

Contents

Volume 1

Preface	iii
About the Authors.....	v
How to Use This Manual	vii

Part I: Essential Elements of Investment Management

Chapter I-1 The Investment Officer's Job and the Organization of the Investment Function

The Board	I-1-1
Responsibilities of the Investment Officer.....	I-1-2
Investment Committees	I-1-4
Constraints Imposed by Institutional Resources.....	I-1-4
Importance of Investment Information	I-1-5
Constraints Imposed by Other Goals, Objectives, and Policies.....	I-1-6
Liquidity	I-1-6
Asset/Liability Management.....	I-1-6

Chapter I-2 Fundamental Concepts for Bank Investment Officers

Bond Basics	I-2-1
What Is a Debt Security?	I-2-1
General Characteristics of Debt Securities	I-2-1
Amount, Face Value, or Par.....	I-2-2
Interest Rates Paid	I-2-2
Primary and Secondary Markets.....	I-2-3

Life of the Security	I-2-3
Yield Curve Basics	I-2-4
Exhibit I-2.1: Hypothetical U.S. Treasury Yield Curve	I-2-5
Yield Curve Slopes	I-2-5
Risks Applicable to Investment Activities	I-2-6
Credit Risk	I-2-6
Interest Rate or Market Risk	I-2-7
Price Risk	I-2-7
Liquidity Risk	I-2-8
Liquidity of an Investment Instrument or Position	I-2-8
Liquidity of the Investment Portfolio or Bank	I-2-8
Transaction or Operations Risk	I-2-9
Compliance Risk	I-2-9
Credit Risk vs. Rate Risk in Investment Instruments	I-2-10

Chapter I-3
Major Market Participants:
Their Influence on Investment Performance

Who Are the Major Players?	I-3-1
The Federal Reserve	I-3-1
The U.S. Treasury	I-3-1
Dealers	I-3-1
Foreign Investors	I-3-2
How Can the Major Players Be Read?	I-3-2
The Fed	I-3-3
Structure of the Fed	I-3-3
Glass-Steagall Act	I-3-4
The Fed Today	I-3-4
The Fed and the Primary Dealers	I-3-4
Perception 1 — Adding Operations Are Bullish; Draining Operations Are Bearish	I-3-5
Perception 2 — Permanent Operations Are Less Significant Than Temporary Operations	I-3-5
Perception 3 — An Early, or Unexpected, Operation Is More Significant Than an Operation That Is on Time or Expected	I-3-5
Perception 4 — A System RP Is More Indicative of an Easing by the Fed Than a Customer RP	I-3-6
The Fed and the Treasury	I-3-6
The Treasury’s Account at the Fed	I-3-6
The Fed’s International Role	I-3-7
Reading the Fed	I-3-8
The Treasury	I-3-10
Debts and Deficits	I-3-10
The Omnibus Budget Reconciliation Acts of 1990, 1993, and 1997	I-3-10

Treasury Debt Management	I-3-11
Regularization — Does It Work?	I-3-11
Day-to-Day Cash Management	I-3-13
TT&L Accounts and the Treasury’s Account at the Fed.....	I-3-14
Market Disruptions and Market Perceptions	I-3-15
Expenditures, the Treasury Account at the Fed, and the Marketplace	I-3-15
The Treasury Refunding.....	I-3-16
Reading the Treasury	I-3-17
The Dealers	I-3-17
Structure of a Dealership	I-3-17
Traders.....	I-3-18
Sales.....	I-3-18
Research	I-3-19
Operations.....	I-3-19
The Role of the Dealer.....	I-3-20
Primary vs. Secondary	I-3-20
Requirements for Primary Dealers	I-3-21
Pros and Cons to Running a Primary Dealership	I-3-21
Can You Trust a Primary Dealer?.....	I-3-22
Foreign Investors	I-3-23
The Importance of the Dollar.....	I-3-23
Intervention by the Foreign Central Banks.....	I-3-24
Japanese Investors	I-3-26
Is the Tail Wagging the Dog?	I-3-26
Conclusion	I-3-27
Appendix I-3A: The Fed’s Tool Kit	I-3-29
Appendix I-3B: Current Federal Reserve Policy	I-3-40

Chapter I-4

Using Economics in Interest Rate Forecasts

The Use of Economists	I-4-1
Accuracy of Forecasts.....	I-4-2
Magnitude.....	I-4-3
Timing	I-4-3
Direction of Change	I-4-3
Cycles	I-4-3
Turning Points in the Economy	I-4-4
Federal Policies	I-4-4
Areas of Expertise.....	I-4-4
Organizing Your Personal Economic Toolkit.....	I-4-5
Input.....	I-4-5
Moving Average Line.....	I-4-6

Yield Spreads.....	I-4-6
Maturity Risk.....	I-4-7
Relative Market Risk.....	I-4-7
Business Risks.....	I-4-7
Economic Statistics.....	I-4-8
Fiscal Policy.....	I-4-8
Monetary Policy.....	I-4-8
The Effectiveness of Your Tools.....	I-4-10
Adding Economic Input.....	I-4-10
How to Use Forecasts.....	I-4-10
Sources of Forecasts.....	I-4-11
Evaluating Economists.....	I-4-11
Exhibit I-4.1: Federal Funds Interest Rates 1995-2006.....	I-4-12
Exhibit I-4.2: Consumer Price Index for All Urban Consumers: U.S. City Average, All Items and All Items Less Food and Energy.....	I-4-13
Exhibit I-4.3: Bond Maturity Yields and Yield Spread 1995 – 2006 U.S. Treasury 10 Years Minus 3 Months.....	I-4-14
Exhibit I-4.4: Federal Funds Rate, Discount Rate 1995–2006.....	I-4-15

Chapter I-5

Identifying and Prioritizing Investment Goals and Objectives

Investment Management Goals.....	I-5-1
Specific Investment Management Objectives.....	I-5-1
Prioritizing Investment Portfolio Management Objectives.....	I-5-4
Investment Rewards.....	I-5-5
Determining Guidelines for Return on Investment Goals.....	I-5-5
Balancing Risks and Rewards.....	I-5-7
Limits of Traditional Risk Focus.....	I-5-7
Avoiding the Greed Trap.....	I-5-8
Keeping Risk in Perspective.....	I-5-8
So How Much Risk Can You Take?.....	I-5-9
Exhibit I-5.1: Risk vs. Volatility of Returns.....	I-5-10

Chapter I-6

Maintaining a Sound Investment Policy

Why Do You Need an Investment Policy?.....	I-6-1
Limitations of Written Policies.....	I-6-2
What Should Be Included in the Investment Policy?.....	I-6-2

Statement of Investment Portfolio Goals.....	I-6-3
Eligible Investments	I-6-4
Unsuitable Investments.....	I-6-4
Acceptable and Unacceptable Investment Activities.....	I-6-5
Interest Rate Risk Management.....	I-6-5
Use of Investment Securities to Offset Interest Rate Risk.....	I-6-9
Liquidity Management in the Portfolio	I-6-9
The Bank’s Overall Liquidity Management	I-6-10
Pledging of Investments	I-6-10
Credit Quality of Investments.....	I-6-11
Diversification	I-6-12
Investment Tax Considerations	I-6-14
Classification of Securities According to Time Horizons	I-6-15
Guidelines for FAS 115 Compliance.....	I-6-15
Authorized Brokers and Dealers.....	I-6-16
Safekeeping.....	I-6-16
Delegated Investment Authority.....	I-6-17
Reporting on Compliance.....	I-6-17
Investment Committees	I-6-17
Investment Reports	I-6-18
Policy Provisions Authorizing Other Activities	I-6-18
Internal Controls	I-6-19
Conflicts of Interest and Gifts.....	I-6-20
Compliance Statement.....	I-6-20
Periodic Policy Review.....	I-6-20
Exceptions	I-6-20
Policy Limits and Details.....	I-6-21
Policy Coordination	I-6-21
Writing the Investment Policy	I-6-22
Appendix I-6A: Sample Investment Policy	I-6-22b

Part II: Investment Instruments

Chapter II-1 U.S. Treasury and Agency Securities

U.S. Treasury Securities	II-1-1
Exhibit II-1.1: Characteristics of Marketable U.S. Treasury Securities.....	II-1-1
U.S. Treasury Bills	II-1-1
Treasury Notes.....	II-1-2
Treasury Bonds.....	II-1-2
Callable Bonds.....	II-1-2

Inflation-Indexed Treasury Securities	II-1-3
Exhibit II-1.2: Volume of Outstanding Treasury Securities.....	II-1-4
Treasury Strips and Zero Coupon Securities	II-1-4
Obligations of U.S. Agencies and GSEs.....	II-1-5
Agency Securities — An Introduction.....	II-1-5
An Introduction to GSE Securities	II-1-5
General Characteristics of Agency and GSE Securities	II-1-6
Details of Specific Agency and GSE Securities	II-1-7
Fannie Mae	II-1-7
Federal Home Loan Bank System.....	II-1-9
Freddie Mac.....	II-1-13
Federal Farm Credit System.....	II-1-15
Student Loan Marketing Association	II-1-17
Tennessee Valley Authority	II-1-17

Chapter II-2

Money Market Investment Instruments

Repurchase and Reverse Repurchase Agreements	II-2-2
Repo Terminology	II-2-2
Repo/Reverse Repo Terms and Rates.....	II-2-2
Understanding Repo Risk.....	II-2-3
Credit Risk.....	II-2-4
Operational Risk.....	II-2-4
Legal Risk.....	II-2-4
Guidelines for Reverse Repo Investments.....	II-2-4
Variations on Simple Repo/Reverse Repo Transactions	II-2-7
Continuing Repos	II-2-7
Flex Repos.....	II-2-7
Buy/Sellback Agreements	II-2-7
Financial Institution Obligations.....	II-2-7
Federal Funds.....	II-2-8
Certificates of Deposit	II-2-9
Issuers	II-2-9
Negotiability	II-2-10
Transaction Terms	II-2-10
Advantages of CDs for Money Market Investors.....	II-2-11
Brokered CDs	II-2-12
Disadvantages of CDs for Money Market Investors	II-2-13
Time Deposits Other Than CDs.....	II-2-13
Deposit Notes.....	II-2-14
Banker’s Acceptances.....	II-2-14
Credit Risk.....	II-2-14

Liquidity	II-2-15
Transaction Terms	II-2-15
Commercial Paper.....	II-2-16
Issuers	II-2-16
Transaction Terms	II-2-17
Issuance and Liquidity	II-2-17
Credit Risk.....	II-2-17
Asset-Backed Commercial Paper	II-2-18
ABCP Structure and Collateral	II-2-18
Exhibit II-2.1: 2003 U.S. ABCP Collateral Mix	II-2-19
ABCP Safety	II-2-19
Municipal Money Market Investments	II-2-20
Put Option Bonds and Municipal Derivatives	II-2-20
Money Market and Other Mutual Funds.....	II-2-21
Money Market Mutual Funds	II-2-22
Permissibility of Mutual Fund Investments.....	II-2-22
Advantages of Mutual Funds.....	II-2-23
Guidelines for Investing in Mutual Funds	II-2-23
Money Market Instruments Summary	II-2-26
Exhibit II-2.2: Characteristics of Money Market Instruments.....	II-2-28

