

Table of Contents

Introductory and editors' forewords	IX
Forewords Handbook of Reinsurance Practice	IX
Forewords Basics of Reinsurance	XII
Table of Contents	XV
1 Reinsurance.	1
1.1 Definition and Key Assumptions	1
1.1.1 Reinsurance – Insurance for Insurers.	1
1.1.1.1 Demand for reinsurance	1
1.1.1.2 Inward and outward reinsurance	2
1.1.1.3 Retrocession as the reinsurer's reinsurance.	2
1.1.1.4 Reinsurance on an individual basis and for a large number of risks	3
1.1.2 Reinsurance – Risk Management for Insurers	4
1.2 Distinction between reinsurance and other forms of risk transfer	4
1.2.1 Distinction between co-insurance and reinsurance	4
1.2.2 Distinction between reinsurance and (re)insurance pools	5
1.2.3 Placing risks on the capital market	7
1.2.4 Captives	8
1.3 The organisation and economic importance of reinsurance	10
1.3.1 The economic importance of reinsurance	10
1.3.1.1 The macroeconomic function of reinsurance	10
1.3.1.2 The international reinsurance market and the (Re-)Insurance exchange of Lloyd's	11
1.3.2 Organisation of inward and outward reinsurance	13
1.3.2.1 Organisational forms of reinsurance companies	13
1.3.2.2 The internal organisation of a reinsurance company	14
1.3.2.3 The organisation of reinsurance purchasing at a primary insurance company	14
1.3.2.4 The tasks of intermediaries in the reinsurance market.	15
1.4 History of reinsurance	16
1.4.1 The beginnings of reinsurance	16
1.4.2 The emergence of professional reinsurance	20
1.4.2.1 The Industrial Revolution – the founding years of reinsurance	20
1.4.2.2 Imperialism – the first peak	21
	XV

1.4.2.3	World wars and world economic crises – time of examination	22
1.4.2.4	The post-war period – entering the global market.	23
1.4.2.5	End of the cold war and of the twentieth century – internationality and critical size	23
1.4.2.6	The new millennium – Reinsurance affected by globalisation	25
2	Fundamentals of reinsurance	27
2.1	Functions of reinsurance	27
2.1.1	Overview of the main functions of reinsurance	27
2.1.2	Reinsurance as risk management of a primary insurer	28
2.1.2.1	Definition of risk	28
2.1.2.2	Insurance or Underwriting Risk	31
2.1.2.3	Managing risk through precaution	32
2.1.2.4	Forming risk communities for managing risks	33
2.1.2.5	Risk balancing across the portfolio	34
2.1.3	The reinsurer as a risk carrier	35
2.1.3.1	Transfer of underwriting risk	35
2.1.3.2	Atomisation of risk	38
2.1.4	Reinsurer's support in risk financing	39
2.1.4.1	Risk capital financing	39
2.1.4.2	Financing the assumption of underwriting risk.	40
2.1.4.3	Services of the Reinsurer	41
2.2	Reinsurance policy from the primary insurer's and the reinsurer's perspective.	43
2.2.1	The primary insurer's reinsurance policy	45
2.2.1.1	Objective determining factors (reinsurance needs) .	45
2.2.1.2	Subjective determining factors (risk propensity of the cedant)	48
2.2.2	The reinsurer's underwriting policy	51
2.2.2.1	Objective determining factors (reinsurance capacity)	51
2.2.2.2	Subjective determining factors (reinsurability)	52
2.2.2.3	Types of reinsurer	53
3	Legal foundations.	57
3.1	Autonomy of the Parties and "Compliance" in the Reinsurance Business	57
3.2	Legal basis for reinsurance business	59

