

Contents

| | |
|---|-----|
| List of Contributors | ix |
| Introduction <i>Philippe Jorion</i> | xxi |
| SECTION 1: MARKET RISK: VAR FOR INDIVIDUAL ASSETS | |
| 1 VAR Risk Measures vs Traditional Risk Measures: An Analysis and Survey <i>Guy Kaplanski, Yoram Kroll</i> | 3 |
| 2 Incorporating Volatility Updating into the Historical Simulation Method for Value-at-Risk <i>John Hull, Alan White</i> | 35 |
| 3 Risk Estimation Using the Normal Inverse Gaussian Distribution <i>Johannes H. Venter, Pieter J. de Jongh</i> | 55 |
| 4 Regulatory Evaluation of Value-at-Risk Models <i>Jose A. Lopez</i> | 85 |
| 5 Fallacies About the Effects of Market Risk Management Systems <i>Philippe Jorion</i> | 119 |
| SECTION 2: MARKET RISK: VAR FOR PORTFOLIOS | |
| 6 Improving Grid-Based Methods for Estimating Value-at-Risk of Fixed-Income Portfolios <i>Michael S. Gibson, Matthew Pritsker</i> | 149 |
| 7 Optimization of Conditional Value-at-Risk <i>R. Tyrrell Rockafellar; Stanislav Uryasev</i> | 179 |
| 8 Using Value-at-Risk to Control Risk Taking: How Wrong Can You Be? <i>Xiongwei Ju; Neil D. Pearson</i> | 205 |

| | | |
|---|---|-----|
| 9 | Evaluating Covariance Matrix Forecasts in a Value-at-Risk Framework <i>Jose A. Lopez; Christian A. Walter</i> | 243 |
| 10 | Decomposing Portfolio Value-at-Risk: A General Analysis <i>Winfried G. Hallerbach</i> | 279 |
| SECTION 3: MARKET RISK: STRESS TESTS | | |
| 11 | A Coherent Framework for Stress Testing <i>Jeremy Berkowitz</i> | 305 |
| 12 | A Stress Test to Incorporate Correlation Breakdown <i>Jongwoo Kim; Christopher C. Finger</i> | 319 |
| 13 | The Most General Methodology for Creating a Valid Correlation Matrix for Risk Management and Option Pricing Purposes <i>Riccardo Rebonato; Peter Jäckel</i> | 339 |
| 14 | Forecasting Portfolio Risk in Normal and Stressed Markets <i>Vineer Bhansali; Mark B. Wise</i> | 353 |
| SECTION 4: LIQUIDITY RISK | | |
| 15 | Optimal Execution of Portfolio Transactions <i>Robert Almgren; Neil Chriss</i> | 375 |
| SECTION 5: CREDIT RISK | | |
| 16 | Evaluation of Credit Risk of a Portfolio with Stochastic Interest Rate and Default Processes <i>Masaaki Kijima; Yukio Muromachi</i> | 419 |
| 17 | Estimating Expected Losses and Liquidity Discounts Implicit in Debt Prices <i>Tibor Janosi, Robert Jarrow; Yildiray Yildirim</i> | 457 |
| 18 | Pricing Corporate Bonds with Dynamic Default Barriers <i>Cho-Hoi Hui; Chi-Fai Lo, Shun-Wai Tsang</i> | 509 |
| 19 | Incorporating Severity Variations into Credit Risk <i>Peter Bürgisser, Alexandre Kurth, Armin Wagner</i> | 533 |

-
- 20 Evaluating Credit Risk Models Using Loss
Density Forecasts 569
Hergen Frerichs; Gunter Löffler

SECTION 6: RISK CAPITAL

- 21 Measuring Risk-Adjusted Performance 599
Michel Crouhy; Stuart M. Turnbull; Lee M. Wakeman
- Index 637