

Index

- 2 * 2 rule 253–7
- 3M (MMM) 167–8
- 9/11 terrorist attacks 137, 157, 160, 213
- A B C wave decline, Elliot Wave analysis 53–4
- AAPL *see* Apple
- The ABC of Stock Speculation* (Nelson) 98
- abnormal returns 195–7
- accumulation windows, money flow concepts 68, 70–93
- accumulation/distribution analysis
 - see also* volume
 - concepts 59–93
 - historical background 59–60
 - price development 7, 59–93
- adaptive systems 2
- additional strength, opening price breaks 174–5
- agent-based modeling 2, 232–6
- AGIX *see* Atherogenics Inc.
- Aite Group 6
- Alexander, Carol 193, 195–6, 198
- algorithmic trading 2, 4–11, 62, 101, 108, 120, 125, 155–6, 233–6, 304–5, 306, 313
 - concepts 5–6, 62, 101, 108, 120, 155–6, 304–5, 306, 313
 - dissonance identification 101
 - flags 108, 125
 - Hikkake patterns 125
 - objectives 5–6
 - originators 6
 - predictability problems 7–8
 - program trading 6–7
 - statistics 5–6
 - ‘stealth’ advantage 7–8
 - technical analysis 6–7, 101
 - trends 6–9
 - volatility 155–6
- alignments 44–56, 70–83, 95–133, 305–13
 - see also* comparative quantile analysis; confirmations
 - concepts 95–133, 305–6
- alpha 237, 283–302
 - beta values 289–91
 - calculation 283–4
 - case study 284–95
 - concepts 237, 283–302
 - critique 283–4, 293–4
 - definition 283
 - double alpha 293–5
 - granularity questions 289–90
 - instability 284
 - long/short alpha 293–5
 - negative alpha values 290–2
 - uses 283–4
- Amazon (AMZN) 171–3, 237, 278–93
- American Express (AXP) 96–8, 100–5
- Amgen (AMGN) 22–3, 65–8, 86–92
- AMZN *see* Amazon
- analytical techniques 1–2
- Ang, Andrew 272–4
- Apple (AAPL) 171–3, 253–7
- apple falls, trajectory 163
- arbitrage 3, 6, 179–80, 184–92, 199, 306–7
 - complex examples 184–5
 - concepts 180, 184–92, 199, 306–7
 - convertible arbitrage 186–7, 313
 - derivatives 184–5
 - historical background 184
 - on-the-run arbitrage 185–7
 - pairs trading 187–92, 199
 - risk 186–92
 - types 184–5
- arithmetic mean *see* mean
- artificial life 234
- Asian crisis (1997) 9, 136–7, 141
- asset allocation theory 265–82, 309–10
 - see also* portfolio theory

- asset classes, hedge funds 8
 asset management strategies 1–2, 144, 149–50,
 160–1, 238, 265, 306–13
 asteroid scenario 3
 asymmetric correlations 272–4
 AT&T Bell Laboratories 249
 Atherogenics Inc. (AGIX) 90–2
 automation statistics, trading activities 2–3, 4
 avalanches 206–9, 212, 303, 310–11
 average opinion 24–5, 236
 averaging techniques 24, 25, 37–8, 41
 see also mean; median
 limitations 37–8, 41
 moving averages 24, 25, 37, 39–42, 63, 96,
 110–17, 161, 189
 ‘outlier’ events 37, 217
 AXP *see* American Express
- Bachelier, Louis 192, 202
 Bak, Per 205–9, 212–13, 217
 ‘bandwagons’ 24
Barron’s magazine 63
 bear markets 31, 34, 52–3, 71, 89–90, 98–100,
 108–26, 128–33, 137, 164–6, 229, 232,
 256–7, 283
 behavioral finance 232, 234–5, 240, 312
 ‘beneath the surface’ dynamics 59–60
 Bernanke, Ben 311
 beta values 38, 95, 237, 255–6, 272–4, 279–81,
 287–92, 296–302, 312–13
 concepts 255–7, 284, 289–92, 296–302,
 312–13
 critique 284, 313
 high values 289–92
 instability 284, 312
 negative values 297–9
 neutrality 299–302
 uses 296–7
 The Bible 205
 Bombay Stock Exchange 310–11
 bonds 27, 185–6, 190–2, 310
 ‘boom’ 11
 BOOM 173
 bounded rationality 234