3.2.1	Requirements for the conduct of reinsurance business	59
3.2.1.1	German insurance Supervisory law	59
3.2.1.2	European Union law	61
3.2.2	Violations of mandatory prohibitions and requirements	61
3.2.2.1	Violations of Public Policy (or „Ordre Public“)	61
3.2.2.2	Infringement of statutory regulations	62
3.2.2.3	Violations of sanctions compliance orders	63
3.2.2.4	Violations of antitrust law	64
3.2.2.5	Violation of insolvency law	66
3.2.3	Settlement of disputes	66
3.2.3.1	Settlement by negotiation	66
3.2.3.2	Legal Proceedings	67
3.3	Legal Nature of the Reinsurance Contract.	71
3.3.1	Reinsurance	71
3.3.2	Principles of reinsurance acceptances	72
3.3.3	The reinsurance contract	72
3.3.3.1	Relief of the security capital to be provided by the insurer.	74
3.3.3.2	Tax deductibility of the primary insurer's reinsurance premiums	75
3.4	Legal sources for the reinsurance business	76
3.4.1	Reinsurance Contract-Law	76
3.4.1.1	International Contract-Law	76
3.4.1.2	International Private-Law	76
3.4.2	Reinsurance Contract-Law	77
3.4.2.1	Contract law	78
3.4.2.2	Commercial law	79
3.4.2.3	Authority and duty to conduct management of insurance risk	83
3.4.2.4	Following the Settlements and Following the Fortunes	84
3.4.2.5	Duties of due diligence and right of inspection	88
3.4.2.6	Additional rights and duties of the participating parties	92
3.4.3	Agreements in the reinsurance contract	93
3.4.4	Participating Parties in the Reinsurance Contract	95
3.4.4.1	The parties of the Reinsurance Contract.	95
3.4.4.2	Direct claims by policyholders	96
3.4.4.3	The role of the leading reinsurer	97

3.4.4.4	Functions and legal status of the reinsurance broker	98
3.4.5	Object of the reinsurance contract	104
3.4.6	Scope of cover of the reinsurance	104
3.4.6.1	Material scope of cover	105
3.4.6.2	Geographic scope of cover	106
3.4.6.3	Temporal scope of cover	107
3.4.7	Inception and Termination of the reinsurance contract	112
3.4.7.1	Genesis of a reinsurance contract	113
3.4.7.2	Peculiarities in facultative business	115
3.4.7.3	Signing-down and signing-up	116
3.4.7.4	Termination of the contract	117
3.4.8	Formal structure of the reinsurance contract documentation	119
3.4.9	Supplementary and special agreements	120
3.4.9.1	Bouquets	120
3.4.9.2	Reciprocity agreements	121
3.4.9.3	Fronting	122
3.4.9.4	Most-favourable-terms clauses	123
4	Structures, classes and types of reinsurance	125
4.1	Reinsurance in general	126
4.1.1	Structures of reinsurance	127
4.1.1.1	Obligatory reinsurance	127
4.1.1.2	Facultative reinsurance	128
4.1.1.3	Semi-obligatory reinsurance	128
4.1.2	Classes of reinsurance	130
4.1.2.1	Proportional reinsurance	130
4.1.2.2	Non-proportional reinsurance	132
4.1.3	Alternative classes of reinsurance	134
4.1.3.1	Finite Reinsurance	135
4.1.3.2	Contingent financing	138
4.1.3.3	Derivatives	139
4.1.3.4	Securitisation	139
4.1.3.5	Asset/liability management	141
4.2	Facultative reinsurance	141
4.2.1	Offer of facultative reinsurance and making of a contract	142
4.2.2	Proportional participation in an individual risk	144
4.2.3	Non-proportional participation	145

4.3	Obligatory reinsurance	146
4.3.1	Obligatory reinsurance principles and methods.....	148
4.3.1.1	Reinsured book of business (reinsured portfolio) ...	148
4.3.1.2	The subject matter of an obligatory reinsurance contract	148
4.3.1.3	Extent of coverage in obligatory reinsurance	149
4.3.1.4	Limiting the reinsurer's duty to pay	149
4.3.2	Proportional types of reinsurance treaties	150
4.3.2.1	Quota share reinsurance treaty	150
4.3.2.2	Surplus reinsurance treaty	163
4.3.3	Non proportional types of reinsurance treaties	174
4.3.3.1	How non-proportional reinsurance works	175
4.3.3.2	Types of non-proportional reinsurance contract and their purposes	179
4.3.3.3	Types of excess of loss contract and their purposes	184
4.3.3.4	Types of stop loss contract and their purpose	187
4.3.3.5	Structural problems of non-proportional reinsurance	191
4.3.4	Interaction between different types of reinsurance	194
4.3.4.1	Interaction between reinsurance contracts generally.....	194
4.3.4.2	Interaction between proportional contracts	195
4.3.4.3	Interaction between non-proportional contracts ...	202
4.3.4.4	Interaction of proportional and non-proportional contracts	210
4.3.4.5	Interaction of obligatory and facultative reinsurance	213
4.3.4.6	Interaction of structurally identical reinsurances ("interlocking")	215
5	Characteristic features of reinsurance in the major classes of insurance	217
5.1	Reinsurance relevance of scope and structure of coverage of the original subject of reinsurance contract	217
5.1.1	Reinsurance relevance of the original cover	217
5.1.2	Reinsurance relevance of original coverage scope and structure	218
5.1.3	Risk of random fluctuation	220
5.1.4	Risk of error	222
5.1.5	Risk of change	223