Chapter II-3

Mortgage-Backed Securities Basics

Exhibit II-3.1: Bank Ownership of Mortgage-Related Securities	II-3-2
Characteristics of Mortgage-Backed Bonds	II-3-3
Amortization and Prepayments.....	II-3-3
Maturity, Life, or Term.....	II-3-4
Par Value, Face, Original Face, and Current Face.....	II-3-5
Coupon Rate, WAC, and Pass-Through Rate.....	II-3-5
Issue Date	II-3-5
Issuers of Pass-Through Mortgage-Backed Bonds	II-3-6
Exhibit II-3.2: Outstanding Principal Balances of Mortgage-Backed Securities	II-3-6
GNMA, Fannie Mae, and Freddie Mac	II-3-7
GNMA.....	II-3-7
Fannie Mae	II-3-7
Freddie Mac.....	II-3-8
Private Issuers.....	II-3-9
Exhibit II-3.3: Key Features of Fixed-Rate U.S. Agency MBS Programs.....	II-3-11
Types of Fixed-Rate Pass-Through Mortgage-Backed Bonds.....	II-3-11
Standard Single-Family Pools	II-3-11
Midgets, Dwarfs, Nuggets, and Gnomes	II-3-12
Balloons	II-3-12

Whole Loan Pools.....	II-3-12
Graduated-Payment Mortgage Pools	II-3-12
Tiered-Payment Mortgage Pools	II-3-13
GNMA Mobile Home Pools.....	II-3-13
GNMA Project Loan Pools.....	II-3-13
Fannie Mae and Freddie Mac Multifamily Pools	II-3-13
GNMA VA/Vendee Pools	II-3-14
Platinums, Giants, and Megapools	II-3-14
Callable Pass-Through Securities	II-3-15
Exhibit II-3.4: Structure of a Freddie Mac Callable Pass-Through Security.....	II-3-15
Other Types of Pass-Through Securities	II-3-15
Additional Considerations for MBS Investors.....	II-3-16
Administrative and Hidden Costs	II-3-16
Tax Considerations for MBS Investors	II-3-17
Advantages of MBS Investments.....	II-3-18
Risks in MBSs.....	II-3-19
Credit Risk vs. Rate Risk in MBSs.....	II-3-19

Chapter II-4

Understanding the Cash Flow Risk in Mortgage-Backed Securities

Estimating the Cash Flow	II-4-1
Exhibit II-4.1: Annual Cash Flow from a 30-Year 6 Percent Mortgage	II-4-2
Cash Flow Composition	II-4-2
Exhibit II-4.2: Annual Cash Received from a 30-Year Mortgage with No Prepayments	II-4-3
Exhibit II-4.3: Annual Cash Received from a 30-Year Mortgage with 6 Percent Prepayments Each Year.....	II-4-3
Exhibit II-4.4: Annual Cash Received from a 30-Year Mortgage with 8 Percent Prepayments Each Year.....	II-4-4
Role of Prepayments.....	II-4-4
Measuring Prepayments.....	II-4-5
Constant Prepayment Rate Measure	II-4-6
Prepayment Speed Assumptions.....	II-4-7
Disadvantages of the PSA Model.....	II-4-8
Vector Analysis	II-4-8
Understanding MBS Prepayments	II-4-9
Optionality	II-4-10
In the Money.....	II-4-11
Out of the Money.....	II-4-11
Call Risk and Extension Risk	II-4-12
Path-Dependent Options.....	II-4-13
Exhibit II-4.5: Trend in Yields for 30-Year, Fixed-Rate Mortgages.....	II-4-14
Predicting MBS Prepayments.....	II-4-15

Projection by Coupon Rate	II-4-15
Exhibit II-4.6: Projected Prepayments by Coupon	II-4-15
Exhibit II-4.7: Sensitivity of PSA Forecasts to Changes in Interest Rates	II-4-16
Time	II-4-16
Other Factors	II-4-16
Computer Forecast Models	II-4-17
Exhibit II-4.8: Comparison of PSA Forecast	II-4-18
Impact of Prepayments on the Maturity of an MBS	II-4-18
The Impact of the Uncertain MBS Cash Flows on Investment Risk	II-4-19

Chapter II-5 Collateralized Mortgage Obligations

The Appeal of CMOs	II-5-2
Exhibit II-5.1: Trend in CMO Issuance	II-5-2
Exhibit II-5.2: Bank Ownership of CMOs	II-5-3
Real Estate Mortgage Investment Conduits	II-5-3
An Overview of the Three Varieties of CMO Structures	II-5-4
Concurrent-Pay CMO Structures	II-5-4
Sequential-Pay CMO Structures	II-5-5
Exhibit II-5.3: Simple Sequential-Pay CMO	II-5-6
Exhibit II-5.4: Allocation of Mortgage Pool Cash Flows to a Sample Sequential Pay CMO with Three Tranches (10 percent CPR)	II-5-7
Exhibit II-5.5: Allocation of Mortgage Pool Cash Flows to a Sample Sequential Pay CMO with Three Tranches (20 percent CPR)	II-5-8
Scheduled-Pay CMO Structures	II-5-9
A Few Words About CMO Collateral	II-5-10
Structure Overview	II-5-10
Exhibit II-5.6: The World of Mortgage-Backed Securities	II-5-11
Types of CMO Securities	II-5-11
PAC Tranches	II-5-11
Very Accurately Defined Maturity Tranches	II-5-12
Accrual PAC Tranches	II-5-13
TAC Tranches	II-5-13
Reverse TACs	II-5-13
Companion and Support Tranches	II-5-14
Protect Companion Tranches	II-5-15
Residual Tranches	II-5-15
Accrual Tranches and Z Bonds (High-Risk CMOs)	II-5-15
Whole Loan CMO Tranches	II-5-16
Re-REMICs/Re-CMOs	II-5-17
Discount and Premium Strips	II-5-17
Interest-Only and Principal-Only Strips	II-5-17

IO Strips	II-5-18
PO Strips.....	II-5-19
Super POs	II-5-19
Callable CMOs	II-5-19
Exhibit II-5.7: Structure of a Freddie Mac Callable Pass-Through Security.....	II-5-20
Exhibit II-5.8: Structure of a Freddie Mac Callable Pass-Through Security.....	II-5-21
Cleanup Calls.....	II-5-21
Summary of CMO Types.....	II-5-21
Exhibit II-5.9: Alternative Interest Methods for CMOs.....	II-5-22
Exhibit II-5.10: Alternative Principal Priorities for CMOs.....	II-5-22
Exhibit II-5.11: Comparative Safety of CMO Common Tranche Types	II-5-23
Understanding CMO Risks	II-5-23
The Three Essential Points About CMO Risks	II-5-23
CMO Risks	II-5-24
Price and Performance Volatility	II-5-24
Illiquidity	II-5-26
Information Risk: Complex and Misleading Information	II-5-26
Model Risk	II-5-27
Evaluating CMO Risks	II-5-28
Third-Party Information for Evaluating CMO Investments	II-5-29

Chapter II-6

Adjustable-Rate and Floating-Rate Mortgage-Backed Securities

Floating-Rate Pass-Through Securities.....	II-6-1
Ginnie Mae ARMs.....	II-6-2
Fannie Mae ARMs.....	II-6-2
Freddie Mac ARMs	II-6-2
Convertible ARMs.....	II-6-3
Term ARMs	II-6-3
Whole Loan Pools.....	II-6-4
Floating-Rate CMO Tranches.....	II-6-4
Superfloaters	II-6-5
Indexes	II-6-5
LIBOR	II-6-6
CMT Rates.....	II-6-6
Treasury Auction Rates	II-6-7
COFI Rate.....	II-6-7
Characteristics of COFI.....	II-6-7
National Average Contract Rate Index	II-6-8
Comparative Index Changes	II-6-8
Exhibit II-6.1: Recent Trends in Common Indexes (for the period from December 1990 to December 2006)	II-6-9

Exhibit II-6.2: Sample Correlation of Changes in Index Rates with Changes in the Federal Funds Rate	II-6-10
ARM and Floater Mechanics	II-6-10
Lookback	II-6-10
Exhibit II-6.3: Example of a 45-Day Lookback	II-6-11
Caps and Floors	II-6-11
Teaser Rates	II-6-12
Negative Amortization of ARMs	II-6-12
Convertible ARMs	II-6-13
Term ARMs	II-6-13
Understanding the Interest Rate Risk in ARMs and Floaters	II-6-13
Effects of Caps on Interest Rate Risk Exposures	II-6-14
ARM and Floater Characteristics	II-6-15
Exhibit II-6.4: Repricing Characteristics of ARMs and Floaters	II-6-16
Exhibit II-6.5: Characteristics of Agency ARM Securities	II-6-17
Advantages of ARMs and Floaters	II-6-17
Disadvantages of ARMs and Floaters	II-6-18

Chapter II-7 Municipal Securities

Exhibit II-7.1: Composition of Outstanding Debt Instruments	II-7-1
Types of Municipal Securities	II-7-2
Seven Types of Municipal Securities	II-7-2
GOs	II-7-3
Limited Tax, GO Bonds	II-7-3
Special Assessment and Special Tax Bonds	II-7-3
Revenue Obligations	II-7-3
Housing Authority Bonds	II-7-4
Private Purpose Revenue Bonds	II-7-4
Municipal Lease Securities	II-7-5
Additional Types of Municipal Securities Identified by Their Structure	II-7-6
Special Types of Short-Term Municipal Debt	II-7-7
Zero Coupon Securities	II-7-7
Capital Appreciation Bonds	II-7-8
Serial Bonds	II-7-9
Sinkers	II-7-9
Insured Municipal Bonds	II-7-10
Prerefunded Municipal Bonds	II-7-11
Types of Taxable Municipal Securities	II-7-11
COPs	II-7-11
VRDNs, Put Option Bonds, and Municipal Derivatives	II-7-12
Municipal Securities Markets	II-7-12

How Tax-Free Are Municipal Securities?	II-7-13
Fully Tax-Exempt Munis.....	II-7-13
Limitations.....	II-7-14
Partial Tax Exemption for Banks.....	II-7-14
Limited Tax Exemption for Taxpayers Subject to AMT.....	II-7-15
Fully Taxable.....	II-7-15
Legal Opinions on Tax Status.....	II-7-16
Risks.....	II-7-16
Credit Risk.....	II-7-16
Liquidity Risk.....	II-7-18
Interest Rate Risk.....	II-7-18

