

Index

- A**
- absolute pricing 83–4
 - advanced analytic methods 217–18
 - agents 4
 - AIR (2002) 401, 402
 - Alexander, C. (2000) 440
 - Algorithmics 139
 - Algorithmics (2000) 143
 - Allayannis, G. and J. Weston (2001) 337
 - Allied Irish Bank 511–14
 - alternative risk transfer products 257–8
 - Amin, K.I. and R. Jarrow (1992) 129
 - arbitrage bounds 82–3
 - arbitrage and near-arbitrage pricing 79–83
 - arbitrage pricing theory (APT) 84–6, 577
 - arbitrage-free dynamics
 - of interest rate systems 117–18
 - for risky asset systems 114–15
 - Arnott, R.D. (2002) 373
 - asset management
 - execution/liquidity risk 378–9
 - return predictability and long-term mean reversion 377–8
 - risk management in 369–81
 - risk-return dynamics 375–6
 - short-term risk dynamics 376–7
 - asset price dynamics model 109–14
 - asset swaps 19
- B**
- Babbs, S. (1976) 118
 - Bachelier, L. (1900) 27, 28, 29, 36, 37, 38
 - Bank of America 280
 - Bank for International Settlements (BIS) 11, 306
 - (2000) 160
 - (2001) 160, 165
 - Bank of Japan (1998) 310
 - Bank of Sweden Prize in Economic Sciences 34
 - Bankers Trust 277–8
 - and Proctor and Gamble 515–25
 - banking 146
 - banking regulatory initiatives 153–4
 - bank's perspective on credit risk 261–9
 - Banz, R.W. (1981) 71
 - Barclays 278–9
 - Barings 5, 9, 22, 467, 527–9
 - Basel capital accord 9
 - first 207–9
 - new 23, 136, 436, 437
 - Basel capital framework 423–4
 - Basel capital standards 5
 - Basel Committee 154
 - (1995) 427, 428
 - (1998) 140
 - (1999) 484
 - (2001) 136
 - Baxter, M.W. (1997) 118
 - Beebower, C. (1989) 378
 - Bensoussan, A. (1984) 112
 - Bernardo, A.E. and O. Ledoit (2000) 87
 - Bernstein, P.L.
 - (1992) 30, 31, 32, 33
 - (1996) 137
 - Bhansali, V. and M.B. Wise (2001) 165
 - binomial models 36
 - binomial options pricing model 16
 - Bjork, T. (2001) 125
 - Bjork, T. and B.J. Christensen (1999) 125

MODERN RISK MANAGEMENT: A HISTORY

- Black, F.
 (1972) 70
 (1974) 35, 38
 (1976) 30, 31, 35, 58
 Black, F. and M. Scholes 15
 (1972) 31
 (1973) 28, 29, 30–32, 37
 Black, Fischer (1938–1995),
 biography 539–41
 Black–Scholes formula 16, 110,
 113, 125, 190, 237
 Black–Scholes–Merton method
 applications 35
 extensions 38
 univariate applications 35
 Bodnar, G., G. Hayt and
 C. Smithson (1995) 334
 Bodnar, G., G. Hayt and
 R. Marston (1996) 334
 Boissonnade, A.C.,
 L.J. Heitkemper and D.
 Whitehead (2002) 401, 402, 403
 Bollen, N.P. and R.E. Whaley
 (1998) 487
 Boness, A.J. (1964) 29
 Bossaerts, P. (1989) 37
 Bouchaud, J.-P. *et al* (1998) 125
 Boyle, P.
 (1977) 37
 (1988) 36
 Brace, A., D. Gatarek and
 M. Musiela (1996) 121
 Brady Commission report (1988)
 302, 304, 305
 Breeden, D. (1979) 69
 Breen, W.J., L.S. Hodrik and
 R.A. Korajczyk (2002) 378
 Brennan, M.J. and E.S. Schwartz
 (1977) 77
 (1979) 76
 Brennan, M.J. and N.I. Crew
 (1997) 488
 Bretton Woods system 14
 British Bankers Association 273
 Brix, S., S. Jewson and
 C. Ziehmann (2002) 401, 402
 Brody, D.C. and I.F. Hughston
 (2001) 126
 (2002) 124, 126
 (2003) 129
 Brownian motion 111
 Buffet, Warren 22
- C**
 Campbell, J.Y., A.W. Lo and
 A.C. MacKinlay (1997) 170
 Campbell, J.Y., M. Lattau,
 B.G. Malkiel and Y. Xu
 (2001) 378
 capital allocation methodologies
 254–5
 capital assets pricing model
 (CAPM) 45, 58–9, 68, 70–71,
 162, 578
 Carr, P. (1988) 35, 38
 Carverhill, A. (1995) 118
 cashflow volatility 101
 Cetin, U., R. Jarrow and P. Protter
 (2002) 557
 chaotic approach, to interest rate
 modelling 126–9
 Chase Manhattan Bank 280–81
 Chen, N.-E., R. Roll and S.A. Ross
 (1986) 74
 Chicago Board Options Exchange
 15, 28, 33
 Chordia, T., R. Roll and
 A. Subrahmanyam (2000) 378
 Cleveland, W. and S. Devlin (1988)
 401
 closeout netting 22
 Coasian model, US energy
 markets 346–7
 Cochrane, J.H.
 (1991) 75, 377
 (1996) 75
 (2000) 28
 (2001) 96
 Cochrane, J.H. and C.L. Culp
 (2003) 96
 Cochrane, J.H. and
 J. Saá-Requejo (2001) 86
 Code of Hammarabi 11
 Cogen, J. (1998) 396
 collar swaps 19
 collars 327