 Brain, Steve 7
 breakaway gaps 163
 see also gaps
 breakdowns 31–2
 breakouts
 concepts 27–35, 65–8, 81–93, 96–8, 102,
 110–14, 129–31, 170–8, 184, 308–9
 range contraction 27–35
 breaks 164–78, 201, 213–16
 see also gaps
 inverse square law 175–7, 213–16
 brokers 5–6, 7–8, 306–8
- Brownian motion 192, 202
 see also random walks
 Budweiser 177
 bull markets 33–53, 71–83, 98–100, 106–14,
 121–6, 128–33, 137, 159, 164–5, 213, 229,
 232, 269–74, 283–4, 308–9
Business Week 237
 Butterfly pattern, Gartley Butterfly pattern 131–3
 buy signals 84–6
 buy stops, NR7 sessions 35
 buy-and-hold strategies, decline 1–2
 buy-side parties 5–6
 see also mutual funds; pension funds
 buy-write strategies, volatility 156–9
- C++ 43
 CAGR *see* Compound Annual Growth Rate
 Calmar ratio 257, 260–4
 candlestick techniques 26, 28–34, 75–7, 108–21,
 306–8, 313
 capital asset pricing model (CAPM) 236, 259,
 265
 capital markets
 see also financial markets
 behavioral phases 42–3
 concepts 2–4, 245, 303–13
 iconic images 4
 network dynamics 2–3, 245, 303–13
 political priorities 9
 rapid changes 9
 traditional workflow 3–5, 7–8
 trends 1–2, 9
 CAPM *see* capital asset pricing model
 cash market, program trading 6
 catastrophists 205
 CBOE *see* Chicago Board Options Exchange
 CBOT Treasury Bond futures contracts
 185–6
 CDOs *see* collateralized debt obligations
 chance 140–1, 249–50
 chaos theory 2
 chart support 198
 chartists 26–7, 202–3
 see also technical analysis
 ‘cheapest to deliver’ bonds 185–6
 Chen, J. 272–4
 Chesler, Dan 121
 Chicago Board Options Exchange (CBOE) 3–4,
 135–7, 149, 156–7, 224–5, 310–12
 Chicago Mercantile Exchange (CME) 3–4
 china, credit controls 308–10
 Chow procedure 226
 Cisco 237, 238
 Citibank (C) 98–101
 cliffs, quantiles 41
 climate 224–5

- closing bias
 - bullish markets 45–50
 - concepts 14–15, 18–35, 40–1, 44–56, 68, 70, 85–93, 95–6, 202
 - driven volume concepts 85–93
- closing position bias, money flow concepts 68, 70–93
- closing prices 14–35, 40–1, 43, 44–56, 68, 70, 73–5, 85–93, 95–6, 104–5, 202
 - coherent closing bias phenomenon 14–15, 18–35, 40–1, 44–56, 202, 303–7
 - extreme trend days 16–35, 202, 215–16, 245
 - quantiles 39–40
 - range expansion 14–35, 43, 73–5, 95, 106–8, 215–16
- clustering
 - adverse events 244, 245–6
 - volatility 140–55, 201–2, 223–5, 226–7, 234, 238, 244–6, 264
- co-movement measure, indices 148
- co-occurrences
 - comparative quantile analysis (CQA) 44–56, 70–83, 95–6
 - correlation 180
 - gaps 169–72
- coefficient of determination, concepts 148
- coherent closing bias phenomenon 14–15, 18–35, 40–1, 44–56, 202, 233–5, 303–7
 - concepts 14–15, 18–35, 40–1, 44–56, 202, 233–5, 303–7
 - econophysics 23
 - interpretation 23–4
- coherent trading sessions, range expansion 13–35
- coiled spring pattern 27–8
- cointegration
 - concepts 179, 191, 192–9
 - hedging techniques 193–4
 - historical background 192–5
 - long/short strategies 179–80
 - tracking the Dow 195–7
 - turning points 197–9
- collateralized debt obligations (CDOs) 2–3
- collective behavior 198, 232, 234–5, 304, 312
 - herding 232, 234–5, 312
 - network dynamics 305–6
 - predator/prey model 198
- commission arrangements, proposals 5–6
- commodities markets 69, 180–1, 309–10
- common gaps 163
 - see also* gaps