Chapter II-7A

Tax-Exempt and Tax-Preferred Obligations

Tax Regulations	II-7A-1
Federal Income Tax Issues to Consider	II-7A-2
Disallowed Interest Expense.....	II-7A-2
The Corporate Alternative Minimum Tax.....	II-7A-3
TEFRA Disallowance Changed Again in 2009.....	II-7A-3
Yield Differences	II-7A-3
The Traditional Method.....	II-7A-4
Revised Method.....	II-7A-4
The Real Difference.....	II-7A-6
Exhibit II-7A.1: Historical Spreads from Municipal Bonds to Treasury Bonds.....	II-7A-7
The Tax Model.....	II-7A-7
What You Can Learn from the Tax Model.....	II-7A-8
Exhibit II-7A.2: Schedule 1.....	II-7A-9
Exhibit II-7A.3: Schedule 2.....	II-7A-10
Exhibit II-7A.4: Schedule 3.....	II-7A-10
Exhibit II-7A.5: Schedule 4.....	II-7A-10
Exhibit II-7A.6: Schedule 5.....	II-7A-11
Locating Qualified Small Issuers.....	II-7A-11
How Cities Borrow Money.....	II-7A-13
Lines of Credit.....	II-7A-13
Short-Term Notes.....	II-7A-13
Long-Term Credit Support.....	II-7A-13
The Bidding Process Used by Small Governments.....	II-7A-13
Obtaining Municipal Loan and Lease Business.....	II-7A-14
Engaging in Competitive Bidding for Local Municipal Bond Issues.....	II-7A-14
Evaluating Small Government Credit Risk.....	II-7A-14
Government Budgets vs. Business Statements Budgets.....	II-7A-15
Accounting Differences between Governments and Businesses.....	II-7A-15

- Evaluating Government Financial Statements..... II-7A-15
 - Debt Paying Ability and Tax Base II-7A-16
 - Diversification of Economic Activity..... II-7A-16
 - Budgetary Practices and Current Financial Condition II-7A-16
 - Unfunded Liabilities II-7A-16
 - Population Trends..... II-7A-17
 - Trends in Debt..... II-7A-17
 - Direct and Overlapping Debt..... II-7A-17
 - Priority of Claims on the General Fund..... II-7A-17
 - Nontax Revenues..... II-7A-17
 - Tax Rates and Comparisons II-7A-17
 - Trends in Assessed Valuations II-7A-18
 - Municipal Debt Ratios..... II-7A-18
- Evaluating Revenue Bond Debt Issues II-7A-18
 - User Charges II-7A-18
 - Concessions and Fees II-7A-19
 - Lease Payments II-7A-19
 - Special Taxes..... II-7A-19
 - Legislative Appropriation..... II-7A-19
- Protective Covenants That Should Be in Bond Indentures..... II-7A-19
- The Municipal Lease Option..... II-7A-20
 - Nonappropriation and Nonsubstitution Clauses II-7A-21
 - The Component Parts of a Tax-Exempt Lease II-7A-21
 - Equipment or Property Schedule..... II-7A-21
 - Payments Schedule..... II-7A-21
 - Acceptance Certificate..... II-7A-22
 - Essential Use Certificate..... II-7A-22
 - Counsel Opinion..... II-7A-22
 - City Council Resolution II-7A-22
 - Certificate of Appropriation II-7A-22
 - Incumbency Certificate II-7A-22
 - UCC-1 Financing Statement..... II-7A-22
 - Certificate of Insurance II-7A-23
 - Continuation Statement II-7A-23
- Securing City Debt Obligations II-7A-23
- Technical Assistance and References II-7A-23
 - General Technical Assistance..... II-7A-24
 - Publications..... II-7A-24
 - Exhibit II-7A.7: Equipment Lease-Purchase Contract..... II-7A-25
- Appendix II-7A.1: Municipal Bond Risk Review II-7A-33

Chapter II-8 Corporate, ABS, CDO, and Foreign Securities

An Overview of Corporate Instruments, Maturities, and Other Bond Features	II-8-2
Maturities and Maturity Structures	II-8-2
General Bond Types and Features	II-8-3
Adjustable-Rate Bonds	II-8-4
Mortgage Bonds	II-8-4
Equipment Trust Certificates	II-8-5
Collateral Trust Bonds	II-8-5
Guaranteed Bonds	II-8-5
Debentures	II-8-5
Subordinate Debentures	II-8-5
Sinkers	II-8-5
Convertible Bonds	II-8-6
Indenture Covenants	II-8-7
Medium-Term Notes (MTNs)	II-8-7
Trust-Preferred Securities	II-8-8
Zero Coupon Securities	II-8-9
Yields	II-8-9
Disadvantage of Investing in Zeros	II-8-10
Asset-Backed Bonds	II-8-11
Automobile Loan-Backed Bonds	II-8-11
Structure of ABSs Backed by Installment Contracts	II-8-11
Credit Card Receivable-Backed Bonds	II-8-12
Structure of ABSs Backed by Revolving Credits	II-8-12
Collateralized Debt Obligations	II-8-12
Structure of CDOs	II-8-13
Exhibit II-8.1: Typical CDO Tranching	II-8-13
Exhibit II-8.2: CDO Waterfalls	II-8-15
Credit Quality	II-8-17
High-Yield or Junk Bonds	II-8-18
Foreign Securities	II-8-18
Do Not Overlook Event Risk	II-8-19
Callable Bonds	II-8-20

Chapter II-8A Collateralized Debt Obligations

Market Overview	II-8A-1
CDO Product Types: Balance Sheet CDO vs. Arbitrage CDO	II-8A-2
CDO Product Types: Cash CDO vs. Synthetic CDO	II-8A-2

CDO product types: Asset Sectors.....	II-8A-3
CDO Structuring Example: Bank Trust Preferred CDOs.....	II-8A-4
Due Diligence and Compliance Considerations.....	II-8A-6
Commentary on Market Trends.....	II-8A-7
Exhibit II-8A.1: Global CDO Market — New Issues.....	II-8A-9
Exhibit II-8A.2: U.S. CDO Market: New Issues.....	II-8A-10
Exhibit II-8A.3: Sample Bank Trust Preferred CDO Structure.....	II-8A-11
Exhibit II-8A.4: CDO Tranche Analysis.....	II-8A-12
Exhibit II-8A.5: Sample Bank Trust CDO Tranche Analysis.....	II-8A-13
Appendix II-8A.A: The CDO Chain (A Tale of One Community Bank, Two Borrowers, Three Investment Banks, and Four CDO Managers).....	II-8A-14

Chapter II-9 An Introduction to Derivatives

What Are Derivatives? The Fundamental Concepts.....	II-9-2
Key Facts About Derivatives.....	II-9-3
Is It a Derivative?.....	II-9-4
The Accounting Definition of Derivatives.....	II-9-5
Differences in Risk vs. Reward Exposures.....	II-9-6
Two-Sided Interest Rate Risk.....	II-9-6
Exhibit II-9.1: Holding a Financial Instrument as an Asset.....	II-9-7
Exhibit II-9.2: Short a Financial Instrument.....	II-9-7
Exhibit II-9.3: A Simple Hedge Position Long Cash/Short Futures.....	II-9-8
One-Sided Interest Rate Risk.....	II-9-8
Exhibit II-9.4: The Asymmetry of Gain and Loss Long a Call.....	II-9-9
Exhibit II-9.5: The Asymmetry of Gain and Loss Long a Put.....	II-9-9
What Is an End-User?.....	II-9-10
What Is an Embedded Derivative?.....	II-9-10
Bank Embedded Options.....	II-9-11
Major Off-Balance Sheet Derivatives Tools.....	II-9-11
Exchange-Traded vs. Over-the-Counter Derivatives.....	II-9-11
Forward Contracts.....	II-9-12
Futures Contracts.....	II-9-12
Futures Pricing Conventions.....	II-9-13
Margin Requirements.....	II-9-13
Options.....	II-9-14
Exhibit II-9.6: Rights and Obligations of Option Buyers and Sellers.....	II-9-15
Defining Option Value.....	II-9-15
Understanding Changes in Option Prices and Delta.....	II-9-16
Options Pricing Conventions.....	II-9-17
Option Types.....	II-9-17
Introducing the “Exotics” Option.....	II-9-18

Interest Rate Swaps.....	II-9-19
Exhibit II-9.7: Diagram of Cash Flow Types and Directions for a Fixed/Floating Interest Rate Swap.....	II-9-20
Exhibit II-9.8: Diagram of Individual Cash Flows for a Fixed/Floating Interest Rate Swap.....	II-9-20
Swap Transaction Structure and Terms.....	II-9-20
Typical Swap Transactions.....	II-9-21
Alternatives to Plain Vanilla Swaps.....	II-9-22
Swap Market Participants.....	II-9-23
Swap Market Structure.....	II-9-23
Swap Documentation.....	II-9-24
Potential Problems.....	II-9-25
Caps, Floors, and Collars.....	II-9-26
Caps.....	II-9-26
Floors.....	II-9-27
Collars.....	II-9-27
General Characteristics of Caps, Floors, and Collars.....	II-9-27
Exotic Caps.....	II-9-28
Summary of Off-Balance Sheet Derivatives Instruments.....	II-9-28
Exhibit II-9.9: Derivative Contracts by Product.....	II-9-29
Major Cash Market Derivatives Instruments.....	II-9-30
Mortgage-Related Derivative Securities.....	II-9-30
CMOs as Hedge Instruments.....	II-9-30
Structured Notes.....	II-9-31
Common Types of Structured Notes.....	II-9-31
Bank Holdings of Structured Notes.....	II-9-32
Exhibit II-9.10: Percent of Commercial Banks Holding Structured Notes.....	II-9-33
Exhibit II-9.11: Relative Size of Structured Note Holdings.....	II-9-33
The Suitability of Structured Notes.....	II-9-34
Managing Derivatives Risk.....	II-9-35
Understanding and Applying Required Risk Analysis.....	II-9-35
Understand the Differences Between the Riskiness Inherent in Derivatives Instruments and the Riskiness of Using Derivatives.....	II-9-36
Conclusion.....	II-9-37

Chapter II-10 Bank Owned Life Insurance

An Alternative Investment Class for Banks.....	II-10-1
Introduction.....	II-10-1
BOLI Investments.....	II-10-3
General Account.....	II-10-3
Separate Account.....	II-10-4

Indexed Funds.....	II-10-5
Actively Managed Funds.....	II-10-6
Stable Value Product and Separate Account	II-10-7
Exhibit II-10.1: Example of Pro Forma Stable Value	II-10-8
Hybrid Account	II-10-8
Process and Regulatory Overview	II-10-9
Pre-Purchase Activities.....	II-10-9
Risk Management Process.....	II-10-9
Accounting for BOLI	II-10-10
Establishment of Internal BOLI Limits	II-10-10
Separate Account BOLI	II-10-11
MEC vs. Non-MEC BOLI Policy.....	II-10-12
Vendor Selection	II-10-12
Commission Splitting.....	II-10-13
Tax and Insurable Interest Implications	II-10-13
Post-Purchase Activities	II-10-14
Summary of Regulatory Requirements	II-10-15
Liquidity and Exit Strategies	II-10-15
Conclusion.....	II-10-16

Part III: Enhancing Investment Performance

Chapter III-1 Measuring Investment Returns

Cash Flows from Investments.....	III-1-2
Exhibit III-1.1: Interest Payment Terms for Money Market Investment.....	III-1-3
Discount Yields.....	III-1-4
Calculating Simple Interest Yield.....	III-1-5
Converting Discount Rate into Simple Interest Yield	III-1-6
Calculating Simple Interest Yield for Maturities Greater Than One Year	III-1-7
Money Market Yield.....	III-1-8
Bond Equivalent Yield.....	III-1-8
Effective Annual Yield	III-1-9
Applying the Effective Annual Yield Formula to Coupon Instruments	III-1-11
Limits of Effective Annual Yield and BEY	III-1-12
Yield to Maturity.....	III-1-12
Yield to Call.....	III-1-13
Limits of YTM and YTC	III-1-14
Compounding Not Reflected	III-1-14
Reinvestment Yield Is Almost Always Different from Original Purchase Yield.....	III-1-14

