction 518

Sources of Operational Risk 521

Information Technology (IT) Risks 522

Strategic Risk of IT 522

Cybersecurity Risk 524

Technology Vendor and Third-Party Risk 526

Data Management Risk 527

Risk of Ineffective Risk Management 528

page xx

The Effect of Technology on Revenues and Costs 529

Technology and Revenues 530

Technology and Costs 531

Technology and The Evolution of the Payments System 535

Risks That Arise in an Electronic Transfer Payment System 537

Regulatory Issues and Technology and Operational Risks 544

Summary 547

Chapter Eighteen Fintech Risks 550

T		550
Introd	luction	つつい

The Evolution of Fintech 551

Changing Relationship Between Banks and Fintechs 555

The Types of Fintech Innovations 557

Payments, Clearing, and Settlement Services 558

Market Support Services 564

Credit, Deposit, and Capital-Raising Services 570

Investment Management Services 570

Regulatory Approaches to Fintech 571

Fintech Charters and Other Licenses 572

International Regulations 573

Summary 573

PART THREE

MANAGING RISK 575

Chapter Nineteen

Liability and Liquidity Management 576

Introduction 576

Liquid Asset Management 576

Monetary Policy Implementation Reasons 577

Taxation Reasons 577

The Composition of the Liquid Asset Portfolio 578

Return-Risk Trade-Off For Liquid Assets 579

<u>The Liquid Asset Reserve Management Problem for U.S. Depository</u> <u>Institutions 579</u>

<u>Undershooting/Overshooting of the Reserve Target 584</u>

Managing Liquid Assets Other than Cash 588

Liability Management 589

Funding Risk and Cost 589

Choice of Liability Structure 590

<u>Demand Deposits 590</u>

Interest-Bearing Checking (NOW) Accounts 591

<u>Passbook Savings 593</u>

Money Market Deposit Accounts (MMDAs) 593

Retail Time Deposits and CDs 594

Wholesale CDs 594

Federal Funds 595

Repurchase Agreements (RPs) 596

Other Borrowings 597

<u>Liquidity and Liability Structures for U.S. Depository Institutions 598</u>

Liability and Liquidity Risk Management In Insurance Companies 600

<u>Liability and Liquidity Risk Management In Other Financial Institutions 601</u> <u>Summary 601</u>

Appendix 19A

Federal Reserve Requirement Accounting 605

(www.mhhe.com/saunders10e)

Appendix 19B

Bankers' Acceptances and Commercial Paper as Sources of Financing 605 (www.mhhe.com/saunders10e)

Chapter Twenty

Deposit Insurance and Other Liability Guarantees 606

Introduction 606

Bank and Thrift Guaranty Funds 607

The Causes of the Depository Fund Insolvencies 609

The Financial Environment 609

Moral Hazard 610

Panic Prevention versus Moral Hazard 611

Controlling Depository Institution Risk Taking 611

Stockholder Discipline 612

<u>Depositor Discipline 617</u>

Regulatory Discipline 622

Non-U.S. Deposit Insurance Systems 623

The Discount Window 624

Deposit Insurance versus the Discount Window 624

The Discount Window 624

Other Guaranty Programs 627

National Credit Union Administration 627

Property-Casualty and Life Insurance Companies 627

The Securities Investor Protection Corporation 628

The Pension Benefit Guaranty Corporation 629

page xxi

Summary 631

Appendix 20A

Calculation of Deposit Insurance Premiums 636

Appendix 20B

Press Release 644

(www.mhhe.com/saunders10e)

Appendix 20C

<u>Deposit Insurance Coverage for Commercial Banks in Various Countries 644</u> (www.mhhe.com/saunders10e)

Chapter Twenty-One Capital Adequacy 645

Introduction 645

Capital and Insolvency Risk 647

Capital 647

The Market Value of Capital 648

The Book Value of Capital 649

The Discrepancy between the Market and Book Values of Equity 649

Arguments Against Market Value Accounting 650

Capital Adequacy in the Commercial Banking and Thrift Industry 652

Credit Risk and Risk-Based Capital 654

Capital 657

Risk-Weighted Assets 659

Interest Rate Risk, Market Risk, and Risk-Based Capital 672

Operational Risk and Risk-Based Capital 673

Basel III Reforms 675

Capital Requirements for Other Financial Institutions 68	Capital	Requiremen	ts for Other	r Financial	Institutions	680
--	---------	------------	--------------	-------------	--------------	-----

Securities Firms 680

Life Insurance 681

Property-Casualty Insurance 683

Summary 685

Appendix 21A

Internal Ratings-Based Approach to Measuring Risk-Weighted Assets 693

Appendix 21B

Methodology Used to Determine G-SIBs' Capital Surcharge 696 (www.mhhe.com/saunders10e)

Chapter Twenty-Two Product and Geographic Expansion 697

Introduction 697

Product Diversification 698

Segmentation in the U.S. Financial Services Industry 699

Commercial and Investment Banking Activities 699

Banking and Insurance 702

Commercial Banking and Commerce 703

Nonbank Financial Service Firms and Banking 703

Nonbank Financial Service Firms and Commerce 705

Activity Restrictions in the United States Versus Other Countries 706

<u>Issues Involved in the Diversification of Product Offerings 707</u>

Safety and Soundness Concerns 707

Economies of Scale and Scope 709

Conflicts of Interest 710

Deposit Insurance 712

Regulatory Oversight 712

Competition 713

Domestic Geographic Expansion 714

Regulatory Factors Affecting Geographic Expansion 715

Insurance Companies 715

Thrifts 715

Commercial Banks 715

Cost And Revenue Synergies	Affecting Domestic	Geographic	Expansion by
Merger and Acquisition 718	9		