- collateralised debt obligations (CDOs) 262
- Commonwealth Bank of Australia 281–2
- commodity derivatives contracts 20
- computer-aided risk management 136–8
- Conde, C. 137
- conditional copula 183–4
- Constantinides, G.M. (1992) 124
- Constantinides, G.M. and T. Zarihopoulou (1999) 87
- consumption capital assets pricing model (CCAPM) 69
- continuous updating approach 119
- Copeland, T. and V. Antikarov (2001) 38
- copula 179–88
 - conditional copula 183–4
 - managing risk credit 186
 - modelling asset price dynamics 184–6
 - parametric copulas 182
- corporate disasters, and enterprise-wide risk management 289–90
- corporate financing, and risk management decisions 101–2
- corporate reporting 155–6
- corporations, use of risk management 331–9
- “The Cost of Capital, Corporation Finance, and the Theory of Investment” 93
- counterparty credit risk
 - definition 427–8
 - industry concerns with regulatory approach 429–30
 - regulatory capital treatment of 427–33
- counterparty credit risk management 205–22
 - exposure estimation 212–13
 - future trends 220–22
 - measurement objectives 216–1
 - organisational obstacles 209–11
 - prior 1985 205–6
 - simulation based exposure estimation 218–20
- Counterparty Risk Management Policy Group (1999) 484
- Cox, J.C., J.E. Ingersoll and S.A. Ross (1985) 76, 118, 235
- Cox, J.C. and S.A. Ross (1976) 34, 36
- Cox, J.C., S.A. Ross and M. Rubinstein (1979) 35, 36
- Cox, John, biography 543–4
- crash of 1987 302–6
- credit default swap (CDS) market 20
- credit derivatives 20
- credit markets 261–3
 - prospects 268
- credit risk
 - bank’s perspective 261–9
 - identification and management 263–7
- credit risk analytical models 142–3
- credit risk trading 267–8
- Crockett, A. (2000) 300
- cross currency swaps 16
- cross-asset class trading 22
- Cruz, M. (2002) 282
- Cruz, M. *et al* (1998) 281
- Culp, C.L.
 - (2001) 101, 490
 - (2002) 103, 490
- Culp, C.L. and M.H. Miller (1995, 1999) 101
- Culp and Miller (1995) 487, 488, 492
- currency risk 322–3
 - hedging 318–22
- D**
- Da Prato, G. and J. Zabczyk (1992) 125
- Danielson, J. and C.G. De Vries (2000) 175
- Danielsson, J., H.S. Shin and J-P. Zigrand (2002) 312
- Danielsson, J. and J-P. Zigrand (2002) 312