5.1.6	Diagnosis and prognosis risk.	224
5.2	The need for reinsurance in the various lines of insurance business.	224
5.2.1	Life insurance	225
5.2.1.1	Types and benefits of life insurance – German market	226
5.2.1.2	Types and benefits of life insurance – other markets	230
5.2.1.3	Calculation of premiums in life insurance and reinsurance.	231
5.2.1.4	Insurance Risk in life insurance	233
5.2.1.5	Reinsurance in life insurance	236
5.2.2	Accident insurance	237
5.2.2.1	Types and benefits of accident insurance – German market.	237
5.2.2.2	Types and benefits of accident insurance – other markets	239
5.2.2.3	Insurance Risk in Accident reinsurance	240
5.2.2.4	Reinsurance in personal accident insurance	242
5.2.3	Health insurance	243
5.2.3.1	Types and benefits of health insurance – German market.	244
5.2.3.2	Types and benefits of health insurance – other markets	246
5.2.3.3	Premium calculation in health insurance and reinsurance	248
5.2.3.4	Insurance risk in Health insurance	249
5.2.3.5	Reinsurance in health insurance	251
5.2.4	General liability insurance	251
5.2.4.1	Types and benefits of general liability insurance – German market.	252
5.2.4.2	Types and benefits of general liability insurance – other markets	254
5.2.4.3	Peculiarities of general liability reinsurance	254
5.2.4.4	Insurance risk in general liability insurance	256
5.2.4.5	Reinsurance in liability insurance	261
5.2.5	Motor Insurance	263
5.2.5.1	Types and benefits of motor insurance – German market.	263
5.2.5.2	Types and benefits of motor insurance – other markets	267

5.2.5.3	Insurance risk in Motor insurance.....	273
5.2.5.4	Reinsurance in motor insurance.....	279
5.2.6	Property insurances (other than Fire Insurance)	280
5.2.6.1	Types and benefits in the property insurances – German market.....	282
5.2.6.2	Types and benefits in the property insurances – other markets	284
5.2.6.3	Insurance risk in Property Insurances	285
5.2.6.4	Reinsurance in the property lines.....	288
5.2.7	Fire insurance	290
5.2.7.1	Types and benefits in the fire insurance – German market.....	290
5.2.7.2	Types and benefits in the fire insurance – other markets	295
5.2.7.3	Insurance Risk in Fire insurance	298
5.2.7.4	Reinsurance in fire insurance	303
5.2.7.5	Insurance and Reinsurance against terrorism risks.....	305
5.2.8	Engineering insurance	306
5.2.8.1	Types and benefits of engineering insurance – German market.....	306
5.2.8.2	Types and benefits of engineering insurance – other markets	311
5.2.8.3	Insurance Risk in engineering insurance	313
5.2.8.4	Special features of engineering insurance.....	316
5.2.8.5	Reinsurance in engineering insurance.....	317
5.2.9	Marine insurance.....	318
5.2.9.1	Types and benefits of marine insurance – one line of business/four main classes.....	319
5.2.9.2	Types and benefits of marine insurance – German market.....	321
5.2.9.3	Types and benefits of marine insurance – other markets	323
5.2.9.4	Insurance Risk in marine insurance	327
5.2.9.5	Reinsurance in marine insurance	333
5.2.10	Aviation and Space insurance	335
5.2.10.1	Types and benefits of Aviation and Space insurance – German market.....	335
5.2.10.2	Types and benefits of Aviation and Space insurance – other markets.....	336
5.2.10.3	Insurance Risk in aviation and space insurance	341