Exhibit III-1.2: Sensitivity of the Actually Realized Yield of a 10-Year, 6 Percent Coupon U.S. Agency Note	III-1-15
Exhibit III-1.3: Cash Flows from Two \$10,000 Investments in 10 Percent Coupon U.S. Agency Notes	III-1-16
Difficulty in Using a Single Reinvestment Rate Assumption	III-1-17
Failure of YTM and YTC to Consider Investments Sold Prior to Maturity or Call Date	III-1-18
Impact of FAS 115	III-1-18
Total Return Analysis	III-1-19
Total Return Analysis for Bonds Not Marked to Market or Sold Before Maturity	III-1-19
Capturing Reinvestment Rate Sensitivity	III-1-19
Reinvestment Rate	III-1-19
Exhibit III-1.4: Sensitivity of the Actually Realized Yield on Selected Investment Alternatives	III-1-20
Potential Bias Problem	III-1-20
Total Return Analysis for Bonds Marked to Market or Sold Before Maturity	III-1-20
Capturing Capital Gains and Losses	III-1-21
Flexibility of Total Return Measurement and When to Use It	III-1-23
Applications of Total Return (Horizon Analysis)	III-1-24
Exhibit III-1.5: Scenario Analysis	III-1-25
Option-Adjusted Spread Analysis	III-1-26
When Should Investors Use Option-Adjusted Spread?	III-1-27
What Is OAS and How Does It Work?	III-1-27
OAS Analysis for Callable Bonds and Bonds with Other Embedded Options	III-1-27
Advantages and Disadvantages of OAS	III-1-28
Measuring Yield for Bond Mutual Funds	III-1-29
Annualized Dividend or Distribution Rates	III-1-30
Annual Distribution Rates or 12-Month Yields	III-1-30
SEC Yield	III-1-30
Measuring Yield for Tax-Exempt Instruments	III-1-31
TEYs for Banks	III-1-31
Cost of Funds	III-1-35
Exhibit III-1.6: Sample Taxable Equivalent Yields for Bank-Qualified Munis	III-1-36
Effect of Gains and Losses on Yields	III-1-36
Effect of the Alternative Minimum Tax on Yields	III-1-37
Measuring Yield for Floating-Rate Securities	III-1-37
Applying YTM to Floating-Rate Securities	III-1-38
Applying Effective Margin to Floating-Rate Securities	III-1-38
Applying Break-Even Analysis to Floating-Rate Securities	III-1-38
Applying Break-Even Analysis to Adjustable- and Floating-Rate MBSs	III-1-39
Exhibit III-1.7: Income Comparison of Nonamortizing Securities	III-1-40
Exhibit III-1.8: Income Comparison of Amortizing Securities	III-1-42
The Impact of ARM and Floater Caps	III-1-44
ARM and Floater Yield Analysis — A Summary	III-1-44
Understanding Yield Differences	III-1-44

Chapter III-2

Evaluating Returns and Choosing Investments

Introduction.....	III-2-1
Tools for Evaluating Investment Returns	III-2-2
Criteria for Choosing Investments.....	III-2-3
Understanding Spreads and Relative Value.....	III-2-3
Selecting the Right Spread.....	III-2-4
Isolating the Credit and Liquidity Risks.....	III-2-4
Isolating the Liquidity and Interest Rate Risk.....	III-2-4
Using Spreads and Relative Value to Evaluate Investment Alternatives.....	III-2-5
Applying Relative Value	III-2-5
Static Spreads	III-2-6
Changes in Spreads.....	III-2-7
Limitations of Relative Value as an Evaluation Tool.....	III-2-7
Flights to Quality.....	III-2-7
Benchmarking.....	III-2-8
Risk-Free Standards.....	III-2-8
Exhibit III-2.1: Comparison of Treasury and Rate Swap Yield Curves.....	III-2-9
Comparable Standards.....	III-2-10
Limitations of Benchmarks	III-2-11
Applying Value Evaluation Tools	III-2-12
Should You Buy Treasury or Agency Securities?	III-2-12
Relative Value Analysis	III-2-12
Exhibit III-2.2: Yield Spreads for Treasury Securities and for FHLB Securities.....	III-2-13
Exhibit III-2.3: Relationship Between Medium- to High-Coupon 10-Year U.S. Treasury Securities and Average-, Medium-, to High-Coupon 10-Year U.S. Agency Securities.....	III-2-14
Break-Even Analysis	III-2-14
Should You Buy or Sell a Slightly Longer or Shorter Maturity?	III-2-15
Yield Curve Shapes and Future Rate Changes	III-2-16
Exhibit III-2.4: Yield Curves.....	III-2-17
Applying Relative Value Analysis	III-2-18
Exhibit III-2.5: Relationship Between Five-Year and Seven-Year U.S. Treasury Securities for a 78-Month Period.....	III-2-19
Implied Forward Rates	III-2-19
Exhibit III-2.6: Implied Forward Coupon Yield Curves for U.S. Treasuries Computed from the Yield Curve as on an Actual Date.....	III-2-21
Using Break-Even Analysis to Evaluate the Risk of Staying Short	III-2-21
Using Break-Even Analysis to Evaluate the Risk of Extending.....	III-2-23
Should You Buy Callable Notes and Bonds?	III-2-24
Callable Bond Considerations for Investors	III-2-24
Using YTM and YTC to Evaluate Returns from Callable Securities.....	III-2-25
Exhibit III-2.7: Comparative Cash Flows.....	III-2-26
Exhibit III-2.8: Comparative Cash Flows.....	III-2-26
Using YTM and YTC to Evaluate Callable Securities Not Trading at Par	III-2-27

Exhibit III-2.9: Comparative Cash Flows.....	III-2-28
Exhibit III-2.10: Comparative Cash Flows.....	III-2-29
Exhibit III-2.11: Comparative Cash Flows.....	III-2-30
Should You Buy a Step-Up Security?	III-2-30
Yields for Step-Up Securities.....	III-2-31
Liquidity of Step-Up Securities.....	III-2-32
Should You Buy Bonds at Par, at Premiums, or at Discounts?	III-2-32
Premium Phobia.....	III-2-34
Evaluating MBS Yields — Applying BEY Spreads Over Treasuries	III-2-34
Cash Flow Yields for MBSs.....	III-2-35
Bond Equivalent Yields for MBSs	III-2-35
BEYs and Uncertain Prepayments.....	III-2-35
Exhibit III-2.12: BEY for a PAC at Seven Different Speeds and Prices.....	III-2-37
Spread Over Treasuries for MBSs.....	III-2-37
Using Weighted Average Life	III-2-38
Using Modified Duration.....	III-2-40
Applying BEY Spreads Over Treasuries	III-2-40
Using Option-Adjusted Spread.....	III-2-41
Should You Buy Floating-Rate Securities?	III-2-42
Lookback	III-2-42
Exhibit III-2.13: Example of a 45-Day Lookback.....	III-2-43
Caps and Floors	III-2-43
Teaser Rates.....	III-2-44
Negative Amortization.....	III-2-44
Understanding the Interest Rate Risk in ARMs and Floaters	III-2-45
Exhibit III-2.14: Characteristics of ARMs and Floaters.....	III-2-46
Effects of Caps.....	III-2-46
Impact of Periodic Caps on Interest Rate Risk and Price Volatility.....	III-2-48
Risk from Lifetime Caps	III-2-48
Complex Formulas for Determining Coupon Rates	III-2-49

Chapter III-2A
Measuring Performance Risk Against Capital:
Risk-Adjusted Performance Measures

Measuring Bank Performance.....	III-2A-1
Return on Assets Is Insufficient.....	III-2A-1
Return on Capital Replaces Return on Assets as a Measure of Profitability	III-2A-2
ROE for the Entire Bank	III-2A-2
ROE for Individual Businesses Within the Bank	III-2A-2
Risk-Adjusted Capital Measures.....	III-2A-3
What Is RAROC?	III-2A-3
Shareholder Value	III-2A-4

Risk and Volatility	III-2A-4
Comparing Volatility from Investments	III-2A-5
Risk and Capital	III-2A-8
Risk and Return	III-2A-8
What Is a Hurdle Rate?	III-2A-9
Determining and Using Hurdle Rates	III-2A-10
Setting Hurdle Rates Relative to Peers	III-2A-10
Using the Capital Asset Pricing Model to Set Target ROE	III-2A-10
Business Line Hurdle Rates	III-2A-12
The Value of Hurdle Rates by Business Line	III-2A-12
Using the Bank Hurdle Rate	III-2A-12
Compensating for Different Business Risks	III-2A-13
Setting Hurdle Rates by Business	III-2A-14
Setting Higher Hurdle Rates for Some Business Lines	III-2A-14
Meeting Hurdle Rate Expectations Over Time	III-2A-15
Viewing Profitability Using Hurdle Rates	III-2A-15
How Risk-Adjusted Return on Capital Is Calculated	III-2A-17
Other Benefits of RAROC	III-2A-18
Customer Profitability	III-2A-18
Product Pricing	III-2A-19
Summary	III-2A-22

Chapter III-3

Using Investments and Exchange-Traded Derivatives to Hedge Interest Rate Risk

What Is Hedging?	III-3-1
Two Types of Hedging: Value and Cash Flow	III-3-2
Hedging Does Not Require Derivatives	III-3-2
Natural Hedges	III-3-2
The Central Role of Investments in Natural Hedging	III-3-3
Using Investments as Natural Hedges	III-3-4
Effects of Accounting Rules on Natural Hedges	III-3-4
Hedging with Derivative Instruments	III-3-5
What Are Derivative Hedge Instruments?	III-3-5
Cash vs. Off-Balance Sheet Instruments	III-3-5
Investment vs. Risk Management Instruments	III-3-5
Exchange-Traded vs. Over-the-Counter Derivatives	III-3-6
Using Cash Market Derivatives for Hedging	III-3-6
Problems with Hedges Using IO and PO Strips	III-3-7
Using Off-Balance Sheet Derivatives for Hedging — an Introduction	III-3-8
Interest Rate Swaps	III-3-8

