

Contents

Dedication	ii
Acknowledgements	ix
PART I: RISK AND DECISION-MAKING	1
1 Risk in a Changing Environment	3
The historical perspective	3
Risk	7
Regulators in a changing environment	13
2 A General Risk Management Framework	19
Developing the framework	19
Using the framework	21
3 Elements of the Credit Decision	25
The optimal credit decision	25
Element 1: counterparty risk	26
Element 2: risk exposure	30
Element 3: return on a transaction	33
Element 4: maturity considerations	41
Element 5: transaction motivation	43
Element 6: enhancement and risk reduction	48
PART II: CLASSIFICATION AND RISK EQUIVALENCY	53
4 Classification of Risk	55
General risks facing financial institutions	55
Product risk	56
The effects of product risk	57
Market risk, counterparty risk and loss levels	64
5 Risk Equivalency	67
The purpose of risk equivalency	68
Risk equivalency calculations	68

6	Quantifying the Risk Equivalency Process	73
	Derivation of the risk factor	73
PART III: FINANCIAL INSTRUMENT RISK ANALYSIS		83
7	Repurchase/Reverse Repurchase Agreements	85
	Definition	85
	General credit considerations	89
	Risk quantification	90
	Risk factors	96
8	Treasury Securities and Treasury Derivatives	98
	Definition	98
	General credit considerations	101
	Risk quantification	104
	Risk factors	112
9	Mortgage-back Securities and Associated Derivatives	115
	Definition	115
	General credit considerations	123
	Risk quantification	125
	Risk factors	133
10	Money Market Instruments	134
	Description	134
	General credit considerations	142
	Risk quantification	143
	Risk factors	153
	A final note on registration requirements	153
11	Bonds	155
	Description	155
	General credit considerations	161
	Risk quantification	163
	Risk factors	168
12	Foreign Exchange and Currency Derivatives	169
	Definition	169
	General credit considerations	174
	Risk quantification	176
	Netting foreign exchange exposures	190
	Risk factors	192

13 Swaps and Swap Derivatives	193
Definition	193
General credit considerations	203
Risk quantification	206
Risk factors	242
Appendix 1: Alternative Method for Computation of Calculated Replacement Cost and Discounted Replacement Cost	
Introduction	244
Definitions	244
Derivation of the alternative method	245
Numerical examples	246
Further remarks	247
Appendix 2: Graphical Representation of Swap Replacement Costs	
	249
Appendix 3: Tabular Representations of Swap Replacement Costs	
	252
Appendix 4: Sample Risk Factors at Various Volatility Levels	
	259
References	261
Index	265