5.2.10.4	Reinsurance in aviation and (aero)space insurance	342
5.2.11	Credit and Fidelity insurances.	343
5.2.11.1	Types and benefits of credit insurance, surety and fidelity insurances, political risk insurance – German market	344
5.2.11.2	Types and benefits of credit and fidelity insurances – other markets	350
5.2.11.3	Risk review and assessment	351
5.2.11.4	Insurance risk in credit insurance	352
5.2.11.5	Reinsurance in credit reinsurance	354
5.3	Designing the structure of a reinsurance programme	356
5.3.1	Factors determining the structure of a reinsurance programme	356
5.3.1.1	Objective factors determining reinsurance consumer demand	357
5.3.1.2	Availability of reinsurance products meeting the reinsurance consumer's requirements	358
5.3.1.3	Subjective factors determining reinsurance consumer demand	360
5.3.2	Structuring a reinsurance programme	361
5.3.2.1	Reinsurance by line of business	362
5.3.2.2	Umbrella reinsurance	362
6	Underwriting in Reinsurance.	365
6.1	Underwriting the market	365
6.2	Underwriting a line of business	365
6.3	Underwriting the Client	366
6.4	Underwriting of reinsurance contracts	366
6.5	Selected underwriting topics	367
6.5.1	London Market Excess of Loss (LMX) business/ the LMX spiral	367
6.5.2	Year 2000 Issue (Y2K)	371
6.5.3	Cyber Insurance	373
6.5.4	Insurance and reinsurance of special risks in a crisis	380
7	Reinsurance pricing	385
7.1	The basics of pricing	385
7.1.1	Pricing proportional reinsurance covers	385
7.1.2	Pricing non-proportional reinsurance covers	385
7.1.3	Elements in the price of reinsurance	385

7.1.3.1	Parallels to and differences from pricing in primary insurance	386
7.1.3.2	Importance of the original price level	387
7.1.3.3	Assessing the value of the cash flow.	390
7.1.3.4	Earning a reasonable return on the security capital	392
7.1.3.5	Reinsurance market forces	394
7.1.3.6	Remuneration for the reinsurer's services.	396
7.1.4	Factors determining the price of reinsurance	396
7.1.4.1	Price for the risk assumed	397
7.1.4.2	Value of the assumption of risk.	398
7.1.5	Forms of payment of the price of reinsurance.	399
7.1.5.1	Payment of the price in proportional reinsurance ...	399
7.1.5.2	Payment of the price in non-proportional reinsurance	401
7.1.6	Relationship between the reinsurance contract's terms and conditions and the price of the reinsurance cover	401
7.2	Pricing in proportional reinsurance	403
7.2.1	Pricing.	403
7.2.1.1	Reinsurance Commission	403
7.2.1.2	Functions of the reinsurance commission	404
7.2.1.3	Proportional Pricing.	405
7.2.1.4	Effects of shortfalls and surpluses relative to actual expenses	407
7.2.2	Fixed and variable commissions	408
7.2.2.1	Original cost reimbursement and overriding commission ("overrider")	408
7.2.2.2	Fixed ("flat") commission	408
7.2.2.3	Variable Commission.	409
7.2.2.4	Variable commission on occurrence- or underwriting-year basis	413
7.2.3	Cedant's participation in results	413
7.2.3.1	Profit commission	413
7.2.3.2	Special forms of reimbursing expenses	414
7.3	Pricing in non-proportional (NP) reinsurance.	416
7.3.1	Components of the NP premium	417
7.3.1.1	Risk premium	417
7.3.1.2	Fluctuation loading	417
7.3.1.3	Interest considerations.	419
7.3.1.4	Expenses (incurred in the execution of the contract)	420