Exhibit III-3.1: Diagram of Cash Flow Types and Directions for a Fixed/Floating Interest Rate Swap	III-3-9
Typical Swap Transactions	III-3-9
Exhibit III-3.2: Before the Swap	III-3-10
Exhibit III-3.3: After the Swap	III-3-11
Pricing Interest Rate Swaps	III-3-12
Financial Benefits Created by Swap Transactions	III-3-13
The Theory of Comparative Advantage	III-3-13
Reversing or Terminating Interest Rate Swaps	III-3-14
Credit Risk Implicit in Interest Rate Swaps	III-3-15
Users and Uses of Interest Rate Swaps	III-3-15
Hedging with Locks, Caps, and Collars	III-3-17
Treasury Lock	III-3-18
Treasury Caps and Floors	III-3-19
Hedge Accounting Requirements Under FAS 133, FAS 138, FAS 149, and FAS 155	III-3-20
Accounting for Mortgage Loan Commitments	III-3-24
Fair Value Hedges	III-3-24a
Accounting for Gains and Losses for Fair Value Hedges	III-3-25
Cash Flow Hedges	III-3-25
Accounting for Gains and Losses for Cash Flow Hedges	III-3-26
Assessing Hedge Effectiveness	III-3-27
Establishing the Method to Be Used	III-3-27
Assessing the Effectiveness of Fair Value Hedges	III-3-27
Assessing the Effectiveness of Cash Flow Hedges	III-3-28
A Shortcut Method for Swap Hedges	III-3-28
Hedging Portfolios of Similar Items	III-3-29
Derivatives Disclosure Requirements	III-3-30
Hedge Accounting Summary	III-3-30
Exhibit III-3.4: FAS 133 Hedge Accounting Requirements	III-3-30
Implementation and Control Issues	III-3-31
Community Bank Use of Capital Markets/Derivatives Hedging	III-3-32
Hedging Summary	III-3-33
Appendix III-3A: Hedge Instrument Definitions	III-3-34

Chapter III-4 Trading Activities

Trading Basics	III-4-1
Trading Markets and Products	III-4-2
Securities Markets	III-4-2
Money Market Instruments	III-4-3
Derivatives	III-4-3
Trading Activities	III-4-4

Balance Sheet	III-4-5
Proprietary Trading	III-4-5
Customer Trading.....	III-4-6
Market Making	III-4-7
Risks in Trading Activities	III-4-7
Benefits of Trading Activities.....	III-4-8
Accounting Issues	III-4-8
When Must the Rules for Trading Accounts Be Applied?	III-4-9
Summary of Accounting Requirements for Trading Activities	III-4-10
Transfers Between Categories of Investments.....	III-4-10
Regulatory Issues	III-4-11
Trading Policies.....	III-4-11
Examinations of Trading Activities.....	III-4-12
Management and Control Issues	III-4-14
Summary	III-4-16

Chapter III-5

Portfolio Management Strategies That Enhance Performance

The Essence of Portfolio Management	III-5-1
Portfolio Management Functions.....	III-5-2
Exhibit III-5.1: Interrelationships Between Portfolio Management Functions	III-5-3
Integrating the Pieces.....	III-5-3
Exhibit III-5.2: The Investment Process.....	III-5-4
The Five-Point Investment Management Process Recommended by Banking Regulators	III-5-4
Enhancing Investment Returns at the Portfolio Level	III-5-6
Exhibit III-5.3: Investment Income from Securities as a Percentage of Total Interest Income March 31, 2006.....	III-5-7
An Overview.....	III-5-8
Laddered Maturity Structures	III-5-8
Rolling Down the Yield Curve	III-5-9
Capturing Liquidity Premiums	III-5-10
Barbell Maturity Structures	III-5-11
Exhibit III-5.4: Total Return Comparison of Laddered and Barbell Portfolio Strategies	III-5-13
Other Mix Strategies.....	III-5-14
Pruning the Portfolio.....	III-5-15
Bond Swaps	III-5-15
Exhibit III-5.5: Bond Swap Chart.....	III-5-16

Chapter III-6 Bank Investment Portfolios in 2006

Investments and Interest Rate Sensitivity	III-6-1
The Use of Investments in ALM.....	III-6-2
Investments as a Proportion of Assets	III-6-2
Types of Investments	III-6-2
Bank Investments	III-6-3
Investments by Banks with \$500 Million or Less in Assets	III-6-3
Banks with Assets Between \$501 Million and \$1 Billion	III-6-3
Banks with Assets Between \$1 Billion and \$10 Billion	III-6-4
Banks with Assets Greater Than \$10 Billion	III-6-4
Banks Take Increased Option Risk for Increased Returns.....	III-6-4
Exhibit III-6.1: Investment Securities as a Percent of Total Assets 1996-2006	III-6-5
Exhibit III-6.2: Distribution of Investments: All Banks 2006	III-6-6
Exhibit III-6.3: Distribution of Investments: All Banks 1996-2006.....	III-6-7
Exhibit III-6.4: Distribution of Investments: Assets Under \$500 Million 2006.....	III-6-8
Exhibit III-6.5: Distribution of Investments: Assets Under \$500 Million 1996-2006	III-6-9
Exhibit III-6.6: Distribution of Investments: Assets of \$501 Million to \$1 Billion 1996-2006.....	III-6-10
Exhibit III-6.7: Distribution of Investments: Assets of \$501 Million to \$1 Billion 2006	III-6-11
Exhibit III-6.8: Distribution of Investments: Assets Between \$1 Billion to \$10 Billion 2006.....	III-6-12
Exhibit III-6.9: Distribution of Investments: Assets Between \$1 Billion to \$10 Billion 1996-2006.....	III-6-13
Exhibit III-6.10: Distribution of Investments: Assets Over \$10 Billion 2006.....	III-6-14
Exhibit III-6.11: Distribution of Investments: Assets Over \$10 Billion 1996-2006	III-6-15

Volume 2

Part IV: Mitigating Investment Risks

Chapter IV-1 Managing Credit Risk in the Investment Portfolio

Credit Risk in Investments and Investment Activities	IV-1-1
When Is Credit Risk a Concern?.....	IV-1-1
Managing Credit Risk in Investment Portfolios	IV-1-2

Using Published Credit Ratings	IV-1-3
How to Use Published Ratings	IV-1-4
Intermediate and Long-Term Securities	IV-1-4
Exhibit IV-1.1: Comparative Note and Bond Ratings.....	IV-1-4
Commercial Paper Ratings	IV-1-5
Exhibit IV-1.2: Rating Agencies and Commercial Paper Ratings	IV-1-5
Watch Lists.....	IV-1-5
Limitations to Relying on Published Ratings	IV-1-5
Regulatory Requirements for Credit Quality	IV-1-7
Analyzing Creditworthiness.....	IV-1-7
Relative Price as an Indication of Quality	IV-1-8
Performing Your Own Evaluation of Credit Risk	IV-1-9
Sources of Financial Information	IV-1-9
Analyzing Issuers of Municipal Securities	IV-1-10
Analyzing Issuers of Municipal GOs	IV-1-11
Analyzing Issuers of Municipal Revenue Obligations	IV-1-12
Analyzing Municipal Lease Securities and COPs	IV-1-14
Analyzing Issuers of Corporate Securities	IV-1-15
Limitations for Reliance on Your Own Credit Analysis	IV-1-17
Using Credit Derivatives to Evaluate Credit Risk in Corporate Bonds.....	IV-1-17
Exhibit IV-1.3: Credit Derivative Volume Growth (US \$Billions)	IV-1-18
Credit Impairment of Investment Securities.....	IV-1-19
Diversification for Managing Credit Risk at the Portfolio Level	IV-1-21
Traditional Diversification.....	IV-1-21
Geographic Diversification	IV-1-21
Industry Diversification.....	IV-1-22
Diversification by Security Type.....	IV-1-23
Size Diversification	IV-1-23
A Quantitative Approach to Spreading the Risk	IV-1-24
Covariance — The Next Step	IV-1-24

Chapter IV-2

Managing Liquidity Risk in the Investment Portfolio

The Role of Investments in Liquidity Management	IV-2-1
Regulatory Requirements for Managing Liquidity Risk in Investments	IV-2-2
What Exactly Is Liquidity and Why Do We Need It?	IV-2-3
Three Distinct Roles for Investment Assets as Sources of Liquidity.....	IV-2-3
Liquidity Reservoirs	IV-2-4
Understanding the Term “Readily Marketable”	IV-2-5
Understanding That Marketability Is a Dynamic Characteristic	IV-2-7
Borrowed Funds.....	IV-2-8
Structuring the Timing of Cash Flows.....	IV-2-8

Relating the Availability of Liquidity Sources to Specific Liquidity Needs	IV-2-9
Exhibit IV-2.1: Liquidity Planning Decision Matrix.....	IV-2-10
Prioritizing Liquidity Needs and Sources.....	IV-2-10
Enhancing Liquidity in Investments	IV-2-11
Increasing the Size of the Liquidity Reservoir	IV-2-11
Increasing Holdings of the Most Marketable Securities.....	IV-2-13
Using a Barbell Maturity Structure.....	IV-2-14
Exhibit IV-2.2: Barbell Maturity Structure for Simple State Bank	IV-2-14
Increasing Holdings of Securities That Can Be Pledged to Obtain Secured Borrowings	IV-2-16
Managing Investments That Can or Do Serve as Collateral.....	IV-2-18
Exhibit IV-2.3: Pledged Securities	IV-2-18
Increase Cash Flow by Laddering Investment Maturities	IV-2-19
Increase Holdings of Securities That Provide Cash Flows	IV-2-20
Exhibit IV-2.4: Projected Cash Flow Distribution	IV-2-22
Exhibit IV-2.5: Sensitivity of Principal Cash Flows from Investments to a 100 Basis Points Decrease in Prevailing Interest Rates.....	IV-2-23
Measuring the Investment Portfolio’s Role in Bankwide Liquidity	IV-2-24
Liquidity Ratios Incorporating Investments	IV-2-24
A Ratio Measuring Liquid Assets as a Percentage of Total Liabilities	IV-2-24
A Ratio Measuring Liquid Assets as a Percentage of Volatile Liabilities.....	IV-2-24
A Ratio to Measure Large Liability and Borrowed Funds Dependency	IV-2-25
Using Liquidity Gaps to Measure Liquidity	IV-2-26
Exhibit IV-2.6: Simple State Bank Liquidity Gap Report.....	IV-2-27
Interpretation of the Liquidity Gap Report.....	IV-2-27
Regulatory Perspectives on the Liquidity Gap Report	IV-2-28
Exhibit IV-2.7: Example Rate Scenarios.....	IV-2-29
Managing the Investment Portfolio’s Role in Bankwide Liquidity	IV-2-29
Understanding Liquidity Costs	IV-2-29
Understanding the Accuracy of Market Prices.....	IV-2-30
Understanding That Marketability Is a Dynamic Characteristic	IV-2-30
The Key Role of Investment Assets for Managing Bankwide Liquidity.....	IV-2-31
Liquidity Management, Not Just Measurement	IV-2-32
Multiple Needs/Multiple Sources.....	IV-2-32
Exhibit IV-2.8: Summary of Liquidity Gap Projections	IV-2-33

Chapter IV-2A Bank Funding Strategies

Deposits	IV-2A-1
Certificates of Deposit	IV-2A-1
Fixed-Rate Certificates of Deposits.....	IV-2A-2
Variable-Rate CDs.....	IV-2A-2
Longer-Term CDs	IV-2A-2

