

## Index

- accreting swaps, definition 64, 239  
active management, concepts 202  
AER *see* annual equivalent rate  
AIG 13, 15, 78  
Allied Irish Banks (AIB) 12–13  
ALM *see* asset–liability management  
American options 84, 88–91, 105–10, 126–7,  
128–9, 183, 236, 239  
Americo Inc. 65–7  
amortizing swaps, definition 64, 239  
annual equivalent rate (AER), definition 217–18,  
220  
annualized volatilities, concepts 233  
appendices 215–54  
Apple 56  
arbitrage  
*see also* relative value trades  
concepts 4, 11, 12–13, 16, 18–21, 25–6, 37,  
40–1, 46, 50–2, 57, 183, 186–8, 191, 223–5,  
239  
convertible bonds 183, 186–8, 191  
definition 4, 18, 239  
forward prices 19–21, 25–6  
arbitrage CDOs, definition 203  
arbitrageurs 3, 4, 25–6, 40–1, 45–6  
definition 4, 40–1  
Aristotle 5  
Asian/Asiatic options *see* average price . . .  
ask prices, definition 239  
ask rates, FRAs 36–8  
asset classes 14–15  
asset swap spreads, definition 64  
asset-backed securities  
*see also* securitization  
concepts 201–5, 239, 248, 251  
definition 239, 251  
asset–liability management (ALM), definition 64  
asset-or-nothing options (AONs) 163, 236, 239,  
240  
*see also* binary . . .  
definition 163, 236, 239  
assignment processes for the exercise of options,  
definition 209, 239  
at-best orders, definition 55, 239  
at-the-money options (ATM) 83, 85–91, 96–102,  
126–7, 128, 132–40, 144–8, 150–2, 154–7,  
166–70, 179, 197–9, 237, 239  
*see also* intrinsic value  
definition 85, 239  
hedging with put options 96–7  
audits 13  
average daily percentage change in share prices  
232–3  
average price (Asian) options  
concepts 161, 199–200, 235, 239  
costs 199–200  
definition 199, 235, 239  
back offices 11, 13, 211–14, 239  
backwardation, definition 42, 239  
balance sheet CDOs, definition 203  
Bank for International Settlements 117  
bankruptcy credit events 77–82  
Barings Bank (1995) 11, 207, 210, 213,  
214  
barrier options  
*see also* down . . . ; knock . . . ; up . . .  
behavioural issues 101–2  
concepts 7, 93, 100–2, 115–16, 235, 239, 245,  
247  
critique 101  
definition 100–1, 235, 239  
protective puts 100–2  
terms 101  
types 100–1, 115–16  
valuations 101–2  
Basel Committee on Banking Supervision 211  
basis  
definitions 9, 42, 46, 52–3, 239–40  
risk 9, 240  
swaps 64, 240  
basket CDSs  
*see also* credit default swaps; FTD . . . ;  
STD . . .  
definition 81–2  
basket options, definition 240  
BBA *see* British Bankers' Association  
bear markets 89, 106, 150, 240

- bear position
  - see also* long put. . .
  - concepts 161, 164–70
  - definition 161
- bear spreads
  - concepts 164–7, 240
  - definition 164, 240
  - the ‘Greeks’ 165–6
- bell curves, definition 138–40, 143
- Bermudan options, definition 84, 240
- best of options 238
- beta, definition 240
- biased forward/futures prices 21
- bid/offer rates, FRAs 36–8
- bid/offer spreads, definition 240
- binary CDSs, definition 77
- binary (digital) options 7, 162–3, 170, 236, 240, 244
  - see also* asset-or-nothing. . . ; cash-or-nothing. . .
  - bull strategy 162–3
  - definition 162–3, 236, 240, 244
  - types 162–3, 236, 239, 241
- binomial model
  - concepts 132–5, 141, 228–30
  - extensions 134–5
- binomial trees
  - concepts 132–5, 141, 228–9, 240
  - definition 240
- Black pricing model
  - bond options 147, 240
  - definition 147, 240
  - interest rate options 147
- Black-Scholes option pricing model
  - see also* ‘Greeks’
  - assumptions 136–7, 143, 230
  - call options 143–8
  - concepts 6, 131–2, 136–40, 141–8, 149–60, 229–31, 240
  - critique 143
  - currency (FX) options 145–6, 148
  - definition 136–7, 229–30, 240
  - dividends 137, 229, 231
  - equity index options 145–6, 148
  - example 230–1
  - interest rate options 146–8
  - parameters 136–48, 149–60, 230
  - put options 144–5
- Bloomberg 5, 39, 137
- bond floor
  - concepts 181–91
  - conversion premiums 185
  - definition 181
- bond futures
  - concepts 40–1, 43–6, 78, 119
  - conversion/price factors 44, 45, 46, 242
  - CTDs 45–6, 241
  - definition 43
  - gilt futures 45, 129
  - profits and losses 44
- bond options
  - Black pricing model 147, 240
  - concepts 119, 127–30, 146–7, 240
  - definition 119, 127, 240
  - exchange-traded securities 128–30
  - hedging 128
- bonds
  - see also* convertible. . . ; coupons; zero-coupon. . .
  - concepts 43–6, 63, 119, 127–30, 146–8, 181–91, 201–5, 218–19, 240, 246, 252
  - definition 43, 218–19, 240, 246, 252
  - pull-to-par effects 147–8
  - valuations 183–91, 219
- BP PLC 106
- break-even points
  - concepts 86–91, 94–102, 108–10, 113–18, 129, 167–70
  - definition 86
- Britco plc 65–7
- British Bankers’ Association (BBA) 31–4, 47–50, 61, 121, 210, 240
  - see also* London Interbank Offered Rate
- brokers, definition 4, 54, 240
- Buffett, Warren 10, 13
- bull markets, definition 150, 240
- bull spreads
  - concepts 161–3, 170, 240
  - definition 161–2, 240
  - put options 162
- bull strategy
  - see also* long call. . .
  - binary (digital) options 162–3
  - concepts 161–4, 170
  - definition 161
- butterflies, definition 176, 241
- buy-write strategies *see* covered calls
- CAC 40 index 73, 103
- calendar spreads
  - see also* expiry
  - definition 178, 179, 241
  - risks 179
- call on a call options, concepts 116–17
- call options 2–3, 5–6, 16, 83–91, 95–102, 103–10, 111–18, 120–30, 132–41, 143–8, 150–60, 161–70, 171–2, 179, 185–91, 194–205, 228–9, 230, 235–8, 241
  - see also* long. . . ; short. . .
  - Black-Scholes option pricing model 143–8
  - chooser (preference) options 161, 171–2, 179, 236, 241
  - covered calls 97–8, 128, 133–4, 158–9, 243
  - definition 2–3, 16, 83–4, 241
- call on a put options, concepts 116–17
- callable swaps, definition 65
- Canada 21
- capital guarantees, ELNs 194–5
- capital protection ELNs
  - see also* equity-linked notes
  - concepts 193–200, 205
  - definition 193–4
- caplets
  - see also* interest rate caps. . . ; interest rate options
  - concepts 120–2, 125, 130, 241
  - definition 120–1, 122, 130, 241