MODERN RISK MANAGEMENT: A HISTORY

- de Haan, L. *et al* (1994) 176
 deliverable forward contract 323–4
 Dembo, R. (1998) 143
 Dembo, R. and A. Freeman (1997) 147
 dependence function *see* copula
 derivatives 337–8
Derivatives: Practices and Principals 5, 21, 138–9
 derivatives
 history 11
 introduction 7
 derivatives disasters 463–73
 preventive measures 468–73
 derivatives valuation bounds 86–7
 Derman, Emanuel, biography 545–8
 Devon 137
 Dey report 290
 Dischel, R. (2002) 396, 399
 diversification 7–8, 46
 dividend irrelevance 98–9
 Dolde, W. (1993) 333
 Duffie, D. (1996) 119
 Duffie, D. and G.M. Constantinides (1996) 75
 Dunbar, N. (2000) 475
 Durand, D. 98
 durational analysis 6, 503–9
- E**
 economic capital, efficient use 9–10
Economist 300
 Ederington, L.H. (1979) 489 (1986) 51
 Edwards, F.R. and M.S. Canter (1995) 488
 efficient market hypothesis 227–31
 Embrechts, P., C. Klueppelberg and T. Mikosch (1997) 174
 endogenous risk 297–314
 Millennium Bridge analogy 297–9
- energy markets, risk in 341–67
 Engle, R. and V. Ng (1993) 195
 enterprise risk management systems, defining components 140–41
 enterprise-wide risk management 287–96
 and corporate disasters 289–90
 and corporate programs 291
 framework and best practice 291–3
 future trends 295
 history and rationale 287–9
 and industry initiatives 290
 obstacles to 293–5
 and regulatory actions 290
 software 139–40
 systems 21
 equal access 94
 equilibrium asset pricing 57–92
 equity derivative deals 19–20
 Euro markets and capital market innovation 420–21
 exchange traded derivatives industry 16
 exchanges, origins 256
 exogeneity 116–17
 expected positive exposure (EPE) 430–31
 extensible markup language (XML) 221
 extreme value theory 169–78
 Hill estimator 175–6
 statistics of extremes 175–6
 extremes in financial returns 170–71
- F**
 factor shocks 162
 Fama, E.F. (1978) 95
 Fama, E.F. and K.R. French (1993) 71, 73 (1996) 73, 74
 Fama, E.F. and M.H. Miller (1972) 95, 98
 Feller, W. (1971) 172
 Fenics 21

- Ferson, W. and C.R. Harvey (1999) 73
- Filipovic, D. (2001) 125
- Filipovic, D. and J. Teichmann (2002) 125
- Financial Engineering Association 138
- financial risk management 299–302
- Financial Times* (1998) 310
- Finger, C. and A. Malz (2001) 476
- Fisher, R.A. (1936) 180
- Fishman, G.S. (1995) 37
- fixed income and commodities 76–9
- Flesaker, B. and L.P. Hughston (1996; 1998) 122 (1997) 116, 122
- foreign exchange futures 15
- foreign exchange risk 318, 322
- Froot, K.A., D.S. Scharstein and J.C. Stein (1993) 101, 489
- Frost, P. and J. Savarino (1986) 55
- fundamental value equation 61–4
derivation 88–9
- funds of hedge funds 388–91
- G**
- gap analysis 6
- GARCH (1, 1) model 184–5
- GARCH system 195, 196–9, 202
- Garman, M. (1996; 1997) 157
- Garman, M.B. and S.W. Kohlhagan (1983) 35
- Géczy, C., B. Minton and C. Schrand (1997) 336
- geometric Brownian motion model 192
- Geske, R. (1977) 35, 38 (1979) 35, 38
- Gibson, R. and E.S. Schwartz (1990) 78
- global minimum variance portfolio 48
- global weather derivatives market 395–414
future development 410–12
London Heathrow weather station 409–10
and securitisation 411–12
trends in data 400–401
global weather market 397–8
- Goldman, B.M., H.B. Sosin and M.A. Gatto (1979) 35
- Gouriéroux, C., J-P. Laurent and O. Scaillet (2000) 157
- Grabbe, J.O. (1983) 35 (1996) 421
- Green, T.C. and S. Figlewski (1999) 224
- Greenspan, A. 12
- Greenspan, A. (1999) 143
- Group of Thirty (G30) 5, 8, 21
recommendations of 1993 136, 290, 383
- Grundy, B.D. (2002) 96, 98
- Guay, W. (1999) 337
- Guldimann, T. (2000) 253
- H**
- Hammersmith and Fulham Local Authority 531–3
- Hansen, L.P. and K.J. Singleton (1982) 69
- Harris, L. (2002) 378
- Harris, M. and A. Raviv (1990) 99
- Harrison, J.M. and D. Kreps (1978) 112
- Harrison, J.M. and S.R. Pliska (1981) 112
- Hasbrouck and Seppi (2001) 379
- Haushalter, G.D. (2000) 337
- Heath, D., R. Jarrow and A. Morton (1992) 117, 556
- “Heath–Jarrow–Morton revolution” 118–20
- hedge fund industry 14
- hedge funds
best practices 383–4
operational risk 387–8
portfolio risk 384–7
- hedge funds and funds of hedge funds 383–94
- hedging