7.3.1.5	Profit	421
7.3.2	Pricing methods in an overview	422
7.3.3	Other contractual agreements affecting pricing	423
7.3.3.1	Cover limits	423
7.3.3.2	Second retention	429
7.3.3.3	Profit sharing agreement and no-claims bonus	430
7.3.4	Experience rating	432
7.3.4.1	Definition and basic assumptions of the burning-cost methodology	432
7.3.4.2	Factors influencing claims and premiums: determining “as-if” values	434
7.3.4.3	Projection of claims and premiums: (Indexed burning cost)	435
7.3.4.4	Information required	440
7.3.4.5	Market rating	441
7.3.4.6	Special situation in the long-tail lines of business ...	442
7.3.5	Exposure rating	458
7.3.5.1	Definition and basic assumptions of the procedure	458
7.3.5.2	Exposure rating in fire insurance	461
7.3.5.3	Increased limits rating in liability insurance	464
7.3.5.4	Coded XL covers	466
7.3.6	Hybrid forms and more complex mathematical procedures	467
7.3.6.1	Pareto model	467
7.3.6.2	Return periods and frequency extrapolation	475
7.3.6.3	Simulation models	476
7.3.6.4	Payback and rate-on-line	478
8	Accounting of Reinsurance Contracts and Reinsurers’ Internal Statistics	481
8.1	Accounting of Reinsurance Contracts	481
8.1.1	Current account – Balance of payments and offsetting	481
8.1.2	Accounting period and time limits for payment	481
8.1.3	Cash claims	482
8.1.4	Deposits	482
8.1.5	Accounting items	483
8.2	Reinsurers’ Internal Statistics	484
8.2.1	Purpose of statistics	484
8.2.2	Sources of statistics	486

8.2.3	Classes and Types of Reinsurers' statistics	487
8.2.3.1	Classes of the reinsurer's statistics	487
8.2.3.2	Types of reinsurer's statistics.....	489
9	Claims and Run-Off-Management in Reinsurance	495
9.1	Claims management	495
9.1.1	Priority of negotiation over litigation.....	495
9.1.2	Two-tier approach in claims management	496
9.1.2.1	Management of the insured loss by the reinsurer	496
9.1.2.2	Management of the reinsured loss by the reinsurer	497
9.1.3	Participants in reinsurance claims handling.....	498
9.1.3.1	Reinsurance Broker	498
9.1.3.2	Loss Adjuster.....	498
9.1.3.3	Lawyers	498
9.1.3.4	Other reinsurers	499
9.1.4	Reinsurer's rights in claims handling	500
9.1.4.1	Right to information	500
9.1.4.2	Claims management participation rights	501
9.1.5	Scope of the review in lieu of a reinsurance claims matter	504
9.1.5.1	Scope of examination in respect of the insured loss	504
9.1.5.2	Scope of the examination in respect of the reinsurance claim.....	505
9.2	Run-off management of the reinsurer	506
9.2.1	Non-cancelability of run off risks	507
9.2.2	Cut-off of run off risks (Commutation).....	507
9.2.3	Active and passive run-off management	508
9.2.4	Solvent Scheme(s) of Arrangement	508
10	Risk management in Reinsurance Companies	511
10.1	General requirements to risk management in Reinsurance Companies	511
10.1.1	Risk Strategy	519
10.1.2	Risk identification and assessment.....	519
10.1.3	Action Plan.....	520
10.1.4	(Internal) Reporting	521
10.1.5	Systems.....	521
10.1.6	Regulations on the structural and procedural organisation ...	521

10.1.7	Management and Control Systems; Compliance and Internal Audit.....	522
10.1.8	ORSA – a Key-element of Solvency II	524
10.2	Special requirements to risk management in Reinsurance Companies	527
10.2.1	Accumulation exposure and capital	528
10.2.1.1	Exposure control at a primary insurance company.....	528
10.2.1.2	Capital and risk, using the example of a reinsurance company	529
10.2.2	Reinsurance companies and currency-exchange rates	532
10.2.2.1	Reinsurance companies as international organisations	532
10.2.2.2	Effects of exchange rate fluctuations on economic results	533
10.2.2.3	Effects of exchange rate fluctuations on the financial statements	534
10.2.2.4	Curbing the exchange rate risk.....	536
11	Financial accounting and technical provisions	539
11.1	Annual financial statements and the matching principle	539
11.2	Technical provisions under the German Commercial Code.....	541
11.2.1	Definitions	542
11.2.2	Provision for unearned premiums	545
11.2.3	Provision for outstanding claims (“Claims reserves”)	550
11.2.4	Equalisation provision	554
11.2.5	Similar technical provisions	561
11.2.6	Other technical provisions	561
11.3	Technical provisions according to international accounting principles	562
11.4	Financial accounting and technical provisions/Closing remarks	566
	About the Authors	567
	List of Figures	573
	List of Tables	577
	List of Formulas	579
	List of Abbreviations	581
	List of References (Bibliography).....	587
	Index	589