- hedging 121–2, 125
  - prices 123
- capped participation ELNs
  - see also* equity-linked notes
  - definition 197–8
- cash bonds, definition 78
- cash markets, definition 52–3
- cash settlement, concepts 2, 17, 28, 31–8, 39, 47–57, 76–7, 81, 87–8, 94, 103–4, 109–10, 117–18, 120–30, 209–14, 241
- cash-and-carry arbitrage
  - concepts 18–21, 24–6, 28–9, 42, 46, 188–9, 241
  - definition 18–19, 241
- cash-or-nothing options (CONs) 162–4, 170, 236, 240, 241
  - see also* binary. . .
  - definition 162–3, 236, 241
  - spot prices 163–4
- CBs *see* convertible bonds
- CDOs *see* collateralized debt obligations
- CDSs *see* credit default swaps
- central counterparties (CCPs)
  - see also* clearing houses
  - definition 208–9, 213
- CFTC *see* Commodity Futures Trading Commission
- cheapest-to-deliver bonds (CTDs), definition 45–6, 79, 241
- Chicago Board Options Exchange (CBOE) 6–7, 56–7, 103, 104–6, 178, 179, 209–10, 241, 254
  - see also* VIX index
- Chicago Board of Trade (CBOT) 6–7, 40–5, 128–9, 130, 241
  - see also* CME Group
- Chicago Mercantile Exchange (CME) 6–7, 8–9, 39, 47–8, 52–3, 107–8, 117–18, 126–7, 208, 241
  - see also* CME Group; Eurodollar futures
- chooser (preference) options
  - concepts 161, 171–2, 179, 236, 241
  - definition 171–2, 179, 236, 241
  - valuations 171–2
- clearing houses
  - see also* central counterparties; exchange-traded securities; futures. . .
  - concepts 39–40, 46, 54–6, 59, 72–3, 103–10, 207–14, 241
  - definition 39–40, 46, 54, 208–9, 241
  - major players 209–10
  - members 208–9, 213
  - OTC derivatives 59, 72–3, 79, 83, 207, 210–11
- cliquet (ratchet) options 7, 161, 200–1, 237, 238, 242
  - see also* forward-start. . .
  - definition 200, 237, 242
- close out before expiry, Eurodollar futures 49–50
- CME Group 7, 56–7, 107–8, 209–10, 241
  - see also* Chicago. . .
- collateral management, operational risk problems 212
- collateralized debt obligations (CDOs)
  - see also* special purpose vehicles
  - concepts 201–5, 242, 253
  - definition 201–3, 242
  - future prospects 203
  - structure 202–3
  - synthetic CDOs 203–5, 253
  - tranches 201–5
  - types 201–5
  - underlying assets 201–3
- combination strategies
  - concepts 95–7, 161–2
  - definition 95–6
- commodities
  - concepts 1, 3–4, 5–6, 7–9, 14–15, 17, 20–1, 28–9, 40–6, 59, 209–14, 242
  - definition 242
  - forward prices 20
- commodity futures
  - concepts 4, 5–6, 14–15, 40–4
  - definition 41–2
- Commodity Futures Trading Commission (CFTC) 4, 209
- commodity options 4, 5, 209
- commodity swaps 59, 242
- common stock *see* equity securities
- comparative advantage, definition 65–6
- compound interest
  - concepts 215–17, 218–19, 221
  - definition 215–17
- compound options
  - concepts 116–17, 118, 161, 236
  - definition 116, 236
  - structure 116–17
- confirmation concepts 13, 210–11, 212, 214
- CONs *see* cash-or-nothing options
- Consumer Price Index (CPI) 67–8
- contagion 9–10, 13
- contango, definition 42, 242
- contingent capital securities, definition 242
- contingent premium options *see* pay-later options
- continuously compounded interest rates, concepts 219–20, 221–2, 229–30, 242
- continuously compounded return, definition 221–2
- conversion premiums
  - bond floor 185
  - concepts 184–5, 242
  - definition 184, 242
  - embedded calls 185
  - parity value of convertible bonds 184–5
- conversion ratio, definition 181–3, 242
- conversion value *see* parity value
- conversion/price factors, bond futures 44, 45, 46, 242
- convertible bonds (CBs) 181–91, 236, 242
  - see also* embedded. . . ; exchangeable. . .
  - arbitrage 183, 186–8, 191
  - concepts 181–91, 242
  - critique 185–6
  - definition 181, 185, 242
  - dilution considerations 185–6
  - investors 181–2
  - issuers 181, 182, 188, 191
  - parity value 181, 183–91
  - profits and losses 186–9
  - risks 188

- convertible bonds (CBs) (*cont.*)  
 terminology 183–4, 189  
 users 181–2, 191  
 valuations 183–91
- convexity  
*see also* gamma  
 concepts 152, 154–5, 169, 187–8, 242  
 definition 152, 154–5, 242
- Cooling Degree Day index (CDD) 8–9
- corporate actions  
*see also* rights issues; stock splits  
 early exercise 107
- cost of capital, opportunity costs 100, 219
- cost of carry  
 concepts 137–40, 142–8, 156–7, 242  
 definition 137, 242
- counterparty, definition 242
- counterparty risk  
 concepts 17, 20–1, 59, 72–3, 79–82, 103, 207–14, 243  
 control methods 211  
 definition 17, 79, 207, 210–11, 214, 243
- coupons  
*see also* bonds  
 concepts 43–6, 181–92, 218–19, 243  
 definition 43, 218–19, 243
- covered calls  
 concepts 97–8, 128, 133–4, 158–9, 243  
 definition 97, 128, 243
- covered warrants, definition 104
- CPI *see* Consumer Price Index
- creative destruction 13
- ‘credit crunch’ from 2007 10, 13, 15, 59, 63, 75, 78, 83, 193, 203, 207, 211
- credit default swaps (CDSs)  
*see also* synthetic CDOs  
 applications 75, 77–8, 81, 188  
 basic structure 76–7  
 basket CDSs 81–2  
 concepts 14–15, 75–82, 188, 203–5  
 counterparty risk 79  
 credit spreads 78–9  
 definition 75–6, 243  
 index CDSs 80–2  
 premiums 76–7, 78–9, 80–2  
 pricing 80–1  
 risks 204–5  
 settlement methods 76–7  
 statistics 14–15, 75–6  
 users 75, 77–8, 81–2, 188, 203–5
- credit derivatives  
 concepts 13, 203–5, 210, 243  
 definition 13, 243
- credit enhancement features, CDOs 202–3, 243
- credit events  
 CDS concepts 75–82  
 types 77
- credit ratings 9–10, 75–82, 182–91, 204–5, 240, 243, 250, 251
- credit risk  
 concepts 75–82, 83, 188, 207–14, 243  
 definition 243
- credit spreads, definition 78, 243
- cross-currency IRSs  
*see also* currency . . .  
 concepts 60, 65–8, 243  
 definition 60, 243  
 net borrowing costs 66–7
- CTDs *see* cheapest-to-deliver bonds
- currency (FX) forwards  
*see also* forward . . .  
 arbitrage opportunities 25–6  
 concepts 17, 21–9, 111–12, 116–17  
 definition 22, 111–12  
 forward FX rates 22, 24–6  
 forward points 26–7  
 FX swaps 27–8  
 hedging 23–6, 116  
 profits and losses 22–3  
 risk management 22–4
- currency (FX) futures, statistics 15
- currency (FX) options  
*see also* options  
 Black-Scholes option pricing model 145–6, 148  
 concepts 4, 6, 12–13, 15, 111–18, 140–1, 243  
 definition 111, 243  
 exchange-traded securities 117–18  
 hedging 112–15, 116–17  
 statistics 15  
 structure 111  
 tracing methods 117–18  
 users 111–12  
 zero-cost collars 114–15
- currency (FX) swaps  
*see also* interest rate . . .  
 applications 28, 65–7  
 concepts 2, 27–9, 59–68, 243  
 definition 2, 59–60, 243  
 users 27, 28, 59–60
- currency risk, definition 22–4, 243
- current payoff profiles  
 concepts 168–9, 171–9  
 definition 168–9, 171–2
- daily volatilities, concepts 232–3
- DAX index 53, 73–4, 103
- dealers 3, 5, 18–21, 25–6, 31–8, 66–8, 71–82, 94–102, 142–3, 207–14, 243
- dealer’s spread, definition 25, 243
- debt  
*see also* bonds  
 concepts 75–82, 181–2, 201–5, 243–4  
 definitions 243–4  
 restructuring credit events 77–82  
 structure and subordination 76, 77–82, 201–5
- default correlation, definition 82
- delta  
*see also* gamma; hedge ratio; spot . . .  
 bear spreads 165–6  
 behavioural issues 150–1, 174–9  
 change effects 152–3  
 concepts 133–5, 136–40, 149–53, 154–5, 158–60, 162, 165–6, 168–70, 174–9, 228–9, 230, 244  
 definition 133, 149–50, 160, 228, 244