MODERN RISK MANAGEMENT: A HISTORY

- currency risk 318–28
 and value maximising firms
 100–101
 hedging instruments 323–7
 Hibbert space 126
 Hill estimator 175–6
 Ho, T.S.Y. and S.B. Lee (1986) 118
 Hols, M. and G.G. De Vries (1991)
 175
 Hughston, L.P. (1996) 121
 Hughston, L.P. and A. Rafailidis
 (2002) 129
 Hull, J.C. (2002) 108
 Hull, J.C. and A. White
 (1987) 34
 (1993) 235
 Hull, J.C. and W. Suo (2001) 224
 Hull, John, biography 549–52
 Hunt, P. and J. Kennedy (2000)
 124
- I**
- IBM 16
 IBM/World Bank cross-currency
 swap 17
 Icap 19
 “idiosyncratic” risk 65, 66, 67
 IMF 306
 IMF (1998) 309
 incremental VAR 156–7
 independence of functions 4–5
 information asymmetry 102
 Ingersoll, Jonathan, biography
 553–4
 inter-dealer brokers 19
 inter-temporal marginal rates of
 substitution 75
 interest rate futures 15
 interest rate modelling, chaotic
 approach 126–9
 interest rate risk 142
 interest rate swaps 14, 17
 interest rate systems, arbitrage-
 free dynamics 117–18
 internal controls 4–5
 International Swaps and
 Derivatives Association (ISDA)
 14, 209, 419, 431, 437
- founding 18–19
 Master Agreement 19, 22
 intertemporal capital asset pricing
 model 72–4
 Investor Risk Committee on
 transparency 383, 391–3
 Ito (1951) 128
 Ito calculus 112, 120
- J**
- Jaganathan, R. and Z. Wang (1996)
 75
 Jagannathan, R. and N.R.
 Kocherlakota (1996) 375
 Jagannathan, R. and T. Ma (2002)
 379
 Jamshidian, F. (1995) 118
 Jarrow, R. and S. Turnbull (1992)
 557
 Jarrow, Robert, biography 555–8
 Jin, Y. and P. Glasserman (2001)
 124
 Jobson, J.D. and B. Korkie (1980;
 1981) 53
 Johnson, H. (1987) 35
 Johnson, L.L. (1960) 489
 Jorion, P.
 (2000) 475, 479
 (2001) 160
Journal of Finance 32
Journal of Political Economy 31, 32
 JP Morgan 22, 140, 155
 jump diffusion models 110
- K**
- Kairys, J.P. and N. Valerio (1997)
 28
 Keim, D.B. and A. Madhavan
 (1995; 1997; 1998) 378
 Kemna, A. and A. Vorst (1990) 35
 Kennedy, D.P. (1995) 125
 Keynes, J.M. (1930) 78
 Kim, J. (2002) 164
 King, J.L. (2001) 440
 Kroll, Y., H. Levy and
 H.M. Markovitz (1984) 51
 Kruizenga, R.J. (1956) 29