Penalty-Free CDs.....	IV-2A-3
Add-on CD	IV-2A-3
Savings Accounts.....	IV-2A-3
Money Market Deposit Accounts.....	IV-2A-4
Tiered Rates.....	IV-2A-4
Product Combinations	IV-2A-4
Indexed Rates	IV-2A-4
Sweep Products	IV-2A-4
Transaction Accounts	IV-2A-5
Pricing Issues.....	IV-2A-5
Funds Transfer Pricing	IV-2A-5
Understanding Deposit Costs	IV-2A-7
Understanding Average Costs	IV-2A-7
Exhibit IV-2A.1: Sample Average CD Cost	IV-2A-8
Exhibit IV-2A.2: Sample Average Costs for Typical Funding Sources.....	IV-2A-8
Using Marginal Costs.....	IV-2A-9
Exhibit IV-2A.3: Results of Sample Rate Drop on Volume and Expenses.....	IV-2A-10
Using a Benchmark Rate in Pricing Decisions.....	IV-2A-11
Different Pricing Strategies for New vs. Existing Customers	IV-2A-12
Making CD Pricing Decisions.....	IV-2A-13
Pricing Strategies for MMDA Deposits	IV-2A-17
Pricing for Different Markets.....	IV-2A-18
Exhibit IV-2A.4: Market Data Before Promotion	IV-2A-19
Exhibit IV-2A.5: Market Data After Promotion New and Existing Balances.....	IV-2A-20
Exhibit IV-2A.6: Market Data After Promotion New Loans and Deposits Only.....	IV-2A-21
Exhibit IV-2A.7: Market Data After Promotion New Loans and Deposits Only.....	IV-2A-22
Controlling Interest Expense in a Rising Rate Environment.....	IV-2A-23
The Changing Complexion of Funding	IV-2A-24
Market Conditions	IV-2A-24
The Funding Study	IV-2A-24
Deposits	IV-2A-25
Funding and Leverage	IV-2A-25
Conclusion.....	IV-2A-26
Short-Term Wholesale Funding.....	IV-2A-26
Federal Funds and the Reserve System of the Federal Reserve Board.....	IV-2A-27
The Reserve System	IV-2A-27
Reserve Minimization	IV-2A-27
The Fed Funds Market.....	IV-2A-28
Repurchase Agreements	IV-2A-28
Exhibit IV-2A.8: Funds Flow in a Repo Transaction.....	IV-2A-29
The Transaction	IV-2A-29
Dollar Rolls.....	IV-2A-30
Flex Repos	IV-2A-30
Buy/Sellback Agreements	IV-2A-30
Open Repos.....	IV-2A-30
Repo Advantages and Risks	IV-2A-30
The Federal Home Loan Bank.....	IV-2A-31

Exhibit IV-2A.9: Federal Home Loan Banks	IV-2A-32
Federal Reserve Discount Window Borrowings	IV-2A-33
The Benefits	IV-2A-33
Getting Started	IV-2A-34
TT&L Notes	IV-2A-34
Remit Option	IV-2A-35
Note Option	IV-2A-35
Certificates of Deposit	IV-2A-36
Large CDs	IV-2A-36
Deposit Notes	IV-2A-36
Brokered Deposits	IV-2A-36
Bank-Owned Life Insurance	IV-2A-36
Long-Term Sources of Funds	IV-2A-37
FHLB Borrowings	IV-2A-37
Loan Sales and Securitization	IV-2A-37
Long-Term Debt	IV-2A-38
Bank Holding Company Funding	IV-2A-38
Commercial Paper	IV-2A-38
Master Notes	IV-2A-39
Backup Lines of Credit	IV-2A-39
Risks Associated with Balance Sheet Funding	IV-2A-39
Summary	IV-2A-40

Chapter IV-2B

Liquidity Management Techniques

Recognizing Distinct Liquidity Needs	IV-2B-2
Identification of Liquidity Needs	IV-2B-2
Exhibit IV-2B.1: Liquidity Needs Matrix	IV-2B-3
The Impact of Interest Rates on Liquidity Needs	IV-2B-4
Impact of Credit Risk on Liquidity Needs	IV-2B-5
Liquidity Requirements Arising from Off-Balance Commitments	IV-2B-5
Recognizing Distinct Groups of Liquidity Sources	IV-2B-6
The Three Major Groups of Liquidity Sources	IV-2B-7
Liquidity Reserves	IV-2B-8
Borrowed Funds	IV-2B-9
Structuring the Timing of Cash Flows	IV-2B-10
Relating the Availability of Liquidity Sources to Specific Liquidity Needs	IV-2B-12
Exhibit IV-2B.2: Liquidity Planning Decision Matrix	IV-2B-13
Prioritizing Liquidity Needs and Sources	IV-2B-13
Measuring Liquidity	IV-2B-14
Loan-to-Deposit and Loan-to-Asset Ratios	IV-2B-14
More Useful Liquidity Ratios	IV-2B-15

Exhibit IV-2B.3: Three Liquidity Ratios.....	IV-2B-15
Using Liquidity Gaps to Measure Liquidity	IV-2B-16
Exhibit IV-2B.4: Simple State Bank Liquidity Gap Report Principal and Interest Cash Flows from Assets and Liabilities (amounts in thousands).....	IV-2B-17
Multiple Liquidity Gap Reports	IV-2B-19
Exhibit IV-2B.5: Summary of Liquidity Gap Projections (amounts in thousands).....	IV-2B-20
Using Multiple Liquidity Gap Reports — A Case Study	IV-2B-20
Exhibit IV-2B.6: First National Bank of Pangloss Projected Balances Per Budget.....	IV-2B-22
Exhibit IV-2B.7: First National Bank of Pangloss Projected Balances — Assuming a Worst-Case Funding Crisis Beginning in 31 Days	IV-2B-23
Liquidity Gap Ratios.....	IV-2B-23
Comparative Liquidity Gap Ratios.....	IV-2B-24
Liquidity Coverage Ratios.....	IV-2B-24
Keeping Liquidity Coverage Ratios in Perspective.....	IV-2B-25
Dealing with Assumptions in Liquidity Projections.....	IV-2B-25
Liquidity Reporting	IV-2B-26
Managing Liquidity	IV-2B-27
Determining an Optimal Level of Liquidity	IV-2B-27
Achieving and Maintaining Sufficient Liquidity.....	IV-2B-29

Chapter IV-3

Managing Interest Rate Risk in Investments

Primary Components of Interest Rate Risk.....	IV-3-1
Repricing Risk	IV-3-1
Exhibit IV-3.1: Changes in Value for 6 Percent, Noncallable Securities of Various Maturities.....	IV-3-2
Basis Risk	IV-3-3
Yield Curve Risk	IV-3-3
Exhibit IV-3.2: Parallel Shift in Yield Curve.....	IV-3-4
Exhibit IV-3.3: Yield Curve Risk: Flattening	IV-3-5
Exhibit IV-3.4: Yield Curve Risk: Steepening.....	IV-3-5
Option Risk.....	IV-3-6
Options Risk in Investments: Regulatory Concerns.....	IV-3-7
Interest Rate Risk in Investments.....	IV-3-7
When Is Maturity Anyway?.....	IV-3-8
Weighted Average Maturity	IV-3-8
Exhibit IV-3.5: Simple WAM Calculation.....	IV-3-9
Duration	IV-3-9
Measuring the Dollar-Weighted Average.....	IV-3-10
Measuring the Weighted Average of the Present Value.....	IV-3-10
Exhibit IV-3.6: Macaulay Duration — 6 Percent Bond.....	IV-3-11
Exhibit IV-3.7: Macaulay Duration — 12 Percent Bond.....	IV-3-12

Using Duration.....	IV-3-12
Comparing Maturities with Weighted Averages and Durations.....	IV-3-13
Exhibit IV-3.8: Cash Flows of Assets with Five-Year Maturities.....	IV-3-13
Exhibit IV-3.9: Cash Flows — Weighted Averages and Durations.....	IV-3-15
Characteristics of Duration.....	IV-3-16
Modified Duration.....	IV-3-17
Calculating Modified Duration.....	IV-3-18
Convexity.....	IV-3-19
Exhibit IV-3.10: Rate Sensitivity of a 6 Percent, 10-Year Treasury.....	IV-3-19
Positive Convexity.....	IV-3-20
Exhibit IV-3.11: Price/Yield Relationship for a 6 Percent 10-Year Noncallable Bond.....	IV-3-21
Negative Convexity.....	IV-3-21
Exhibit IV-3.12: Price/Rate Relationship 5.5 Percent 30-Year Fannie Mae Pool.....	IV-3-22
Characteristics of Convexity.....	IV-3-22
Convexity Describes Duration Errors That Only Become Material for Large Changes in Rates.....	IV-3-22
Convexity Describes Duration Errors in Particular Directions.....	IV-3-23
Convexity Is More Material for Longer Term Instruments Than for Shorter Term Instruments.....	IV-3-23
Exhibit IV-3.13: Comparative Convexity.....	IV-3-23
Convexity Is More Material for Amortizing Instruments.....	IV-3-24
Exhibit IV-3.14: Volatility Comparison.....	IV-3-24
Adjusting Duration to Compensate for Convexity.....	IV-3-25
Understanding the Limits of Duration and Convexity Measures.....	IV-3-25
1. Convexity Has a Larger Impact on Longer Term Securities.....	IV-3-26
Exhibit IV-3.15: Comparative Convexity.....	IV-3-26
2. Duration Changes as Changes in Prevailing Rates Affect the Choice of a Discount Rate.....	IV-3-26
Exhibit IV-3.16: Price Volatility Comparison (Between a 5-year Treasury Bond and a 5-year WAL Mortgage Pass-Through Bond).....	IV-3-28
3. Duration Changes as Rate Changes Affect the Amount and Timing of Cash Flows.....	IV-3-28
4. Duration Changes Over Time.....	IV-3-29
5. Duration Underestimates the Price Sensitivity of ARMs and Floaters.....	IV-3-29
6. Duration Can Misstate IRR in Some Floating-Rate Instruments.....	IV-3-30
Understanding Effective Duration.....	IV-3-30

Chapter IV-4

Using Investments for Bankwide Interest Rate Risk Management

Using Investments to Reduce or Change Rate Risk Exposures.....	IV-4-1
Limits to Using Investments to Reduce or Change Rate Risk Exposures.....	IV-4-2
General Strategies for Managing Interest Rate Risk.....	IV-4-3
Exhibit IV-4.1: Strategies for Managing Rate Risk.....	IV-4-3
Positioning.....	IV-4-3

Hedging	IV-4-4
Natural Hedges	IV-4-4
Hedging with Derivatives	IV-4-4
Applying Hedge Concepts to Investment Portfolio Management	IV-4-5
Do Not Use Interest-Only or Principal-Only Strips for IRR Management.....	IV-4-6
Tactics for Using Investment Securities to Reduce Interest Rate Risk.....	IV-4-7
Tactic 1: Own Short-Term Securities	IV-4-7
Tactic 2: Purchase Floating-Rate Securities	IV-4-8
Tactic 3: Avoid Securities with High Optionality	IV-4-8
Tactic 4: Diversify MBS Pool Terms	IV-4-9
Tactic 5: Focus MBS Holdings in Short Maturity CMOs	IV-4-10
Tactic 6: Focus MBS Holdings on Out-of-the-Money Options.....	IV-4-11
Tactic 7: Select ARMs with High Caps.....	IV-4-12
Tactic 8: Select Indexes That Meet Your Situation	IV-4-13
Tactic 9: Diversify Indexes.....	IV-4-13
Tactic 10: Acquire Investments with Offsetting Rate Risk Sensitivity	IV-4-14
Tactic 11: Stress the Analysis Aspect of Managing Rate Risk.....	IV-4-14
Summary	IV-4-15