- non-linearity factors 152–3
- positive/negative values 149–50, 153, 159, 162, 165–6, 168–70, 174–9
- slope behaviour on the price curve 150–2
- delta hedging
  - concepts 133–5, 136–40, 151–2, 187, 228, 244
  - construction methods 151–2
  - definition 133–5, 136–40, 151–2, 228, 244
  - readjustments 153
  - sensitivity issues 152–3
- derivatives
  - see also* credit. . . ; equity. . . ; exotic. . . ; forward. . . ; futures. . . ; options; structured. . . ; swaps
  - building blocks 1–3
  - concepts 1–16, 193–205, 244
  - ‘credit crunch’ from 2007 10, 13, 15, 59, 63, 75, 78, 83, 193, 203, 207, 211
  - critique 9–13, 193
  - definition 1, 244
  - historical background 5–6, 10–13, 83, 209–10
  - legal issues 10, 23, 210–11, 212
  - market origins and growth 1–16
  - overseas developments 7–8
  - statistics 7, 9, 13–16, 59–60, 75–6
  - trading methods 1–2, 4–5, 39, 83, 178, 207–14
  - types 1–3, 14–15, 193–205
- Derivatives: The Wild Beast of Finance* (Steinherr) 9
- Deutsche Börse AG 7, 39, 210
  - see also* Eurex
- Deutsche Telekom 188
- DFs *see* discount factors
- digital options *see* binary (digital) options
- dilution, definition 185–6, 244
- discount factors (DFs), definition 225–8, 244
- discount rate, definition 26–7, 218–19, 244
- dividends 17–21, 28–9, 69–75, 105–10, 137–40, 182–91, 229–31, 244
  - see also* equity. . .
- Dow Jones Industrial Average (DJIA) 6, 244, 252
- down-and-in barrier options, definition 100–1, 235, 244
- down-and-out barrier options, definition 100–1, 235, 244
- downside risk
  - concepts 86–7, 93–4, 144–8, 161–2, 244
  - definition 86–7, 244
- dynamic hedging
  - concepts 135, 136–40, 143, 176–7
  - costs 135
  - definition 135
- e*, uses 219–21, 230
- E-mini S&P 500 futures contract 53
- early exercise 84, 88–91, 105–10, 145–8, 236, 239, 244
  - see also* American options
  - corporate actions 107
  - definition 105, 244
- EDSP *see* exchange delivery settlement price
- effective borrowing rates, FRAs 32–3
- efficient market theory, definition 142, 244
- ELNs *see* equity-linked notes
- embedded options
  - see also* convertible bonds
  - concepts 181–91
  - conversion premiums 185
  - definition 181, 244
- Enron (2001) 12
- equity collars
  - concepts 93, 98–100, 102
  - definition 98–9, 102, 245
- equity forward contracts
  - see also* forward. . .
  - concepts 17–21, 28–9
- equity index futures
  - see also* equity swaps
  - applications 53–5, 74–5
  - basis concepts 52–3
  - concepts 15, 52–7, 69, 72–3, 74–5, 103–4, 107–10, 209, 247, 252
  - definition 52–3, 247, 252
  - FT-SE 100 53, 54–7
  - hedging 53–7, 74–5
  - profits and losses 54–6
  - S&P 500 index futures 52–4
  - statistics 15
  - users 52, 53–4, 72–3, 74–5
- equity index options
  - Black-Scholes option pricing model 145–6, 148
  - concepts 15, 107–10, 140–1, 148
  - statistics 15
- equity index swaps
  - concepts 73–5, 82
  - definition 73
  - hedging 74–5
  - profits and losses 75
- equity options
  - see also* options
  - concepts 103–10
- equity securities, definition 17, 244
- equity swaps
  - see also* equity index futures; single stock
  - futures; total return. . .
  - applications 69–74, 93, 102
  - case studies 69–71
  - concepts 14–15, 59, 69–75, 82, 93, 102, 245
  - definition 59, 69, 245
  - floating/fixed notional equity swaps 71
  - IRSs 69, 74
  - payments 69–71
  - risks 69
  - short positions 72–3
  - users 69–74, 93, 102
- equity-linked notes (ELNs)
  - capital gains/losses 195–8
  - capital guarantees 194–5
  - concepts 193–200, 205
  - definitions 193–4, 196, 197–8
  - different classes 197
  - expiry values 195–6
  - maturity values 194–5
  - participation levels 193, 194–5, 196–8