- L**
- Ledoit, O. (1994; 1997) 55
- Lettau, M. and S.C. Ludvigson (2001) 75
- Levy, H. and H.M. Markowitz (1979) 51
- Lintner, J. (1965) 70, 369
- Lo and MacKinlay (1988) 377
- London Interbank Offered Rate (LIBOR) 160
- Long-Term Capital Management 143, 386
- choice of trades 476–8
 - crisis of 1998 306–8
 - lessons from 475–84
 - leverage 478–9
- Longin, F.M. (2000) 175
- Longstaff, F.A., P. Santa-Clara and E. Schwartz (2002) 224, 237
- losses 6
- Lotus 1-2-3 spreadsheet 18
- Lowenstein, R. (2000) 306, 475
- Lucas, R.E. (1978) 69
- M**
- McNeil, A. and M. Nyfeler (2001) 266
- McNeill, A. and R. Frey (2000) 177
- macroeconomic multifactor models 74–5
- Magshoodi, Y. (1996) 118
- Malevergne, Y. and D. Sornette (2001) 185
- Mandelbrot, B. 110
- Margrabe, W. (1978) 35
- Margrabe, W. (1982) 35, 37, 38
- Mark to Future 143–5
- mark-to-market 8–9
- market intelligence gathering 240–41
- market model method 120–22
- market risk 251–9
- history 251
 - measurement and management tools 252
- market valuation 8
- market variables, identification of 160–61
- Markowitz, Harry M., biography 559–62
- Markowitz, H.M. 15
- (1952; 1959; 1987) 45, 369
 - (1959) 51, 561
 - (1990) 45, 46
- Markowitz mean-variance portfolio theory 45–56
- martingale methods 112
- “mathematical finance” 107
- mean-variance optimisation 53–5
- mean-variance theory 45
- using 52–3
- Mello, A.S. and J.E. Parsons (1995) 488, 489
- Meridien Research Inc. (1997) 140–41
- Merton, R.C. 28
- (1971) 32, 51
 - (1973) 30, 32–3, 34, 35, 37, 51, 72
 - (1974) 35
 - (1976) 34
 - (1990) 29
 - (1998) 33
- Merton, Robert C., biography 563–7
- Metallgesellschaft 485–95
- refining and marketing program 486–7
 - ex ante* value 487–8
- Meyer, P. (1966) 124
- Michaud, R.O. (1988) 55 (1989; 1998) 53
- Miller, Merton (1923–2000), biography 569–70
- Miller, M.H. (1988) 99
- model risk, defined 224
- model risk management 223–48
- liquidity and risk aversion 234–6
- model validation 239–40
- Modigliani, F. and M. Miller (1958) 15, 58, 96, 98, 331 (1961) 98
- Modigliani, Franco, biography 571–5

MODERN RISK MANAGEMENT: A HISTORY

- Modigliani Miller propositions
93–106
irrelevance of capital structure
to firm value 95–6
irrelevance of dividends to firm
value 98–9
irrelevance of financing
methods to investment
decisions 97–8
irrelevance of leverage to
weighted-average cost of
capital 96–7
monitoring 4–5
Monte Carlo simulation 21, 37–8,
216–17, 222
Morris, S. and H.S. Shin (2000)
312
multi-factor models 71–5
multi-national corporate risk
management 317–29
multinomial pricing models 37
Musiel, M. and M. Rutkowski
(1997) 122, 124
Myers, S.C.
(1977) 489
(1984) 102
Myers, S.C. and N.S. Majluf (1984)
102
- N**
Nance, D.R., C.W. Smith and
C.W. Smithson (1993) 335, 336
Nelsen, R.B. (1999) 180
netting 209, 213
Neuberger, A. (1999) 488
Nikkei-225 index 20
Nomura Securities Co 272–7
non-systemic risk 162–4
numerical methods 36–9
- O**
Oedel, D. (1993) 18, 417
O'Hara, M. (1995) 378
Olsen Associates 122
OPEC 14, 487
operational risk 23, 271–87,
435–45
and Bank of America 280
and Bankers Trust 277–8
and Barclays 278–9
case study 272–7
and Chase Manhattan Bank
280–81
and Commonwealth Bank of
Australia 281–2
hedge funds 387–8
hedging 282–4
management 282
measurement 282
and Touche Ross 279
optimal capital structure 99
option pricing
as a boundary value problem
36–7
and the implied volatility
surface 199–201
technology of 236–7
option pricing models 1900–1990
27–44
options, history of 28–30
*Options, Futures and Other
Derivatives* 108, 550, 551
Options Markets 582
Orange County 497–509
analysis of investment pool
503–4
composition and risk of
investment pool 497–500
composition and risk of
investment portfolio 500–503
over-the-counter derivatives
market
crises 22–3
evolution 11–24
market participants 13
origins 14–18
types of contract 13
over-the-counter products 256–7
- P**
parametric copulas 182
Parkinson, M. (1978) 35, 36
partial differential equations 31,
37
Pastor, L. and R.E. Stambaugh
(2001) 75, 379