Cost Synergies 719

Revenue Synergies 720

Merger Guidelines for Acceptability 720

Other Market- and Firm-Specific Factors Affecting Domestic Geographic

Expansion Decisions 723

Global and International Expansions 724

U.S. Banks Abroad 725

Foreign Banks in the United States 728

Advantages and Disadvantages of International Expansion 730

Advantages 731

Disadvantages 731

Summary 732

Chapter Twenty-Three Futures and Forwards 736

Introduction 736

Forward and Futures Contracts 738

Spot Contracts 738

Forward Contracts 738

Futures Contracts 740

page xxii

Forward Contracts and Hedging Interest Rate Risk 741

Hedging Interest Rate Risk with Futures Contracts 742

Microhedging 742

<u>Macrohedging 743</u>

Routine Hedging versus Selective Hedging 743

Macrohedging with Futures 744

The Problem of Basis Risk 751

Hedging Foreign Exchange Risk 753

Forwards 753

F	utures	754
1	uiuics	/ 27

Estimating the Hedge Ratio 757

Hedging Credit Risk with Futures and Forwards 760

Credit Forward Contracts and Credit Risk Hedging 761

Futures Contracts and Catastrophe Risk 763

Regulation of Derivative Securities 763

Summary 765

Appendix 23A

Microhedging with Futures 772

(www.mhhe.com/saunders10e)

Chapter Twenty-Four

Options, Caps, Floors, and Collars 773

Introduction 773

Basic Features of Options 773

Buying a Call Option on a Bond 774

Writing a Call Option on a Bond 775

Buying a Put Option on a Bond 776

Writing a Put Option on a Bond 776

Writing Versus Buying Options 777

Economic Reasons for Not Writing Options 777

Regulatory Reasons 779

Futures versus Options Hedging 779

The Mechanics of Hedging A Bond or Bond Portfolio 780

<u>Hedging with Bond Options Using the Binomial Model 781</u>

Actual Bond Options 785

<u>Using Options to Hedge Interest Rate Risk on The Balance Sheet 787</u>

<u>Using Options to Hedge Foreign Exchange Risk 792</u>

Hedging Credit Risk with Options 793

Hedging Catastrophe Risk with Call Spread Options 794

Caps, Floors, and Collars 795

Caps 796

Floors 799

Collars 800

Caps, Floors, Collars, and Credit Risk 803

Summary 803

Appendix 24A

Microhedging with Options 810

(www.mhhe.com/saunders10e)

Chapter Twenty-Five Swaps 811

Introduction 811

Swap Markets 812

Interest Rate Swaps 813

Realized Cash Flows on an Interest Rate Swap 817

Macrohedging with Swaps 818

Currency Swaps 821

Fixed-Fixed Currency Swaps 821

Fixed-Floating Currency Swaps 823

Credit Swaps 824

Total Return Swaps 826

Pure Credit Swaps 828

CDS Indexes 828

Swaps And Credit Risk Concerns 829

Netting and Swaps 830

Payment Flows Are Interest, Not Principal 831

Standby Letters of Credit 831

<u>Libor Transition 831</u>

Summary 833

Appendix 25A

Setting Rates on an Interest Rate Swap 838

Chapter Twenty-Six Loan Sales 842

Introduction 842

The Bank Loan Sales Market 843

<u>Definition of a Loan Sale 843</u>

Types of Loan Sales 843

Types of Loan Sales Contracts 845

Trends in Loan Sales 846

The Buyers and the Sellers 847

Why Banks and Other FIs Sell Loans 853

Reserve Requirements 853

Fee Income 853

Capital Costs 853

Liquidity Risk 853

Factors Affecting Loan Sales Growth 854

Access to the Commercial Paper Market 854

Customer Relationship Effects 854

Legal Concerns 854

BIS Capital Requirements 855

Market Value Accounting 855

page xxiii

Asset Brokerage and Loan Trading 855

Government Loan Sales 855

Credit Ratings 855

Purchase and Sale of Foreign Bank Loans 855

Summary 856

Chapter Twenty-Seven Securitization 858

Introduction 858

Mechanisms Used to Convert On-Balance-Sheet Assets to A Securitized

Asset 859

The Pass-Through Security 862

GNMA 863

FNMA 863

FHLMC 864

The Incentives and Mechanics of Pass-Through Security Creation 864

Prepayment Risk on Pass-Through Securities 869

Prepayment Models 874

<u>Government Sponsorship and Oversight of FNMA and Freddie Mac</u> 882

The Collateralized Mortgage Obligation (CMO) 885

Creation of CMOs 885

Class A, B, and C Bond Buyers 888

Other CMO Classes 888

The Mortgage-Backed Bond (MBB) or Covered Bond 889

Innovations In Securitization 891

Mortgage Pass-Through Strips 891

Securitization of Other Assets 894

Can All Assets Be Securitized? 895

Summary 897

Appendix 27A

Fannie Mae and Freddie Mac Balance Sheets 902

(www.mhhe.com/saunders10e)

Index 903

page xxiv