- equity-linked notes (ELNs) (*cont.*)
  - profits and losses 195–8
  - valuations 193–200
- EUR/USD 111–18
- Eurex 7, 39, 56–7, 103, 129, 130, 210
- Euribor 69–70, 73–4, 127
- Euro-bund options (OGBLs), definition 129
- Eurobonds, definition 245
- Eurodollar futures
  - see also* interest rate futures
  - close out before expiry 49–50
  - concepts 6, 47–52, 126–7, 245
  - definition 47–8, 245
  - final settlement values 48
  - hedging 50–1
  - options 126–7
  - prices 50–2
  - profits and losses 49–50, 57, 126–7
  - quotation convention 48–9
  - trading 48–50
  - users 47, 126–7
- Eurodollar options, concepts 126–7
- Eurodollars, definition 47, 126–7, 245
- Euronext 7, 39
  - see also* NYSE Liffe
- European options 84–91, 94–102, 109–10, 111, 120–30, 132–40, 143–8, 219–20, 229–31, 236, 245
- euros 111–18, 127
- Excel functions
  - EXP 220, 221, 230, 231–2
  - LN 221, 230, 231–2
  - NORMSDIST 230
- exchange delivery settlement price (EDSP), definition 56, 245
- exchange options
  - see also* convertible. . .
  - definition 236
- exchange-traded securities
  - see also* clearing houses
  - basic concepts 103–4, 208–9
  - bond options 128–30
  - concepts 1–2, 3–4, 6–7, 15, 31, 36, 37, 39–46, 54, 83–4, 103–10, 111, 120, 128–30, 207–14, 245
  - currency (FX) options 117–18
  - definition 1–2, 245
  - equity options 103–10
  - interest rate options 120, 128–30
  - statistics 15
- exchangeable bonds
  - see also* convertible. . .
  - concepts 181, 188–91, 193, 243, 245
  - definition 181, 191, 193, 243, 245
  - pricing 186
- exercise dates, options 84–91, 105–10, 120–30, 145–8, 163–70, 240, 244, 245
- exercise prices *see* strike (exercise) prices
- exotic options
  - see also* average price. . . ; barrier. . . ; binary. . . ; chooser. . . ; cliquet. . . ; compound. . . ; options
  - concepts 7, 11, 100–2, 103, 115–17, 161, 171–9, 212, 235–8, 245
  - critique 11, 212
  - definition 103, 161, 235, 245
  - types 7, 11, 100–2, 103, 115–17, 161–70, 171–9, 235–8
- expected interest rates, definition 48
- expected losses, definition 80
- expected payouts, concepts 20–1, 245
- expiry, concepts 83–91, 94–102, 103, 104–10, 111–18, 120–30, 131–40, 142–8, 155–7, 167–70, 172–9, 183–91, 195–205, 240, 245
- expiry values, capital protection ELNs 195–6
- extendable swaps, definition 65, 245
- failure to pay credit events 77–82
- fair value 18–21, 25–6, 28, 37, 46, 74–5, 132, 134, 188–9, 245
- FCOJ *see* Frozen Concentrated Orange Juice
- Federal Reserve Bank 12, 211
- financial calculations 61–2, 131, 215–33
- financial futures, definition 245, 246
- financial innovations 7, 13
  - see also* structured securities
- Financial Services Authority (FSA) 209–10
- ‘fire sales’ 12
- Fitch 250
- fixed cash flows, swaps 16, 27–8, 59–82, 226–8
- fixed income (interest) securities
  - see also* bonds
  - definition 246
- fixed strike ladders, definition 237
- FLEX option contracts, definition 103, 246
- ‘flight to quality’ 12
- floating cash flows, swaps 16, 27–8, 59–82, 226–8
- floating strike ladders, definition 237
- foreign exchange risk
  - see also* currency. . .
  - definition 246
- forward contracts
  - see also* currency. . . ; equity. . .
  - arbitrage opportunities 19–21, 25–6
  - biased prices 21
  - commodities 20
  - concepts 2, 3–4, 5–6, 10–11, 15–16, 17–29, 90–1, 147, 177–9, 188–9, 246
  - critique 10–11
  - definition 2, 15–16, 17, 23, 246
  - expected payouts 20–1
  - futures contrasts 2, 17, 39–40, 48
  - historical background 5–6, 10–11
  - prices 18–21, 90–1, 188–9
  - types 17–29
  - users 17, 22
- forward FX rates
  - concepts 22, 24–6, 29, 67
  - definition 22, 24–5
- forward interest rates
  - concepts 37–8, 61–2, 147, 222–5, 227–8, 246
  - definition 37, 222–3, 246
  - IRs 61–2
- forward leg, currency (FX) swaps 27–8
- forward points, definition 26–7

- forward rate agreements (FRAs)  
*see also* interest rate futures; interest rate options;  
interest rate swaps  
bid and ask rates 36–8  
buyers/sellers 31–8  
case studies 31–3  
concepts 31–8, 50, 57, 119–22, 125, 210, 224–5,  
246  
contract periods 34, 36–7  
definition 31, 35, 246  
effective borrowing rates 32–3  
hedging 33–5, 50, 119–22, 125  
settlement formula 31–4  
two-payment legs 34–5  
users 31, 119–21, 125
- forward-forward swaps  
*see also* currency (FX) swaps  
definition 27
- forward-start options 161, 200–1  
*see also* cliquet...  
definition 237, 246
- forward-start/deferred swaps, definition 65,  
246
- France 73, 103–4
- FRAs *see* forward rate agreements
- ‘free lunches’ 18, 20, 37
- front offices 11, 211–14, 239
- Frozen Concentrated Orange Juice (FCOJ) futures  
41, 42
- FT-SE 100 index 53, 54–7, 73, 103–4, 109–10, 194,  
246, 252
- FTD (first-to-default) basket CDSs, definition  
81–2
- funded forms, synthetic CDOs 204–5
- future value (FV)  
concepts 215–17, 218–21, 225–6  
definition 215–16
- futures contracts  
*see also* bond...; commodity...; equity...;  
interest rate...  
basis concepts 42, 46, 52–3, 239–40  
biased prices 21  
concepts 2, 3–4, 5–6, 10–11, 15–16, 17, 20,  
39–46, 47–57, 69, 72–3, 93–4, 100–2, 107–10,  
117–18, 126–7, 129–30, 178–9, 209–14, 246  
critique 10–11, 72–3  
definition 2, 16, 17, 39, 46, 246  
Eurodollar futures 6, 47–52, 126–7, 245  
forwards contrasts 2, 17, 39–40, 48  
hedging 50–1, 53–6, 93–4, 100–2  
historical background 5–6, 10–11  
margin concepts 6–7, 39–46, 54–6, 208–10, 211,  
248  
open interest 42, 249  
options on futures 117–18  
prices 20–1, 41–2, 43–6, 48–9, 52–6  
specifications 41–2, 43–4, 47–8, 54–5  
SSFs 56–7, 69  
statistics 15  
users 40–1, 47, 52–4, 72–3
- FV *see* future value
- FX... *see* currency...
- gamma  
*see also* convexity; delta...; spot...  
bear spreads 165–6  
concepts 136, 149, 152, 153–6, 159–60, 162,  
165–6, 173–9, 187, 242, 246  
curves 155–6  
definition 136, 153, 160, 242, 246  
positive/negative values 159, 165–6, 168–9,  
173–9, 187  
time to expiry factors 155–6  
uses 136, 153–6, 159–60
- Garman-Kohlhagen model 145–6
- GBP/USD 22–8, 65–7, 146–8
- Germany 7, 10–11, 39, 53, 63, 73–4, 78, 103, 129,  
210
- gilt futures, concepts 45, 129
- glossary 239–54
- ‘goodwill’ deposits 55–6  
*see also* initial margin
- Google equity options 104–5
- Greece 5, 78
- the ‘Greeks’  
*see also* delta; gamma; rho; theta; vega  
bear spreads 165–6  
concepts 149–60, 162, 165–6, 246  
definition 149, 246  
positive/negative values 149–50, 153, 159, 162,  
165–6, 168–9, 173–9, 187
- Harmon Smith & Fulham Council (1988/9) 10
- Heating Degree Day index (HDD) 8–9
- hedge ratio  
*see also* delta...  
definition 133–4, 151–2, 228, 246
- hedgers, definition 3–4, 40, 45–6
- hedging  
*see also* risk...  
ATM put options 96–7  
bond options 128  
caplets 121–2, 125  
concepts 3–4, 7–8, 9, 23–4, 72–3, 87–91,  
93–102, 111–15, 133–4, 161, 181–91, 203,  
228, 244, 246  
currency (FX) forwards 23–6, 116  
currency (FX) options 112–15, 116–17  
definition 3–4, 246  
delta hedging 133–5, 136–40, 151–2, 187, 228,  
244  
dynamic hedging 135, 136–40, 143, 176–7  
equity index futures 53–7  
equity index swaps 74–5  
FRAs 33–4, 119–22, 125  
futures contracts 50–1, 53–6, 93–4, 100–2  
interest rate futures 50–1  
interest rate options 121–5, 128  
options 87–91, 93–102, 112–18, 132–4  
riskless hedge concepts 132–3, 136–40  
zero-cost collars 114–15, 128
- histograms 138–9
- historic volatilities  
calculations 137–9, 231–3  
concepts 137–40, 231–3, 246