- Patel, N. (2002) 374
 Patton, A.J. (2002) 180, 182, 183, 184, 186
 Pelsser, A. (2001) 122
 perfect capital markets 94
 Pirrong, S.C. (1997) 488, 489
 plain vanilla instruments 241–2
 portable alpha 373
 portfolio credit risk modelling 432
 portfolio optimisation 370
 portfolio risk, stress testing 159–69
 portfolio theory 15, 262, 369, 559–62
 positive interest 122
 Press, W.H. *et al* (1988, 1992) 36
 price derivatives
 use in developing countries 447–62
 local institutions and traders 453–5
 training 451–3
 use of options 456–8
 price insurance 459–61
 pricing tools and systems 21
 principals 4
 probable overnight profit and loss 22
 Proctor and Gamble, and Bankers Trust 515–25
 pseudo-arbitraders 228–9
 put-call parity theory 30
- Q**
 quantification of risks 5–6
 quantile estimator 176
- R**
 rational behaviour 94
 “Rational Theory of Warrant Pricing” 110
 Rebonato, R.
 (2001) 225
 (2002) 122, 237
 regulatory actions, and enterprise-wide risk management 290
 regulatory capital treatment of counterparty credit risk 427–33
 regulatory origins of risk management 417–25
 regulatory reform 422–3
 Reiss, R.D. and M. Thomas (2001) 174
 Rendleman, R. and B. Bartter (1979) 36
 repricing gap analysis 6
 research and development 335
 results 213
 reverse engineering
 complex products 242–5
 plain vanilla instruments 241–2
 risk adjusted return on capital (RAROC) 140, 220, 254–5
 risk management
 approaches to 332
 industry level usage 336–7
 methods 334–5
 use by corporations 331–9
 users of 333–4
 risk management decisions, and corporate financing 101–2
 risk management processes, functions 3–4
 risk management software, development 135–48
 risk management techniques, ex post market 255–6
 risk mitigation 443–4
 risk technology, future trends 146–7
 risk technology spread 145–6
 risk-neutral valuation technique 112
 risk-x 436–8
 RiskMetrics 22, 140, 155, 277
 RiskWatch 139
 Ritchken, P.H. (1985) 83
 Ritchken–Sankarasubramanian model (1995) 119
 Rogers, L.C.G.
 (1996) 122
 (1997) 124
 rogue traders 465–6
 Roll, R. (1977) 71