- comparative quantile analysis (CQA)
 - see also* quantiles
 - benefits 43–50, 57, 62, 83–4, 95–6
 - case studies 43–56, 71–83
 - concepts 40, 42–57, 62, 68–93, 95–6, 184
 - Ebay case study 53–6
 - Lehman Brothers (LEH) case study 50–3, 81–3
 - money flow analysis 68–9, 84–93
 - Newmont Mining (NEM) case study 43–50, 71–5, 79
 - specific uses 57, 68–9, 84–93
- complexity theory 2, 114–15, 205–9
- Compound Annual Growth Rate (CAGR) 257–64, 284–5
- computational finance 26
- computers
 - see also* algorithmic trading
 - automated trading 2–3, 4–11
 - program trading 6–7
 - real-time monitoring 7–8
 - simulations 2
- confidential trading motives, proposals 5–6
- confirmations 40, 96–133, 137, 184, 305–13
 - see also* alignments
 - concepts 96–100, 137, 184
 - turning points 98–100
 - volatility 137
- constricted ranges 14
- contagion effects 8, 234–7, 306–13
- contrarian trades 5, 24
- convergence
 - concepts 179–99, 313
 - correlation coefficients 182, 313
 - critique 179–81
 - time scales 179–80
 - tracking the Dow 195–7
- converse gaps 170–3
 - see also* gaps
- convertible arbitrage 186–7, 313
- corporate debt 3
- corrective behavior 43–56, 71–83, 199
- correlated liquidity crises 8–10, 255, 311, 313
- correlation coefficients 46–56, 148, 179–99, 201–2, 203, 255, 267, 272–81, 295, 312–13
 - asymmetric correlations 272–4
 - co-occurrences 180
 - concepts 148, 179–99, 201–2, 203, 255, 272–81, 295, 312–13
 - convergence 182, 313
 - critique 181–4, 194, 255
 - divergences 182
 - hedging techniques 180–3
 - instability problems 182–3
 - long/short strategies 179–80, 295
 - peculiarities 181–4
 - perfect correlation 181–2
 - unexpected correlations 183–4

- covariances 183, 265, 270–4
 CQA *see* comparative quantile analysis
 Crabel, Toby 2, 14, 27, 34
 crashes 3, 7–10, 115–21, 135–7, 144, 157, 205–6, 229, 235–6, 239–40, 245, 255, 287–8, 306, 310–13
 see also financial crises; ‘outlier’ events; rupture dynamics
 case study 118–21
 complex interactions 205–6, 311–12
 immanence 10, 211
 market participants 120–1, 311–12
 crises *see* financial crises
 critical macro events 255, 300–1
 critical phase, market behavior 42–3
Criticality and Phase Transition in Stock-Price Fluctuations (Kiyono, Struzik and Yamamoto) 228
 ‘Cube’ map, execution strategies 6
 cumulative frequency curves 149–55
 ‘cut losses and let profits run’ 240–4, 313
- Darwin, Charles 204–5, 223–4
- data
 quality concerns 37, 41–2
 selectivity considerations 41–2, 69
Day Trading With Short Term Price Patterns and Opening Range Breakout (Crabel) 34
- deciles 38, 150–2
 see also quantiles
The Definitive Guide to Futures Trading (Williams) 25–7
- derivatives
 see also futures; options
 arbitrage 184–5
 concepts 1–3, 8, 156–7, 161, 180–1, 251–2, 289–90
 program trading 6
 scares 3
 trends 1–2
- DIA 129–31, 172–3
- diamonds 121
 see also flags
- Dimitriu, Alexander 195–6
- discrepancies, alignments 96–133
- Disney (DIS) 31–4
- dispersion measures 25, 37, 138–40, 179–80, 311
 see also standard deviations
- dissonance 83–93, 96–8, 100–6, 184, 198
 see also divergences
 algorithmic trading 101
 concepts 100–6, 184, 198
 long/short strategies 102
 market indices 102–5
 profit opportunities 83–93, 100–5, 184
- distribution/accumulation analysis *see* accumulation/distribution . . .