Chapter IV-5

Using ALM Model Output for Decision Making

The Modeling Process.....	IV-5-1
Exhibit IV-5.1: The IRR Modeling Process	IV-5-2
The Main Objective of IRR Modeling.....	IV-5-2
Understanding the Accuracy of Model Output.....	IV-5-3
Exhibit IV-5.2: Common IRR Model Error Factors.....	IV-5-5
Managing the Integrity of Simulation Models: Benchmarking, Backtesting, and Validation	IV-5-5
What Is Backtesting?	IV-5-5
Modeling Requirements for Backtesting and Model Validation	IV-5-6
A Note About Model Output Detail	IV-5-6
Sources of Model Risk: Flawed Data	IV-5-7
1. Erroneous Original Data Input.....	IV-5-7
2. Erroneous Data Mapping	IV-5-7
3. Missing Data.....	IV-5-9
4. As-of Date Problems.....	IV-5-10
Sources of Model Risk: Flawed Assumptions	IV-5-11
5. Inaccurate Prepayment Speeds	IV-5-11
6. Inaccurate Rate Sensitivity of Nonmaturity Deposits.....	IV-5-12
Limitations of Interest Rate Risk Models	IV-5-14
Limited or No Capture of External Variables.....	IV-5-14
Weak Links.....	IV-5-15
Overly Detailed Models.....	IV-5-15

Independent Model Validations	IV-5-16
A Backtesting Example	IV-5-16
Exhibit IV-5.3: Analysis of Earnings and Market Rates, 24 Quarters, Annualized Averages	IV-5-17
Exhibit IV-5.4: Statistical Analysis of Earnings and Market Rates	IV-5-18
Focus: How to Support IRR Decision Making and Oversight.....	IV-5-19
Improving Scenario Selection.....	IV-5-19
Exhibit IV-5.5: Benchmark Scenarios.....	IV-5-21
Improving IRR Reporting: Less Is More.....	IV-5-22
What Is Needed?.....	IV-5-22
What Is Not Needed?.....	IV-5-23
Improving Management Confidence in IRR Modeling	IV-5-23
Conclusion	IV-5-24
Appendix IV-5.1: MPS ALM Model Certification Program.....	IV-5-25

Chapter IV-6

Managing Fair Values in ALM

Watching Out for FAS 157: Fair Value Measurement	IV-6-1
FAS 157 Defined	IV-6-1
Using ALM Models to Produce Fair Values	IV-6-3
Fair Value Overview.....	IV-6-4
Valuation Methodologies.....	IV-6-4
Interest Rate Risk Measurement with Uncertain Asset Values	IV-6-6
What Is Value?	IV-6-6
Risk to EVE Measurement	IV-6-7
Standard Approach	IV-6-7
Alternative Approach	IV-6-7
Concluding Comments	IV-6-8
Exhibit IV-6.1: Parallel Shift in the Yield Curve of 100 Basis Points	IV-6-8
Exhibit IV-6.2: Alternative Risk to EVE Analysis Scenarios	IV-6-8

Part V: Investment Operations and Compliance

Chapter V-1

Legal and Regulatory Requirements

The Basis of Investment Regulations.....	V-1-1
--	-------

Authorized Debt Investments	V-1-2
Type I Securities	V-1-3
Type II Securities.....	V-1-4
Type III Securities	V-1-5
Type IV Securities	V-1-5
Type V Securities	V-1-6
Investment Grade and the Credit Equivalent of Investment Grade	V-1-6
Required Evaluations of Investment Risks.....	V-1-7
Size Limits on Investments in Debt Securities	V-1-8
Exhibit V-1.1 Limits on Investments in Eligible Debt Instruments	V-1-8
Calculation of Limits.....	V-1-9
Public Welfare Investments	V-1-11
Investment Limit.....	V-1-11
Test for Public Welfare Investments	V-1-11
Authorized Equity Investments.....	V-1-12
Exceptions to Limits on Equity Investments for State Nonmember Banks.....	V-1-12
Exhibit V-1.2 Eligible Equity Investments and Limitations	V-1-12a
Request to Retain Underwriting Privilege.....	V-1-16
Title Insurance Subsidiary	V-1-16
Exception to Securities Limitations — Debts Previously Contracted	V-1-16
Disposition of Stock Acquired in a DPC Transaction	V-1-17
What Is the Legal Difference Between a Loan and an Investment?	V-1-17
General Guidelines	V-1-17
Securities Purchased as Loans	V-1-18
Investment Limits and Loan Limits.....	V-1-19
Additional Investment Regulations for Specific Investment Types	V-1-19
Federal Funds Sold	V-1-19
Securities Purchased Under Resale Agreements or Reverse Repurchase Agreements	V-1-20
A Note About Repo/Reverse Terminology	V-1-21
Regulatory Requirements for Repos.....	V-1-21
Asset-Backed Securities	V-1-23
Mortgage-Related Securities.....	V-1-24
Mutual Funds	V-1-24
Special Nonlimitation Rule	V-1-24
Bank-Qualified Municipal Securities	V-1-25
Trust-Preferred Securities.....	V-1-26
Equity Investments in Real Estate	V-1-26
Convertible Securities.....	V-1-27
Derivatives.....	V-1-27
OCC Guidance on Derivatives End Users.....	V-1-28
Structured Notes and Other High-Risk Investments.....	V-1-29
Required Analysis of Investment Risks	V-1-32
Required Prepurchase and Ongoing Risk Evaluations	V-1-32
Understanding and Applying Required Risk Analysis	V-1-34
Rules Governing Relationships with Broker/Dealers	V-1-35
Requirements for Securities Purchased Under Agreement to Resell.....	V-1-36
Potentially Unsuitable Investment Practices.....	V-1-37

Nine Securities Activities Requiring Special Attention.....	V-1-37
---	--------

Chapter V-2 Accounting for Securities

Sources of Generally Accepted Accounting Principles	V-2-1
Financial Accounting Standards Board	V-2-2
American Institute of Certified Public Accountants.....	V-2-3
Principal Requirements for Balance Sheet Accounting.....	V-2-3
HTM Securities.....	V-2-4
Trading Securities.....	V-2-6
AFS Securities	V-2-6
Accounting Treatments for FAS 115 Categories.....	V-2-6
Transfers Between Categories of Investments.....	V-2-8
Additional Rules Affecting Balance Sheet Accounting.....	V-2-9
Classification as Current Assets	V-2-9
Fair Value Definition.....	V-2-9
Amortized Cost Definition	V-2-10
Impairment of Fair Value for AFS Securities	V-2-10
Impairment of Amortized Cost (Book) Value for HTM Securities.....	V-2-10
Reporting Accrued Interest.....	V-2-11
Accumulated Other Comprehensive Income.....	V-2-11
Accounting for Income, Gains, and Losses	V-2-11
Income Statement Requirements	V-2-11
Accretion of Discounts and Amortization of Premiums.....	V-2-12
Accretion of Discounts.....	V-2-12
Amortization of Premiums	V-2-13
Reporting Income, Gains, and Losses from Securities	V-2-13
Realized and Unrealized Gains Defined.....	V-2-13
Comprehensive Income Defined	V-2-13
Components of OCI.....	V-2-14
Format of Reported Comprehensive Income.....	V-2-14
Accounting for Unrealized Gains or Losses.....	V-2-15
Accounting for Realized Gains or Losses.....	V-2-16
Disclosure Requirements	V-2-16
Disclosure of Balances	V-2-17
Disclosure of Major Security Types.....	V-2-17
Disclosure of Contractual Maturities.....	V-2-18
Disclosure of Contractual Repricing.....	V-2-18
Disclosures of Cash Flows.....	V-2-19
Other Disclosures.....	V-2-19
Rules for Trading Account Accounting.....	V-2-20
Reporting Requirements for Trading Account Securities.....	V-2-20

Reporting Short Positions	V-2-21
Reporting Requirements for Trading Account Income	V-2-21
Accounting Requirements for Specific Types of Investment Securities.....	V-2-21
Federal Funds Sold	V-2-21
Right of Setoff	V-2-22
Securities Purchased Under Resale Agreements or Reverse Repurchase Agreements	V-2-22
Zero Coupon Securities	V-2-23
Accounting Guidelines for Zeros	V-2-23
Municipal Notes and Bonds.....	V-2-24
The Impact of Fair Value Accounting on Accounting for Municipal Obligations.....	V-2-24
Impact of Federal Tax Laws on Accounting for Municipal Obligations.....	V-2-24
Fully Tax-Exempt Municipal Securities.....	V-2-25
Partially Tax-Exempt Municipal Securities	V-2-25
Fully Taxable Municipal Securities.....	V-2-25
Accounting for Tax-Exempt Income.....	V-2-26
Investments in Mortgage-Backed Securities	V-2-27
Measures of Prepayment	V-2-28
Accounting Issues for Mortgage-Backed Bonds.....	V-2-29
Prospective vs. Retrospective Amortization.....	V-2-30
Effective Interest Method	V-2-31
Change-in-Factor/Level-Factor Amortization Method.....	V-2-32
Investments in Mutual Funds.....	V-2-32
Securitized Assets	V-2-33
Troubled Debt Restructurings.....	V-2-34
Accounting Requirements for Derivatives.....	V-2-34
The Scope of FAS 133-What Is a Derivative?.....	V-2-35
Exceptions to the FAS 133 Derivative Definition.....	V-2-36
Putting the FAS 133 Derivative Definition in Perspective.....	V-2-37
Accounting Issues for Derivatives Users.....	V-2-39
All Derivatives Must Be Recorded on the Balance Sheet	V-2-39
Treatment of Gains and Losses	V-2-39
FAS 133 Requirements for Embedded Options	V-2-40
Accounting for Multiple Positions-Netting	V-2-41
Derivatives Disclosure Requirements: FAS 107, FAS 119, FAS 133, FAS 138, FAS 149, FAS 155.....	V-2-41
Requirements of FAS 107	V-2-42
Requirements of FAS 119	V-2-42
Requirements of FAS 133	V-2-44
Swap Valuation Under FAS 133	V-2-46
What Affects Swap Value?.....	V-2-46
Mechanics of Swap Pricing	V-2-47
Simpler Valuation Method: DV '01	V-2-48
Accounting for Mortgage Loan Commitments.....	V-2-49
Accounting Requirements for Investment Records	V-2-49
Trade Date and Settlement Date Accounting	V-2-51
Should You Use Settlement Date or Trade Date Accounting?.....	V-2-51
Exceptions for When-Issued Securities and Extended Settlement Purchases	V-2-52

Recordkeeping Requirements for FAS 115	V-2-52
Exhibit V-2.1: Accounting Treatment	V-2-54
Exhibit V-2.2: Accounting for Transfers	V-2-55
Exhibit V-2.3: FAS 91 Application Level Yield Example for an MBS	V-2-56
Exhibit V-2.4: Examples of the Application of EITF 99-20	V-2-57