MODERN RISK MANAGEMENT: A HISTORY

- Ross, S.A.
 (1976) 84
 (1988) 93
 (1997) 488
- Ross, Stephen, biography 577–9
- Rubinstein, Mark, biography 581–5
- Rusnak, J. 511–14
- Rutkowski, M. (1997) 124
- S**
- Sadka, R. (2002) 379
- sales/divestures 257
- Samuelson, P.A.
 (1965) 28, 29, 38, 110
 (1969) 375
 (1972) 29
- Samuelson, P.A. and R.C. Merton
 (1969) 28, 30, 32, 36
- Samuelson, Paul A., biography 587–9
- Sargent, T.J. and E.R. Velde (2003) 251
- Scherer, B. (2002) 370, 379
- Scholes, M. (1998) 28, 30
- Scholes, Myron, biography 591–3
- Schönbucher, P.J. and D. Schubert
 (2001) 186
- Schwartz, E.S. (1977) 35, 37
- securitisation 257
 and global weather derivatives market 411–12
- Sharpe ratios 85, 371, 374
- Sharpe, W.F. (1964) 70, 369
- Sharpe, W.F., (1978) 36
- Sharpe, William, biography 595–6
- Shiller, R.
 (1987) 302
 (1991) 377
- Shleifer, A. (2000) 227
- shock magnitudes 164–5
- short-term Markovian models 119
- Sidenius, J. (2000) 224
- Simaan, Y. (1987) 51
- single agent theory 116
- Sklar, A. (1959) 180
- Sklar's theorem 180, 181
- Smith, C.W. Jr. (1976) 29
- Smithson, C.W. (1998) 258
- Smithson, C.W. and S. Song (1995) 119
- Sprenkle, C.M.
 (1961) 29, 31, 36
 (1964) 36
- standard variation, comparison with VAR (value-at-risk) 153–4
- Stein, J.L. (1961) 489
- Stigum, M. (1990) 419
- Stoll, H. (1969) 30
- stress scenarios 155
- stress testing 159–69
 historical versus forward looking 165–6
 shock magnitudes 164–5
 time horizons 166
- Stringham, E. (2001) 28
- Student Loan Marketing Agency (Sallie Mae), interest rate swap programme 17
- Stulz, R.M.
 (1982) 35
 (2002) 333
- Stulz, R.M. and R. Williamson
 (2000) 332
- Sumitomo Corporation 535–6
- swaps, cross currency and interest rate 14, 16
- swaps regulatory framework 417–20
- swaptions 19
- SwapWare 21, 137
- symmetric information 94
- synthetic collateralised loan obligation 20
- “systematic risk” 64–5
- T**
- Tanenbaum, R. (1985) 36
- Taqqu, M. (2001) 29, 39
- telecommunications 220–21
- term structure modelling 107–32
- Thorp, E.O. and S. Kassouf (1967) 30
- Touche Ross 279

- Treadway Report 290
Treatise on Money 78
 Treynor, J.L.
 (1961; 1999) 369
 (1983) 378
 Treynor, J.L. and F. Black (1973)
 370, 371, 373
 trinomial models 36
 Tuckman, B. (2002) 161
 Tufano, P. (1996) 336, 337
 Turnbull, S. (2000) 186
 Turnbull report 290
- U**
 uncertain cashflow streams,
 valuing 59–61
 US dollar/yen, October 1998
 308–10
 US energy markets
 Coasian model 346–7
 fixed transmission rights 353–5
 forward-spot price differences
 364–6
 governance 345
 investment in PJM 359
 location marginal pricing
 framework 347–9
 PJM internal market dynamics
 350–53
 PJM market structure 349–50
 policy developments 344–5
 power prices in MISO-PJM-SPP
 market 361–3
 price differences 362–4
 risk in electric power sector 366
 risk in 341–67
- V**
 VAR (value-at-risk) 6, 9, 22, 140
 comparison with standard
 variation 153–4
 computations 156–8
 evolution 252–3
 historical approach 157–8
 limits and policies 253–4
 models 300
 origin and development 151–8
 variance-covariance approach
 157
 variance 67
*Vasicek and Beyond, Approaches to
 Building and Applying Interest
 Rate Models* 121
 Vasicek, O. (1977) 76, 235
 Vasicek, Oldrich, biography
 597–600
 volatility 6, 14–15
 conditional versus
 unconditional 193–6
 continuous versus discrete-time
 approaches 191–3
 modelling 189–204
 option pricing and the implied
 volatility surface 199–201
 term structure 197–9
 volatility forecasting 201–2
- W**
Wall Street Journal 137
 Wall Street Systems 21
 Weather Risk Management
 Association (2002) 395, 396
 weighted average cost of capital
 (WACC) 97, 98, 99, 100
 whole yield curve 125
 Wiener (1938) 128
 Wiener process indices 112
 Wiggins, J.B. (1985) 34
 Williams, J.B. (1938) 46
 Williamson, R. (2001) 332
 willingness to pay 458–9
 World Bank 16, 449