- divergences 40, 95–133, 137, 182
 see also nonalignments
 concepts 95–133, 182
 perfect correlation 182
 volatility 137
- diversification 8, 183, 253, 265–82, 310
 see also portfolio theory
 critique 183
- DJIA *see* Dow-Jones Industrial Average
- DMA screens 5
- Doji formations 28–35, 75–7, 118–21
- Doral Financial (DRL) 28–9, 118–23
- dot com companies *see* Internet
- double alpha 293–5
 see also alpha
- double top formation 115–21
- Dow, Charles 98
- Dow Theory 98–100
- Dow-Jones Industrial Average (DJIA) 63, 98, 129–31, 157, 172, 195–7, 214, 306–7
- downside risk 272–4
- drawdowns
 concepts 135, 244, 245–52, 257–64
 definition 246
 holding periods 246–9
 management 251–2, 257
- DRL *see* Doral Financial
- Druckenmiller, Stanley 239–42
- due diligence 257
- dumb money 61–4
 see also retail investors
- Dynamic Materials Corp 172–3
- earthquakes 2, 10, 209–13, 303–4
- eBay 34, 53–6, 238, 304
 comparative quantile analysis (CQA) 53–6
- ecological time series data 224–5
- econophysics 2, 23–4, 204, 207–20, 235–6, 304
 coherent closing bias phenomenon 23
 concepts 2, 23–4, 207–20, 304
- efficient frontiers 265–6
- efficient market hypothesis (EMH) 236
- El Nino 224
- electronic order books, concepts 16, 155–6
- Elgbert, Lynn 63–4
- Elliot, Ralph N. 128
- Elliot Wave analysis 26, 53–4
- EMAs 27, 65–8, 110–13, 115, 120–3, 156, 306–8
- emerging markets 3, 9, 136–7, 141, 185–6, 306–11
- EMH *see* efficient market hypothesis
- Engle, Robert 192
- equity curves 245–9
- equity markets, trends 1–2, 9

- ERES 173
 Excel 38–9, 43, 46, 180–2, 268, 287, 301, 313
 exhaustion gaps 163
 see also gaps
 exit logic, portfolio management 313
 expected returns
 portfolio theory 265–82
 Value at Risk (VaR) 277–82, 313
 extension ratio 16–35
 extreme ideas, money management techniques 251–2
 extreme trend days 10–11, 16–35, 38, 139–44, 198, 202, 215–16, 245
- F5 Networks (FFIV) 115–18
 ‘fade’ strategies 13–14, 24–5, 102, 113–14, 175
 fair value, financial markets 311
 false breakdowns/breakouts 31–2, 96–100, 102
 false signals 31–2, 47, 83, 96–8, 102
 Fama, Eugene 202–3
 Farley, Alan 27–8, 34, 108–10
 Farmer, Doyne 233–5
 fat tails phenomenon, concepts 217–18
 FDRY *see* Foundry Networks
 ‘Fear Index’ *see* Volatility index
 Federal Reserve 9–10, 157, 312
 feedback, positive feedback 25, 114
 FFIV *see* F5 Networks
 Fibonacci ratios 106–8, 128–31
Fibonacci Ratios with Pattern Recognition (Pesavento) 131
 Fidelity Magellan 236–7
 final hour of trading, smart/dumb money 63–4
 financial crises 3, 7, 9, 136–7, 141–4, 155–7, 180, 185–6, 198–9, 205–6, 213, 235, 306, 310–13
 see also crashes
 financial economy, self-organizing economy 9
 financial engineering, powers 237
 financial markets
 see also capital markets
 behavioral phases 42–3
 concepts 2–4, 245, 303–13
 dissonance 83–93, 96–8, 100–6, 184
 fair value 311
 fractiousness 13–14, 15–35, 232–3, 312
 iconic images 4
 network dynamics 2–3, 245, 303–13
 ‘noise’ 1–2, 4, 19, 37, 45, 221–3
 physical/virtual realities 304–5, 306
 political priorities 9
 rapid changes 9
 reflexivity 24–5, 304–6
 rupture dynamics 114–21
 traditional workflow 3–5, 7–8
 trends 1–2, 9
- first hour of trading, smart/dumb money 63–4
 first order differences 239–40
 fixed-income instruments 9
 flag poles 92, 108–26
 characteristics 110–14
 concepts 108–26
 flags 71–5, 92, 102, 108–26
 see also pullback channels
 algorithmic trading 108, 125
 associated chart patterns 121–2
 bull/bear flags 108–17, 121–6
 characteristics 108–14