- historic volatilities (*cont.*)  
critique 141  
definition 137–8, 231–2, 246  
historical background of derivatives 5–6, 209–10
- IB Exchange Corporation 56  
IBM 1, 17, 56  
ICE *see* IntercontinentalExchange  
implied volatilities  
applications 142–3  
calculations 142–3  
concepts 140–8, 178, 186, 246  
convertible bonds 186  
definition 142–3, 148, 246
- in-strike level  
*see also* knock-in barrier options  
definition 100–1
- in-the-money options 83, 85–91, 97–102, 104–10,  
115–16, 117, 128–9, 131, 135–40, 144–8,  
150–1, 154–6, 162–70, 230, 236, 247  
*see also* intrinsic value  
definition 85, 236, 247  
hedging 97, 115–16
- index CDSs  
*see also* credit default swaps  
concepts 80–2
- index funds/trackers, definition 247  
index options 15, 107–10, 140–1, 231, 247  
indexes 52–3, 73–5, 80, 82, 103–4, 107–10,  
194–205, 246  
*see also* CAC...; DAX; equity index...;  
FT-SE...; iTraxx...; Nikkei...; S&P...  
definition 52–3, 246
- inflation rates, concepts 26–7, 67–8, 119–20, 215,  
247
- inflation swaps, definition 67–8, 247  
ING 210  
initial margin  
concepts 39–40, 54–7, 103, 129, 208–10, 211  
definition 39–40, 54–5, 208–9
- instalment options, definition 115–16, 118  
institutional investors  
CDOs 202–3  
definition 247
- IntercontinentalExchange (ICE) 6, 41  
interest rate caps/floors  
*see also* caplets  
concepts 119, 120–2, 123–4, 130  
definition 120–1, 123, 130, 247  
prices 123
- interest rate collars  
concepts 93, 99–100, 114–15, 119, 123–4, 247  
definition 123–4, 247
- interest rate differentials, definition 27–8  
interest rate forwards 222  
interest rate futures  
*see also* Eurodollar...; forward rate agreements  
concepts 15, 31, 36, 37, 47–52, 57, 109, 119,  
209, 222, 224–5, 247  
definition 47–8, 247  
hedging 50–1  
prices 50–2  
profits and losses 49–50, 57  
statistics 15  
users 47
- interest rate options 15, 119–30, 140–1, 222,  
247  
*see also* caplets; forward rate agreements  
Black pricing model 147  
Black-Scholes option pricing model  
146–8  
bond options 119, 127–30, 146–7, 240  
case studies 120–1  
definition 119–20, 130, 247  
euro and sterling interest rate options 127  
Euro-bund options 129  
Eurodollar options 126–7  
exchange-traded securities 120, 128–30  
hedging 121–5, 128  
long gilt options 129  
OTC interest rate options 119–28  
payoff profiles 119–30  
statistics 15
- interest rate swaps (IRSs) 2, 7, 14–15, 35, 37,  
59–68, 69, 74, 81, 119, 124–5, 130, 210, 222,  
225, 226–8, 247, 253  
*see also* cross-currency...; forward rate  
agreements; swaps  
applications 63–4, 65–7, 124–5  
concepts 35, 37, 59–68, 69, 74, 81, 119, 124–5,  
130, 210, 226, 247, 253  
definition 35, 37, 59–60, 124, 226, 247  
equity swaps 69, 74  
forward interest rates 61–2  
historical background 7, 210  
net borrowing costs 66–7  
payment dates 61–2  
pricing 61–8, 226–8  
rationale 62, 67  
statistics 14–15, 59–60  
structure 59–61, 66–7  
swaptions 65, 81, 119, 125, 130, 253  
terminology 62–3  
users 59–60, 62–4, 65–8, 124–5  
variants 64–8
- International Swaps and Derivatives Association  
(ISDA) 5, 9, 62–3, 75, 210–11, 247  
master agreements 5, 210–11
- intrinsic value 83–91, 104–10, 126–7, 131–4,  
144–8, 183–91, 200–1, 229, 238, 247  
*see also* at-the-money...; in-the-money...;  
options; out-of-the-money...; time value  
definition 85, 90, 183, 247
- An Introduction to International Capital Markets*  
(author) 32
- investment banks 3  
iron butterflies  
*see also* long strangles; short straddles  
definition 176, 247
- IRSs *see* interest rate swaps  
iTraxx Europe index 80
- Japan 5, 11, 53, 73, 117–18, 249  
JP Morgan Chase 56

- kappa *see* vega  
Keynes, J.M. 21  
knock-in barrier options, definition 100–2, 235, 247  
knock-out barrier options, definition 100–2, 235, 247
- ladder options, definition 237, 247  
LCH.Clearent Group 54, 209–10  
Leeson, Nick 11  
legal issues, derivatives 10, 23, 210–11, 212  
Lehman Brothers 13, 83, 211  
leverage 9–10, 87, 128  
LIBOR *see* London Interbank Offered Rate  
LIBOR-in-arrears swaps, definition 65  
LIFFE *see* London International Financial Futures and Options Exchange  
limit orders, definition 55, 248  
linear relationships, delta 152  
liquidity, definition 11, 248  
liquidity risk, definition 188, 248  
London Interbank Offered Rate (LIBOR) 31–7, 47–50, 59–68, 120–7, 226, 247  
*see also* British Bankers' Association  
London International Financial Futures and Options Exchange (LIFFE) 7, 39, 44, 45, 53–6, 103, 106–7, 109, 127, 129–30, 209–10, 248  
*see also* NYSE Liffe  
London market, historical background 5–6, 7, 47, 209–10  
London Metal Exchange (LME) 210, 248  
London Stock Exchange 5–6, 56  
long call option strategies, concepts 83, 84–7, 97–8, 126–7, 149–50, 159, 161–4, 167–70  
long gilt options, definition 129  
long positions  
  concepts 11, 17–21, 39–46, 72–3, 86–91, 93–102, 248  
  definition 17, 39, 248  
long put option strategies, concepts 83, 84, 88–90, 93–102, 108–10, 114–18, 126–7, 149–50, 159, 161, 164–70  
long straddles  
*see also* long call . . . ; long put . . .  
  concepts 167–70, 171, 252  
  definition 167–8, 252  
  payoff profiles 167–9  
  risks 169–70, 171  
long strangles 176  
long theta, concepts 175–9  
long vega  
*see also* vega  
  concepts 157–8, 169–70  
  definition 169–70  
Long-Term Capital Management (LTCM) 12  
lookback options, definition 237, 248
- maintenance margins, definition 40, 208–9, 211, 248  
management information systems (MISs), operational risk problems 212  
mandatorily convertible/exchangeable bonds  
  capital gains/losses 189–90  
  concepts 181, 188–91, 248  
  definition 181, 188–9, 248  
  structures 189–90  
margin  
*see also* futures . . .  
  calls 208, 248  
  concepts 6–7, 39–46, 103–4, 207–14, 248  
  swaps 65  
mark-to-market  
  concepts 12, 40, 54–6, 248  
  definition 12, 40, 54, 248  
market capitalization, definition 52  
market makers, definition 80–2, 248  
market (price/rate) risk, definition 248  
market risk, definition 207, 213, 248  
market value of OTC derivatives, concepts 14–15  
markets 1–2, 4–6, 7, 9, 10–16, 39, 59–60, 63, 75, 78, 83, 178, 193, 203, 207–14  
  'credit crunch' from 2007 10, 13, 15, 59, 63, 75, 78, 83, 193, 203, 207, 211  
  historical background 5–6, 10–13, 83, 209–10  
  modern OTC markets 13–15  
  origins and growth 1–16  
  overseas developments 7–8  
  participants 3–5, 17, 181–2, 193–5  
  statistics 7, 9, 13–16, 59–60  
  supporting organizations 4–5, 7, 39, 209–10  
  trading methods 1–2, 4–5, 39, 83, 178, 207–14  
Markit Group Limited 80  
margin agreements, definition 5, 210–11, 213–14  
MBSs *see* mortgage-backed securities  
mean, definition 138–9  
Meriwether, John 12  
Merkel, Angela 78  
Merrill Lynch 13  
Merton, Robert 12  
Metallgesellschaft (1993) 10–11  
mezzanine debt 201–5  
Microsoft 142  
money managers 36  
money markets  
  'credit crunch' from 2007 203  
  definition 248  
Monte Carlo simulation, definition 248  
Moody's 240, 250  
mortgage-backed securities (MBSs), definition 201, 248  
multi-asset options, definition 238  
multi-step binomial model  
*see also* binomial model  
  concepts 134–5
- naked short options  
*see also* short call option strategies  
  definition 87–8, 90, 98  
NASDAQ 7, 117–18, 248  
New York Board of Trade (NYBOT) 6–7, 41–2  
New York Mercantile Exchange (NYMEX) 7  
New York Stock Exchange (NYSE) 6, 7  
*see also* NYSE Liffe  
Nikkei 225 index 11, 53, 73, 249  
no arbitrage values 26, 37, 51–2, 224–5