Chapter V-3

Buying, Selling, and Settling

Price Measurement and Quotations	V-3-1
Bid and Asked Prices	V-3-2
Primary and Secondary Markets	V-3-2
Treasury Obligations	V-3-2
Exhibit V-3.1: Treasury Securities Auction Schedule	V-3-3
Auction Procedures for Most Treasury Bills, Notes, and Bonds	V-3-3
Auction Procedures for Two- and Five-Year Treasury Notes	V-3-3
Treasury Direct	V-3-4
Secondary Market	V-3-4
U.S. Agency and Government-Sponsored Enterprise Securities	V-3-4
Municipal Securities	V-3-5
New Issues (Primary Market)	V-3-5
Secondary Market	V-3-7
Obtaining Market Prices for Munis	V-3-8
Exhibit V-3.2: Sample Grid for Municipal Obligations	V-3-9
Mortgage-Backed Securities	V-3-9
Corporate Securities	V-3-10
Settlement	V-3-11
Customary Time Periods for Settlement	V-3-11
Exhibit V-3.3: BMA Notification and Settlement Classes	V-3-12a
Exhibit V-3.4: Mortgage Settlement Dates	V-3-12a
When-Issued Securities	V-3-13
Zero Coupon Securities	V-3-13
Additional Issues for MBSs	V-3-13
Delay Days	V-3-14
Exhibit V-3.5: Delay Days for Agency MBS Pools	V-3-14
Delay Days and Interest Receivable Accruals	V-3-15
Lookback	V-3-15
Exhibit V-3.6: Example of a 45-Day Lookback	V-3-15
Coupon Adjustments for Floating-Rate Securities	V-3-15
Book Entry	V-3-16
Book Entry for U.S. Treasury Obligations	V-3-16
Book Entry of Mortgage-Related Securities	V-3-17
Book-Entry Bank CDs	V-3-17

Book Entry for Corporate and Municipal Obligations	V-3-17
Book Entry for Mutual Funds	V-3-17
Accrued Interest	V-3-18
Calculating Accrued Interest	V-3-18
Common Accrual Conventions.....	V-3-18
Examples of How Interest Accrues	V-3-19
Long Coupons.....	V-3-20
Appendix V-3A: The FICC and the Settlement Process.....	V-3-21

Chapter V-4

Automating the Investment Function

Investment Management	V-4-2
Market Data and Real-Time Market Feeds.....	V-4-2
Investment Analysis and Securities Data Base Systems.....	V-4-3
Exhibit V-4.1: Investment Management Some Leading Products and Vendors	V-4-5
The Growing Regulatory Role of Analytics	V-4-7
Investment Accounting	V-4-7
In-House vs. Service Bureau	V-4-8
Exhibit V-4.2: Checklist for Reviewing Your Current Investment Accounting System.....	V-4-9
Exhibit V-4.3: Checklist for Evaluating Appropriateness of Service Bureaus for Your Institution	V-4-10
Exhibit V-4.4: Checklist for Evaluating Appropriateness of In-House Operations	V-4-11
Service Bureaus	V-4-12
Upstream Correspondent Bank Service Bureaus.....	V-4-12
Exhibit V-4.5: Summary of Investment Accounting Packages Used for Correspondent Processing.....	V-4-13
Securities Dealers Service Bureaus	V-4-14
Independent Service Bureaus	V-4-14
In-House Portfolio Operations.....	V-4-15
Exhibit V-4.6: Products and Vendors for In-House Investment Accounting Software in Financial Institutions	V-4-16
Accounting System Conversion.....	V-4-17
Mark-to-Market Pricing — Issues and Services.....	V-4-18
FAS 115 and Its Relation to Bond Accounting	V-4-18
Bond Accounting Systems and Performance Monitoring	V-4-18
Issues in MBS and CMO Accounting.....	V-4-19
Costs for Automated Investment Accounting Products.....	V-4-19
Trade Publications	V-4-20

Chapter V-5

Using Brokers, Dealers, and Safekeepers

Broker/Dealer Relationships	V-5-1
Activities of Brokers and Dealers	V-5-1
Organization of a Securities Dealer	V-5-2
Know What You Are Getting	V-5-3
How to Select and Evaluate a Broker/Dealer	V-5-4
Evaluations of Broker/Dealer Firms	V-5-4
Evaluations of Individual Broker/Dealer Representatives	V-5-5
Ongoing Evaluations and Conduct of Broker/Dealer Relationships	V-5-6
Executing Trades	V-5-7
Suitability	V-5-8
Precautions for Dealing with CD Brokers	V-5-9
Safekeeping of Investment Securities	V-5-10
Credit Risk Arising from Safekeeping	V-5-10
Operational (Transaction) Risk Arising from Safekeeping	V-5-11
Book-Entry Securities	V-5-12

Chapter V-6

Investment Portfolio Reporting

Characteristics of Good Management Reporting	V-6-1
Evaluating and Improving Your Management Information Systems	V-6-2
General Regulatory Requirements for Management Reports	V-6-3
General Types of Board and Management Reports	V-6-4
Position or Inventory Reports	V-6-4
Activity Reports	V-6-4
Exception Reports	V-6-4
Content of Investment Reports	V-6-4
Investment Portfolio Inventory Reports	V-6-4
Exhibit V-6.1: Simple State Bank Investment Portfolio Inventory Report	V-6-7
Exhibit V-6.2: Simple State Bank Investment Portfolio Summary Inventory Report by Type of Investment	V-6-8
Exhibit V-6.3: Composition of Investments	V-6-9
Peer Group Comparisons of Portfolio Composition	V-6-9
Investment Portfolio Activity Reports	V-6-10
Exhibit V-6.4: Placid Community Bank Investment Activity Report	V-6-10
Exhibit V-6.5: Investment Activity Report	V-6-11
Yield Analysis	V-6-11
Exhibit V-6.6: Simple State Bank Comparative Yield Analysis Report	V-6-12
Investment Portfolio Liquidity Reports	V-6-13

Exhibit V-6.7: Maturity Distribution Report	V-6-13
Exhibit V-6.8: Cash Flow from Investments	V-6-14
Exhibit V-6.9: Simple State Bank Quarterly Cash Flows	V-6-15
Interest Rate Risk Reports	V-6-16
Exhibit V-6.10: Investment Portfolio Repricing Distribution	V-6-16
Exhibit V-6.11: Duration and Repricing Distribution	V-6-18
More Complete Rate-Sensitivity Reports	V-6-18
Unrealized Gains and Losses	V-6-19
Credit Risk Portfolio Reports	V-6-20
Exhibit V-6.12: Credit Quality of Investments	V-6-20
Credit Risk Activity Reports	V-6-21
Exhibit V-6.13: Credit Analysis Worksheet for Nonrated General Obligation Municipal Issues	V-6-22
Investment Policy Compliance Reports	V-6-23
Hedging Reports	V-6-24
Other Off-Balance Sheet Positions and Commitments	V-6-24
Derivatives Reports	V-6-24
Operations Reports	V-6-24
Exhibit V-6.14: Security Transaction Worksheet	V-6-25
Exhibit V-6.15: Securities Transferred Worksheet	V-6-27
Advanced Investment Management Reports	V-6-28
Dynamic Interest Rate Sensitivity Reports	V-6-28
Exhibit V-6.16: Projected Interest Rate Sensitivity of Investment Portfolio Returns	V-6-29
Exhibit V-6.17: Sensitivity of Investment Portfolio Returns	V-6-30
Basis Risk Reports	V-6-30
Exhibit V-6.18: Portfolio Indexes	V-6-31
Liquidity and Rate Sensitivity	V-6-31
Other Reports	V-6-31
Red Flags in Management Reports	V-6-31
Internal Controls for Investment Management Reports	V-6-33
Examination Reports	V-6-33
Audit Reports	V-6-33
Management Reports of Trading and Dealing Activities	V-6-34
Management Report Summary	V-6-35

Chapter V-7 Internal Controls and Management Oversight

Internal Controls	V-7-1
Regulatory Requirements	V-7-1
Management Requirements	V-7-2
Preventing Forgeries	V-7-3
Personal Conduct Guidelines	V-7-3

Policy Recommendations for Personal Conduct Guidelines	V-7-4
Effective Oversight	V-7-4
Characteristics of Poorly Managed Investment Portfolios	V-7-5
Hallmarks of Effective Supervision.....	V-7-7
Exhibit V-7.1: Internal Control Checklist for Investment Activities.....	V-7-9

Chapter V-8

Examinations of AFS and HTM Investment Portfolios

Overview of the Bank Regulatory Process	V-8-2
The Uniform Financial Institutions Rating System	V-8-2
The Scope of Examinations of Investment Activities.....	V-8-3
Risk-Based Examinations	V-8-4
Different Regulatory Approaches to Risk-Based Supervision	V-8-4
Fed Risk-Based Examinations.....	V-8-4
OCC Risk-Based Examinations.....	V-8-6
Application of Risk-Based Supervision to Investment Activities	V-8-7
Credit Risk	V-8-8
Regulatory Expectations for Credit Risk Management	V-8-8
Credit Quality Issues for Specific Types of Investment Instruments	V-8-9
Uniform Securities Classification Standards	V-8-10
Reliance on Ratings	V-8-11
Interest Rate Risk	V-8-12
Regulatory Expectations for Interest Rate Risk Management	V-8-13
Liquidity Risk	V-8-13
The Effect of Marketability on the Bank’s Financial Statements.....	V-8-14
Regulatory Expectations for Liquidity Risk Management	V-8-15
Operational (Transaction) Risk.....	V-8-16
Regulatory Expectations for Transaction/Operational Risk Management	V-8-17
Additional Examination Considerations	V-8-17
Structured Notes	V-8-17
Close Scrutiny of Nontraditional Banking Products	V-8-18
Appendix V-8A: Federal Reserve Commercial Bank Examination Manual Section 2020.3:	
Investment Securities and End-User Activities: Examination Procedures	V-8-19
Appendix V-8B: Rating Criteria for the Composite Rating and the Component Ratings	V-8-33

Chapter V-9

Preparing for an Investment Audit

Prudence in the Investment Process.....	V-9-1
---	-------

Policy Review	V-9-1
Board of Directors Review	V-9-2
Senior Management Review	V-9-3
Control Procedures	V-9-3
Risk Management	V-9-4
Investment Operations	V-9-4
Reporting	V-9-5
Investment Audit Review	V-9-5
Auditor Control Questions	V-9-6
Auditor Control Tests	V-9-6
Funds Audit Review	V-9-8
Auditor Control Questions	V-9-8
Due-from/Due-to Correspondent Bank Accounts	V-9-8
Bank Policies	V-9-8
Bank Reconcilements	V-9-9
Federal Funds Sold	V-9-10
Federal Funds Purchased	V-9-10
Foreign Exchange Activities	V-9-10
Other	V-9-11
Auditor Control Tests	V-9-11

Part VI: Reference Information

Appendix VI-A Internet Sites for Bank, Thrift, and Credit Union Investors