 concepts 108–26
 definition 108
 failed formations 118–21, 125–7
 Gartley patterns 106, 121, 126–33
 Hikkake patterns 121–6
 price targets 110–14
 psychological elements 113–15
 ‘time to wait’ issue 113–14, 125–6
 trigger points 110–14
 ‘flat-lining’ 87–8
 ‘flight to safety’ concerns 145–6
 FOMC statements 311
 ‘footprints’, institutional investors 4–5, 62–4
Forbes magazine 14, 237
 Ford 3, 9, 158, 187–92, 197, 313
 forecasts
 see also predictions
 inside days 26–35
 power laws 211–16
 price patterns 26–7
Fortune’s Formula (Poundstone) 249
 Fosback, Norman 62–3
 Foundry Networks (FDRY) 121–6, 173
 ‘four o’clock cliff’ 8
The Fractal Geometry of Nature (Mandelbrot) 216
 fractals 216–17
 fractional equity investment 251–2
 fractiousness 13–14, 15–35, 232–3, 312
 ‘freak’ events 139–40
 frequency histograms 138
 frequency/magnitude relationship, power laws 2, 175–8, 201–20
 FRO 173
 ‘front running’ 4–5
 fund managers 13–35, 257–64, 265–6, 283–302
 fundamental analysis 236–8, 313
 market timing 236–8
 tools 236–7, 313
 future results, past performance 180
 futures 25–7, 180–1, 184–6, 251–2
 see also derivatives

- Gabaix, Xavier 207–8, 213
- gains
see also profits
 losses 240, 250–1
 win/loss matrix 240–4, 250–1
- gambling 249–50
- games of chance 140–1, 249–50
- gap days 26–7
- gaps 16, 26–7, 163–78, 201, 204, 213–16, 244–6
 additional strength 174–5
 causes 163–4
 co-occurrences 169–72
 concepts 163–78, 201, 204, 244–6
 converse gaps 170–3
 inverse square law 175–8, 201, 213–16
 kinds 163–4
 morphology 163–78
 overnight price breaks 166–70, 244–6
 properties 163–4
 risk measures 166–9, 244–6
 survey of most liquid stocks 177–8
- Gartley patterns 106, 121, 126–33
see also pullback channels
 bullish/bearish patterns 128–33
 Butterfly pattern 131–3
 concepts 126–33
- Gaussian assumptions 139–44, 192, 201, 203, 216–18, 221, 228, 238, 245, 267–9, 313
see also normal distributions
- GE 296–9
- The General Theory of Employment* (Keynes) 24
- Genesis 205
- geology 204–5
- geometry, OHLC data 25–7, 95
- German DAX 214
- ‘gestalt’ switches 232–3, 236
- GM 3, 9, 143, 158, 187–92, 197, 313
- Goldman Sachs (GS) 6, 62, 278–9
- Google (GOOG) 75–9, 85
- gradualism 203–4
- Granger, Clive 192–4, 198
- granularity 25, 214–15, 289–90
- Granville, Joe 59
- Greenspan, Alan 9–10, 237
- GS *see* Goldman Sachs
- Gundzik, Jephraim P. 309
- Haliburton (HAL) 292–5
- hammers 113, 118–21
- Hanging Man formation 118–21
- Hansen Natural Corporation (HANS) 284–95
- head and shoulders patterns 28
- hedge funds 2, 3, 6, 8, 61–2, 156–7, 160, 179–87, 240, 245, 257–8, 305–6, 310, 313
- diversified asset classes 8
- fear levels 160, 313
- ‘four o’clock cliff’ 8
- long/short strategies 179–80, 245
- Sharpe ratio 257, 258–64
- successful managers 179–80, 240
- hedge ratios, position sizing 278–82, 313
- hedging techniques 10–11, 16, 180–3, 193–4, 274–82, 305–6, 313
- cointegration 193–4
- correlation coefficients 180–3
- timely usage 10–11, 16
- herding behavior 232, 234–5, 312
- ‘hidden’ large trades 5–6
- Hikkake patterns 121–6
see also pullback channels
 algorithmic trading 125
- historical time series 42
- historical volatility
see also volatility
 concepts 135–7
- holding periods, drawdowns 246–9
- Hudson, Richard 216
- ICES *see* International Council for the Exploration of the Sea
- iconic images, financial markets 4
- idealized sand piles 2
- i.i.d. assumption, Gaussian assumptions 140–4, 201, 313
- immanence, risk 10, 211
- implied volatility
see also volatility . . .