- nominal interest-rates/returns, definition 215, 249  
non-linearity factors, delta 152–3  
normal distributions  
  concepts 138–9, 143, 230, 249  
  definition 138, 249  
Nostro accounts/reconciliations, definition 212,  
  214, 249  
novation  
  *see also* clearing houses  
  definition 208–9, 249  
NYSE *see* New York Stock Exchange  
NYSE Liffe 7, 39, 44, 45, 53, 54–6, 103, 106–7,  
  109, 117–18, 127, 129–30, 209–10  
  
off-balance sheet items 12, 203, 249  
  definition 249  
off-market swaps, definition 65, 249  
offer (ask) price, definition 249  
oil prices 4, 10–11, 20  
OISs *see* overnight index swaps  
one-step binomial model  
  *see also* binomial model  
  concepts 132–5  
OneChicago 56–7, 209  
open interest, definition 42, 106, 249  
operational risk  
  best management practices 213, 214  
  concepts 207–14, 249  
  definition 207, 211–12, 214, 249  
  problem areas 211–12, 214  
opportunity costs, concepts 100, 219  
opportunity loss, definition 93, 119–20  
option premiums  
  concepts 1, 2–3, 16, 29, 54, 83–91, 94–102,  
    104–10, 111–12, 115–18, 120–30, 142–3,  
    161–70, 250  
  definition 1, 2–3, 16, 54, 83, 250  
options  
  *see also* currency...; equity...; exotic...;  
    ‘Greeks’; interest rate...  
  applications 87–91, 93–102  
  bond options 119, 127–30, 146–7, 240  
  break-even points 86–91, 94–102, 108–10,  
    113–18, 129, 167–70  
  compound options 116–17, 118, 161, 236  
  concepts 1, 2–3, 4, 5, 6–7, 14–15, 16, 65, 81,  
    83–91, 103–10, 111–18, 131–48, 149–60,  
    161–79, 209–14, 219–20, 240, 249, 253  
  definition 1, 2–3, 16, 83, 219–20, 240, 249  
  Eurodollar options 126–7  
  fundamentals 83–91  
  hedging 87–91, 93–102, 112–18, 132–4  
  historical background 5, 6–7, 83  
  intrinsic value 83–91, 104–10, 126–7, 131–4,  
    144–8, 183, 200–1, 229, 238, 247  
  open interest 42, 106, 249  
  payoff profiles 83–91, 105–10, 161–70, 171–9  
  protective puts 93–102, 250  
  statistics 14–15  
  strategies 3, 83–91, 93–102, 108–10, 114–18,  
    126–7, 149–50, 151–2, 153, 159, 161–79  
  swaptions 65, 81, 119, 125, 130, 253  
  terminology 83–91  
  time value 85, 90–1, 104–10, 131, 144–8,  
    253  
  types 83–4, 103–4, 111–12, 119–20  
  users 87–91, 93–102  
Options Clearing Corporation (OCC) 209–10  
options on futures, concepts 117–18  
options pricing  
  *see also* Black-Scholes option pricing model;  
    ‘Greeks’  
  binomial model 132–5, 141, 228–30  
  Black pricing model 147, 240  
  concepts 1, 6, 131–48, 149–60, 171–9, 219–20,  
    228–31, 240  
  volatility links 140, 143  
Orange County (1994) 11  
ordinary shares  
  *see also* equity...; shares  
  definition 249  
organized exchanges  
  *see also* exchange-traded securities  
  concepts 1–2, 3–4, 6–7, 15, 39–46, 54, 83–4,  
    103–10, 111, 117–18, 128–9, 207–14  
  main functions 39, 208–9  
Osaka 5, 11  
out-of-the-money options (OTM) 83, 85–91,  
  95–99, 104–10, 113–18, 127, 128, 133,  
  144–8, 150–1, 154–6, 162–70, 176–9, 197–9,  
  249  
  *see also* intrinsic value  
  definition 85, 249  
out-strike level  
  *see also* knock-out barrier options  
  concepts 100–1, 115  
  definition 100–1  
outperformance options 238  
outright forward FX deals, definition 22, 111–12,  
  249  
over-collateralization techniques, concepts  
  202–3  
over-the-counter transactions (OTC)  
  *see also* forward contracts; forward rate  
    agreements; swaps  
  clearing house pressures 59, 72–3, 79, 83, 207,  
    210–11, 214  
  concepts 1, 3–6, 7–8, 10–13, 17–29, 31, 59,  
    72–3, 83–4, 103, 117–18, 119–28, 186,  
    209–11, 213–14, 250  
  confirmation/settlement of OTC deals 13,  
    210–11  
  critique 10–13, 72–3, 103  
  currency (FX) options 117–18  
  definition 1, 210, 213, 250  
  interest rate options 119–28  
  ISDA 5, 9, 210–11, 247  
  legal issues 10, 23, 210–11, 212  
  modern markets 13–15, 59, 72–3, 79, 83, 207,  
    209–11, 214  
  risks 210–11, 214  
  statistics 13–15  
overnight index swaps (OISs), definition 63,  
  249

