## **Contents**

Foreword by Denis Kessler introduction		
	Contents of the Book	xix
	Acknowledgments	XX
	General References	XX
CHAPTER 1		
<b>Risk Ma</b>	nagement: Definition and Historical Development	1
1.1	History of Risk Management	2
1.2	Milestones in Financial Risk Management	3
1.3	Current Definition of Corporate Risk Management	2 3 7 8
1.4	Conclusion	
	References	9
CHAPTER 2		
Theoret	ical Determinants of Risk Management in Non-Financial Firms	11
2.1	Value of Risk Management	12
2.2	Comparative Advantages in Risk Taking	16
2.3	Risk Management and Capital Structure	17
2.4	Risk Management and Managerial Incentives	18
2.5	Conclusion	19
	References	19
CHAPTER 8		
Risk Ma	nagement and investment Financing	21
3.1	Basic Model	21
3.2	Illustration with the Standard Debt Contract	27
3.3	Model with Two Random Variables	28
3.4	Conclusion	31
	References	31
	Appendix A: Value of dI*/dw	31
	Appendix B: Standard Debt Dcontract	32

<b>CHAPTER 4</b>		
<b>Signific</b>	ant Determinants of Risk Management of Non-Financial Firms	35
4.1	Rationale for the Research	35
4.2	Significant Determinants	36
4.3	Governance and Endogeneity of Debt	50
4.4	Conclusion	60
	References	61 62
	Appendix: Construction of the Tax-Save Variable	62
CHAPTER 5		
Value at		68
5.1	Example of VaR	63
5.2 5.3	Numerical Method	65
5.4	Parametric Method Taking Time Periods into Consideration	66 67
5.5	Confidence Interval of the VaR	68
	CVaR	69
5.7	Conclusion	70
	References	71
CHAPTER 8		
Choice (	of Portfolio and VaR Constraint	78
6.1	Optimal Benchmark Portfolio of the Firm	73
6.2	Optimal Portfolio of a Constrained Manager	75
6.3	Conclusion	77
	References	77
CHAPTER 7		
<b>VaR</b> in P	ortfolios of Assets and Options	78
7.1		79
7.2		80
7.3	VaR with Options	85
/.4 7.5	VaR with Options Black and Scholes Model and Risk Management Delta-Gamma VaR	88 90
7.3 7.6	VaR of a General Portfolio	90
7.7	Application	92
7,8	Conclusion	97
	References	97
CHAPTER 8		
Condition	rai Vair	99
8.1	Motivation for CVaR and Coherence in Risk Measures	99
8.2	Notation and VaR	101
8.3	Definition of CVaR	104
8.4	Another Way to Derive CVaR with a Return Distribution	107
8,5 8.6	Example with Student's t-Distribution and Other Examples Conclusion: CVaR in Basel Regulation	108 111
0.0	References	111
	<del></del>	

CHAPTER 9	on of Book Well and He and McD	
	on of Bank Risk and Use of Yafi	118
9.1	Basel Accords	114
9.2	Market Risk Regulation of 1996	120
9.3 9.4	Specific Risks Total Required Capital	120 122
9. <del>4</del> 9.5	Tests	124
9.6	Comparison between Standard and Internal Methods with	127
,	Interest Rate Risk	124
9.7	Conclusion	133
	References	134
CHAPTER 10		
Optimal I	inancial Contracts and Incentives under Moral Hazard	135
10.1	Optimal Financial Contracts and Moral Hazard	136
	Theoretical Model	140
	Empirical Application to Air Accident Risk	144
10.4		148
	References	148
	Appendix A: Synthesis of Forms of Financial Contracts	149
	Appendix B: Definitions of Variables	150
CHAPTER 11		158
	Capital Risk with Optimal Financing Structure	
11.1		154
	Role of Venture Capital Firms	155
	Venture Capital Firms and Added Value Role of Convertible Debt	156 156
	Information Asymmetry and Venture Capital	158
11.6		163
1110	References	164
CHAPTER 12		
Bank Cre	dit Risk: Scoring of Individual Risks	167
12,1	Theoretical Model	169
12.2	Empirical Analysis	171
12,3	Credit Line and Loan Default	180
12.4	Conclusion	182
	References	182
CHAPTER 18		
Portiolio	Management of Credit Risk	185
13.1	CreditMetrics	185
	Review of Chapters 2 and 3 of CreditMetrics	186
	KMV Approach	193
	Calculation of Correlations	196
13.5	Conclusion	202
	References	202

UNAPIEN 14	ntion of Banks' Operational Risk	205
•	•	
14.1	Context and Presentation of Operational Risk	205
14.2	<i>b</i> , 1	208
14.3	<i>U</i> , 1 ···	
	\$1 Million (LDA)	210
14.4		227
	References	228
CHAPTER 15		
Liquidity I	ilsk	231
15.1	Theoretical Modeling of CDSs	232
15.2		233
15.3	· · · · · · · · · · · · · · · · · · ·	235
	Non-Default Portion of Yield Spreads	237
	Illiquidity Index	242
	Illiquidity Premium	244
15.7		244
	Principal Component Analysis of Liquidity Risk	245
	Empirical Analysis of Credit Cycles	246
	Regime Detection Model	248
	Detection of Default and Liquidity Regimes	250
	Conclusion	251
10112	References	252
CHAPTER 18		
Long-Term	ı Capital Management	255
16.1	Brief History of the Fund	256
	Risk Management, VaR, and Required Capital	258
	Portfolio Optimization and Leverage Effect	260
16.4		261
10.4	References	262
	References	202
CHAPTER 17	d Finance and the Financial Crisis of 2007–2008	263
17.1	Structured Finance	263
17.2	Poor Risk Management Linked to the Structured	261
	Finance Market	264
17.3	Conclusion	266
	References	268
	Appendix: How to Create an AAA CDO Tranche	
	from BBB Loans	269
CHAPTER 18		
Risk Mana	gement and Corporate Governance	271
18.1	Enron and Corporate Governance	271
18.2	Financial Crisis and Corporate Governance	273

18.3	New 2002 Governance Rules					
18.4						
18.5	Administrative Competence of Board Members					
18.6		New Regulation for Financial Institutions				
18.7	18.7 Economic Analysis of Governance Effect					
18.8		nclusion	288			
	Ref	erences	288			
	App	pendix A: Governance of Canadian Federal Financial				
		itutions	290			
	App	pendix B: Details on the Construction of the Governance				
	Ind	exes	291			
	App	pendix C: Variables	293			
CHAPTER 19						
Risk Man	agem	ent and Industrial Organization	295			
19.1	Ent	ry, Production, and Hedging	295			
		nmitment to Hedging	297			
19.3		nclusion	297			
	Ref	erences	299			
CHAPTER 20						
Real Impl	icatio	ns of Corporate Risk Management	301			
20.1	Rea	l Implications of Corporate Risk Management:				
	A R	Leview	302			
		thodology	303			
		Oil Producers	309 316			
		Iultivariate Results				
20.5		nclusion	324			
		erences	324			
	App	pendix: Estimated MTEs	326			
CHAPTER 21			004			
Exercise:	8		381			
Exerc	ise 1					
		at Risk (VaR)	331			
		Backtesting of VaR Models	345			
Exerc	ise 3	Calculation of VaR with Different Distributions				
-		and Accuracy of VaR	351			
		VaR for an Equity Portfolio with Options	359			
Exerc	ise 5	CVaR Conditional Value at Risk	369			
		Conclusion	376			
		Reference	376			
Conclusion			<b>377</b>			
	Gen	neral References	378			
indev			979			