Contents

Acknowled Introduction		ts qualitation in hingers deliculation. Other risks guildenftorq	ix xi	
Chapter 1	Mea	suring the unexpected: Understanding economic capital	1	
	1.1	What is economic capital?	2 3	
	1.2	Expected and unexpected losses		
	1.3	그리고 있는데, 이 사람들은 사람들은 아니는	4	
		1.3.1 Risk versus uncertainty	5	
		1.3.2 Coherent risk measures	8	
	1.4		10	
	1.5	Conclusion	11	
Chapter 2	Show	Show me the money: The purpose of economic capital		
	2.1	A round-up of stakeholders	14	
	2.2	Ensuring continuity	15	
		2.2.1 Why do financial institutions fail?	15	
		2.2.2 Economic capital and assessing capital adequacy	18	
		2.2.3 Economic capital and capital management	20	
	i bns	2.2.4 Economic capital and risk management	21	
	2.3	Optimizing profitability	22	
		2.3.1 Economic capital and profitability measures	22	
		2.3.2 Economic capital and performance management	24	
		2.3.3 Economic capital and portfolio management	25	
	2.4	Management and economic capital	25	
	2.5	The actual use of economic capital	28	
	2.6	Conclusion	30	
Chapter 3		manage what you measure: Defining economic capital	33	
	3.1	Valuation principles	33	
	3.2	Which assets and liabilities to include in economic	25	
	2.2	capital	35	
	3.3	Which risks to include in economic capital	37	
		3.3.1 Position risks	37	
		3.3.2 Inherent risks	39	
		3.3.3 Model risk	41	
	2 1	3.3.4 Choice of risk types	42	
	3.4	Time horizon and expected profits	44	

vi

		3.4.1	Time horizon	44
			Treatment of expected profits	45
	3.5		dence level and cyclicality	48
	0.0		Choosing the confidence level	48
			Cyclicality of economic capital	51
	3.6		tion of available capital	54
	2009	3.6.1		
		0.0.1	continuity	54
		3.6.2	Available capital in relation to optimizing	mbA
		rmecha	profitability	56
		3.6.3	Aligning the definition of available capital	58
		3.6.4	Treatment of hybrid capital instruments	58
	3.7	Concl		59
Chamton 4	D		and a Managina and a said to the visit of th	(2
Chapter 4			e numbers: Measuring economic capital al considerations	63
	4.1			64
		4.1.1	1 01	64
		4.1.2	Capturing dependencies	66
		4.1.3	Estimating parameters from historical data	69
		4.1.4	Calculating economic capital contributions	72
		4.1.5	Model risk	78
		4.1.6	Validation of economic capital	83
	12	4.1.7	Aggregation of risk types versus risk drivers	84
	4.2	Credit		85
		4.2.1	Fundamental choices and assumptions	87
		4.2.2	Modeling approaches	89
		4.2.3	Determination of model parameters and inputs	104
		4.2.4	Special topics	117
		4.2.5	Allocation of economic capital	132
	12	4.2.6	Regulatory capital for credit risk	133
	4.3		et risk	134
		4.3.1	Fundamental choices and assumptions	136
		4.3.2	Modeling approaches	138
		4.3.3	Special topics	141
			Allocation of economic capital	145
	1.1	4.3.5	Regulatory capital for market risk	146
	4.4	-	tional risk	146
		4.4.1	Fundamental choices and assumptions	150
			Modeling approaches	151
		4.4.3	1	157
		4.4.4		159
	1.5		Regulatory capital for operational risk	160
	4.5		liability management risk	160
		4.5.1	Fundamental choices and assumptions	163

Contents

		4.5.2 Modeling approaches	165		
		4.5.3 Special topics	166		
		4.5.4 Allocation of economic capital	170		
		4.5.5 Regulatory capital for ALM risk	170		
	4.6	Business risk	171		
		4.6.1 Fundamental choices and assumptions	173		
		4.6.2 Modeling approaches	174		
		4.6.3 Special topics	177		
		4.6.4 Allocation of economic capital	179		
	4.7	Other risks	179		
		4.7.1 Insurance risks	179		
		4.7.2 Pension liability risk	185		
		4.7.3 Fixed asset risk	188		
		4.7.4 Tax risk	189		
		4.7.5 Strategic equity investments	192		
	4.8	Aggregation of risks	194		
		4.8.1 Fundamental choices and assumptions	196		
		4.8.2 Modeling approaches	197		
		4.8.3 Special topics	199		
		4.8.4 Allocation of economic capital	201		
		4.8.5 Risk aggregation in regulatory capital	202		
	4.9	Conclusion	203		
Chapter 5	Faci	ng reality: Implementing economic capital	213		
uther her na		5.1 Ensuring continuity			
	he Ur	5.1.1 Capturing diversification and concentration	213 on		
		effects	213		
		5.1.2 Dealing with complex products	215		
		5.1.3 Consolidated capital adequacy assessment			
		5.1.4 Capital adequacy for subsidiaries			
		Optimizing profitability	220		
	3.2	5.2.1 Transparency and governance	220		
			221		
		5.2.3 Which risks to allocate to business lines?			
			224		
		5.2.5 Forward-looking versus backward-looking			
			226		
		5.2.6 Incentives and RAROC	227		
		5.2.7 Interpretation of RAROC			
		5.2.8 Setting the hurdle rate			
		C and a second s	238		
		specialization and diversification			
	5.3	Conclusion	239		

Chapter 6	Tear	n play: The context of economic capital	243
	6.1		243
		6.1.1 Types of stress tests	244
		6.1.2 The use and interpretation of stress test	
		results	245
		6.1.3 Stress tests and economic capital	247
		6.1.4 Limitations of stress tests	248
		6.1.5 Summary solgon labour 4.2.	249
	6.2	Enterprise risk management (ERM)	249
	6.3	Managing economic and regulatory capital	252
		6.3.1 Economic capital versus regulatory capital	252
		6.3.2 Optimizing economic profit under capital	
		constraints de la lance de la constraint	253
	6.4	Conclusion dan xall A.T.A	258
Chapter 7	Wha	it is next? The future of economic capital	261
	7.1	Consider all the institution's capital objectives	262
	7.2	Address the pro-cyclicality of capital requirements	264
	7.3	Continuously improve risk measurement	266
	7.4	Explicitly account for model risks	267
	7.5	Create risk-sensitive incentives	268
	7.6	Align regulatory capital further	
		to economic capital	269
	7.7	The promise of economic capital	270
Index			273