- panic situations 9–10
- par  
definition 43, 218, 250  
pull-to-par effects in bond prices 147–8
- parity value of convertible bonds  
concepts 181, 183–91  
conversion premiums 184–5
- partial derivatives  
*see also* ‘Greeks’  
definition 149, 160
- participation levels, ELNs 193, 194–5, 196–8
- pass-through securities, definition 201, 250
- pay-later options, definition 115
- payoff profiles  
exotic options 235–8  
interest rate options 119–30  
long straddles 167–9  
options 83–91, 105–10, 161–70, 171–9
- Philadelphia Stock Exchange (PHLX) 117–18
- physical settlement  
concepts 2, 17, 28, 39, 41, 43–6, 56, 76, 80–2, 87–8, 94, 103–10, 117–18, 209–14, 250  
definition 2, 17, 28, 39, 41, 76, 250
- political risk, definition 250
- portfolio insurance, definition 250
- portfolio management, definition 250
- position delta, concepts 151–2, 159, 174–9
- position gamma, concepts 154, 159, 166
- position limits, concepts 107–8
- positions, definition 212, 250
- present value (PV)  
concepts 215–17, 218–21, 225–6, 227–31, 250  
definition 215–16, 250
- price discovery, definition 39
- price relative, definition 231–2
- price risk *see* market risk
- pricing  
*see also* options pricing  
Black pricing model 147, 240  
CDSs 80–1  
convertible bonds 183–91  
exchangeable bonds 186  
IRs 226–8  
operational risk problems 212
- probabilities 132, 145–8, 228–9
- protective puts  
barrier options 100–2  
concepts 93–102, 250  
definition 93–4, 250
- pull-to-par effects in bond prices 147–8
- put (bear) ratio spreads, definition 166–7, 170
- put options 2–3, 5–6, 16, 54, 83–91, 93–102, 103–10, 111–18, 120–30, 140–1, 144–5, 150–60, 161–70, 171–2, 179, 230, 235–8, 241, 250  
*see also* long . . . ; short . . .  
Black-Scholes option pricing model 144–5  
bull spreads 162  
call on a put options 116–17  
chooser (preference) options 161, 171–2, 179, 236, 241  
definition 2–3, 16, 83–4, 250  
protective puts 93–102  
rho 159
- put-call parity, definition 250
- puttable swaps, definition 65, 250
- PV *see* present value
- quanto options, definition 238, 250
- quants, definition 3
- quotation convention, Eurodollar futures 48–9
- random walks 143, 233
- ratchet options *see* cliquet (ratchet) options
- rate of return, definition 220–2
- rate-capped swaps, definition 65
- ratings agencies  
*see also* credit ratings; Fitch; Moody’s; Standard & Poor’s  
definition 250
- ratio spreads, definition 166–7, 170
- real interest-rates/returns, definition 215, 251
- recovery value, definition 76, 78, 251
- redemption dates, definition 251
- reference entities  
CDS concepts 75–82, 251  
definition 75, 251
- reference obligations  
CDS concepts 75–82, 251  
definition 75, 251
- regulators 4, 209–10, 212, 214
- relative value trades  
*see also* arbitrage  
definition 4, 142–3
- repudiation/moratorium credit events 77–82
- reputational risk, definition 208, 213
- return on investment  
*see also* yield  
definition 220–2, 254
- Reuters 5, 39, 137
- reverse floaters, definition 11, 251
- rho  
*see also* interest rate . . .  
bear spreads 165–6  
concepts 149, 158–60, 165–6, 251  
definition 158–9, 160, 251  
put options 159
- rights issues, definition 107, 110, 251
- risk  
*see also* counterparty . . . ; credit . . . ; market . . . ;  
operational . . . ; reputational . . .  
attitudes 181–2, 193  
aversion 181–2, 193  
types 207–14, 243, 253
- risk management 3, 7–10, 16, 22–4, 69, 72–3, 111–12, 169–70, 175–7, 207–14, 251  
best practices 213, 214  
concepts 3, 207–14, 251  
currency (FX) forwards 22–4  
definition 3, 251  
short straddles 175–7  
tools 207–8

- risk-free rate  
  concepts 183, 222–4, 230–1, 251  
  definition 222, 251
- risk-neutral probabilities 228, 229, 231
- riskless hedge concept 132–3, 136–40
- rollercoaster swaps, definition 65
- rolling, definition 11, 251
- Rusnak, John 12–13
- Russian default of 1998 12
- S&P 500 index 6–7, 52–4, 59, 73, 82, 103–4,  
  107–9, 142, 145–6, 178, 194, 251, 252
- Sarbanes-Oxley Act (2002) 12
- Scholes, Myron 12  
  *see also* Black-Scholes. . .
- secured debt, concepts 76, 201–5
- Securities and Exchange Commission (SEC) 209
- securitization  
  *see also* asset-backed securities; collateralized  
  debt obligations  
  concepts 82, 201–5, 251  
  definition 201, 205, 251  
  rationale 203
- segregation of duties, operational risk management  
  213, 214
- semi-annual compounding  
  concepts 217, 221–2  
  definition 217
- sensitivities *see* ‘Greeks’
- settlement 2, 17, 28, 31–8, 39, 41, 43–6, 47–57,  
  76–7, 80–2, 87–8, 94, 103–10, 117–18,  
  120–30, 207–14, 241, 250  
  *see also* cash. . . ; physical. . .  
  operational risk problems 212, 213, 214  
  segregation of duties 213, 214
- settlement prices, definition 251
- settlement sums  
  concepts 31–8  
  definition 31
- shares  
  *see also* convertible. . . ; equity. . .  
  concepts 17, 52–7, 181–9  
  definition 17  
  dilution 185–6, 244
- short call option strategies, concepts 83, 84, 87–8,  
  93, 114–18, 149–50, 151–2, 153, 159, 172–9
- short positions  
  concepts 11, 17–21, 39–46, 53–7, 72–3, 85–91,  
  251  
  definition 17, 39, 251  
  equity swaps 72–3
- short put option strategies, concepts 83, 84, 90–1,  
  149–50, 153, 159, 172–9
- short straddles  
  concepts 11, 172–9, 252  
  definition 172, 179, 252  
  profits and losses 175–7  
  risk management 175–7, 179
- short strangles, definition 177–9
- short theta, definition 169–70
- short vega, concepts 172, 175–9
- short-term interest rates 119–30, 147
- shout options, definition 238, 251
- sigma  
  *see also* standard deviation  
  definition 251
- simple interest, definition 215–16
- Singapore 11, 210
- single stock futures (SSFs)  
  *see also* equity swaps  
  concepts 56–7, 69, 72–3, 93
- single tranche CDOs, definition 204
- single-currency IRSs  
  *see also* currency. . . ; interest rate. . .  
  concepts 59–68  
  definition 59–60
- SIX Swiss Exchange 7, 39, 210  
  *see also* Eurex
- slope on the price curve, delta behaviour 150–2
- Smith, Adam 78
- special purpose vehicles (SPVs) 12, 201–5, 242,  
  252  
  *see also* collateralized debt obligations  
  definition 201, 205, 2–2, 252
- speculators 3, 4, 6, 9–10, 16, 21, 40, 53–4, 111–12,  
  130, 203
- spot dates, concepts 21–2
- spot foreign exchange rates, definition 21–2, 252
- spot interest rates  
  *see also* zero-coupon rates  
  concepts 50–2, 61–2, 222–5, 252, 254  
  definition 222, 252, 254
- spot leg, currency (FX) swaps 27–8
- spot prices 1, 20–1, 42–6, 83–91, 101–2, 112–18,  
  136–48, 149–60, 163–70, 230–1, 252  
  *see also* delta; gamma  
  cash-or-nothing options 163–4  
  definition 1, 252
- spread trades 238, 252
- spread-lock swaps, definition 65
- ‘square root rule’ 233
- SSFs *see* single stock futures
- Standard & Poor’s 240, 250, 251
- standard deviation  
  *see also* variance; volatilities  
  concepts 138–40, 230, 251  
  definition 138
- standardized agreements 5–7, 83–4, 103–10,  
  117–18, 210–11
- static hedging, concepts 135
- STD (second-to-default) basket CDSs, definition  
  82
- Steinherr, Alfred 9
- sterling interest rate options, concepts 127
- stock index futures  
  *see also* equity. . .  
  definition 252
- stock index options, concepts 15, 107–10, 140–1
- stock lending, concepts 188
- stock options  
  *see also* equity. . .  
  definition 252
- stock splits, definition 107, 110, 252
- stock-loss/profit orders, definition 252

- straddles  
*see also* long. . . ; short. . .  
concepts 11, 167–70, 172–9, 252  
definition 167–8, 252
- strangles  
concepts 176–9, 252  
definition 177, 252
- stress testing, concepts 207–8
- strike (exercise) prices  
concepts 83–91, 94–102, 104–10, 111–18,  
120–30, 136–40, 142–8, 161–70, 230, 245, 252  
definition 245, 252
- strips, definition 123, 130, 252
- structured notes, definition 252
- structured securities  
*see also* average price. . . ; cliquet. . . ;  
equity-linked notes  
concepts 82, 193–205, 212  
definition 193
- structuring desks, definition 161, 199
- subjective probabilities, concepts 132
- subordinated debt, concepts 76, 201–5
- subprime mortgages 13
- swap spreads, definition 63
- swaps 2, 7, 10, 14–16, 27–8, 35, 37, 59–68, 69–82,  
119, 124–5, 130, 177–9, 222, 225, 226–8, 247,  
252, 253  
*see also* credit default. . . ; currency. . . ;  
equity. . . ; interest rate. . .  
applications 28, 63–4, 65–7, 69–74, 75, 77–8, 81  
concepts 2, 10, 14–16, 27–8, 59–68, 69–82, 125,  
177–9, 252  
critique 10, 72–3  
definition 2, 16, 59, 63, 252  
legal issues 10  
terminology 62–3  
users 27, 28, 59–60, 62, 63–4, 69–74, 75, 77–8,  
81–2, 177–9
- swaptions  
definition 65, 81, 119, 125, 130, 253  
zero-cost collars 125
- synthetic calls, definition 96
- synthetic CDOs  
*see also* credit default swaps  
concepts 203–5, 253  
definition 203–4
- synthetic securitization, definition 203–4, 253
- systematic risk  
concepts 9, 12, 253  
definition 9, 253
- systemic risk, definition 210–11, 253
- tax advantages  
convertible bonds 182, 188–9  
mandatorily convertible/exchangeable bonds  
188–9  
SPVs 202–3  
SSFs 57
- temperature-linked derivatives  
*see also* weather. . .  
concepts 8–9
- tenor, definition 69, 253
- term structure of interest rates  
concepts 221–6, 253  
definition 221–2, 253  
IRSs 226–8
- theta  
*see also* time value  
bear spreads 165–6  
concepts 149, 156–7, 159–60, 162, 165–6,  
169–70, 175–9, 253  
definition 156–7, 253  
measurements 157
- tick size 43, 45, 48–50, 107–8, 253
- tick value 43, 45, 48–50, 253
- time to maturity *see* tenor
- time value  
*see also* intrinsic. . . ; options; theta  
concepts 85, 90–1, 104–10, 131, 144–8, 169–70,  
171, 175–9, 253  
definition 85, 90–1, 253
- time value of money (TVM)  
concepts 94, 215, 217, 220–1, 253  
definition 215, 220–1, 253
- times spreads *see* calendar spreads
- total option value, definition 85
- total return equity index swaps 73–4
- total return equity swaps  
*see also* equity swaps  
concepts 69–71, 72–4
- ‘toxic assets’ 13, 202
- trace confirmation 13, 210–11, 214
- trade-capture problems operational risk 211–12
- traders  
concepts 11, 20–1, 39–46, 56–7, 157, 161–70,  
181–91, 246, 253  
definition 253
- trading methods  
*see also* exchange-traded. . . ; over-the-counter. . .  
derivatives 1–2, 4–5, 39, 83, 178, 207–14  
operational risk problems 211–12, 213, 214  
segregation of duties 213, 214
- Trading Places (film) 41
- training needs, operational risk management 213
- tranches, CDOs 201–5
- transaction costs, concepts 4, 20–1, 72–3, 86, 113,  
153, 188
- Treasury bills (T-bills) 48, 131, 253
- Treasury bonds (T-bonds) 6, 43–6, 78, 128–9,  
146–7, 253  
*see also* bonds
- Treasury securities 221–2, 253
- trustees, CDOs 202–5
- tulip mania and the Amsterdam market 5–6
- TVM *see* time value of money
- UK 5–7, 10, 22–8, 45, 47, 53, 54–7, 65–7, 73,  
103–4, 106, 108–10, 117–18, 127, 209–10,  
226, 247, 248
- ultra vires 10, 253
- underlying  
concepts 1–16, 17–29, 40–6, 83–91, 93–102,  
103–10, 111–18, 131–48, 149–60, 161–79,  
193–205, 228–33, 235–8, 253

- underlying (*cont.*)  
definition 1, 253  
types 1, 14–15
- unfunded structures, definition 77, 204–5
- unsecured debt, concepts 76, 201–5
- up-and-in barrier options  
concepts 100–1, 235, 253  
definition 100, 235, 253
- up-and-out barrier options  
concepts 100–1, 115–16, 235, 253  
definition 100–1, 235, 253
- upside potential, definition 86–7, 181–2, 253
- USA market 6–16, 21–8, 41–2, 43–6, 47–57, 65–8, 72–3, 84, 103–4, 111–18, 194, 209–10, 211, 241, 253
- utilities 7–8
- valuations  
*see also* options pricing  
barrier options 101–2  
bonds 183–91, 219  
chooser (preference) options 171–2  
concepts 101–2, 131–48, 212, 219  
convertible bonds 183–91  
ELNs 193–200  
exchangeable bonds 186  
operational risk problems 212  
zero-coupon bonds 219
- value dates, definition 21–2
- Value-at-Risk (VaR), definition 207–8, 253
- variance  
*see also* standard deviation  
concepts 230–3  
definition 233
- variation margin  
concepts 40, 55–6, 103, 129, 208–10, 211, 253  
definition 40, 55, 208–9, 253
- vega  
*see also* volatilities  
bear spreads 165–6  
concepts 149, 157–8, 159–60, 162, 165–6, 169–70, 172–9, 188, 247, 254  
definition 157–8, 160, 254  
graphs 158
- VIX index  
*see also* Chicago Board Options Exchange  
definition 178, 179, 254
- volatilities 131–48, 165–70, 172–9, 188, 199–200, 230–3, 246, 251, 254  
*see also* historic. . . ; implied. . . ; standard deviation; vega  
calculations 137–9, 231–3  
concepts 134–5, 137–40, 141–8, 167–70, 172–9, 188, 233, 246, 254  
definition 134–5, 137–8, 233, 254  
importance 135, 137  
uses 135, 137, 139–40  
VIX index 178, 179, 254
- volatility futures/options, concepts 178
- volatility smiles  
*see also* implied volatilities; strike. . .  
definition 254
- volatility surface, definition 254
- volatility swaps, definition 177–9
- warrants, definition 104, 254
- waterfall cash flow system, CDOs 202–3
- weather derivatives  
*see also* temperature-linked. . .  
definition 7–8, 47, 254
- weighted average payouts, option values 229
- withholding taxes, definition 254
- writers  
concepts 3, 16, 83–91, 96–102, 103–4, 135–40, 254  
definition 3, 16, 83–4, 254
- yield  
*see also* return on investment  
definition 220–2, 254
- yield curves, definition 254
- yield-to-maturity, definition 254
- zero coupon swaps, definition 65, 67–8, 254
- zero-cost collars  
concepts 93, 99–100, 114–15, 123–5, 128  
currency (FX) options 114–15  
definition 99, 123–4  
swaptions 125
- zero-coupon bonds  
concepts 146–7, 218, 219, 222–4, 254  
definition 146, 218, 254  
valuations 219
- zero-coupon rates  
*see also* spot interest rates  
definition 222–3, 225, 254