 concepts 135–7, 157–9
- impulse waves, Gartley patterns 128–33
- independent events, Gaussian assumptions 140–4, 216–17, 245, 313
- index variant, On Balance Volume (OBV) 61
- India 310–11
- inflection points, range contraction 28
- innovations 1–2, 4–6, 8–9
- inside days
 concepts 26–35, 38, 43, 115–26
 Hikkake patterns 121–6
 range contraction 25–35
- insiders 92, 114, 249–50
- institutional investors 1–2, 5–6, 61–2, 144, 149–50, 184–5, 306–13
 ‘footprints’ 4–5, 62–4
 smart money 61–4
- insurance companies 104–5, 238
see also institutional investors
- Intel Corporation (INTC) 22–3, 59–61, 256–7
- INTERCEPT Excel function 287
- interday volatility 42, 137–40

- interest rates 1, 9, 236, 312
 low levels 1, 9
 negative levels 9, 312
 interim profit and loss accounts, real-time
 monitoring 7–8
 International Council for the Exploration of the
 Sea (ICES) 225
 Internet
 benefits 304
 network dynamics 305–6
 ‘New Economy’ stocks 9, 157, 234, 236–8
 power laws 306
 interpretation issues, ‘footprints’ 4–5
 intraday charts
 extreme trend days 16–35, 40–1
 zigs and zags 13–14, 161, 304–5
 intraday P&L range, extreme trend days 16–35,
 202
 intraday trading, algorithmic trading 6–7
 intraday volatility 42, 137–40, 149–52
 inverse cubic law 207–8, 213–16
 inverse square law
see also power laws
 breaks/gaps 175–8, 201
 concepts 175–8, 201, 213–16
 inverted hammers 113
 investment banks 1–2, 6–7, 185, 305–13
 ‘invisible hand’ 198
 Iraq wars 136–7, 141–4, 155, 157
- Japan
 credit controls 308–9
 Nikkei 225 index 214, 308–9
 Japanese candlestick techniques 26, 28–34, 75–7,
 313
 Java 43
 JBLU *see* Jet Blue Airways
 JDSU 172–3, 238
 Jet Blue Airways (JBLU) 280–2
 Jones, Paul Tudor 14, 35, 179, 244
Journal of Finance 265
 JWN *see* Nordstrom
- Kauffman, Stuart 234
 Kelly, John Larry 249
 Kelly money management techniques 26, 240–1,
 249–51
 Kerkorian, Kirk 187
 key economic data 17–18
 Keynes, J.M. 24, 180, 236
 Kiyono, K. 228
 KLAC semiconductor stock 17–23, 176
 Kuehn, Reimer 214–15
- Langton, Chris 234
 LBR Group 14–15
- legacy indicators, technical analysis 6–7, 9,
 14–15, 39–41, 100
 Lehman Brothers (LEH) 50–3, 62, 81–3
 Level 2 5
 leverage 186
 Levy distributions 215, 218–19
 Levy, Paul 218
 limit moves 69
 linear bias, gradualism 203–4
 linear regression 46, 283–302
 liquidity 8–10, 14, 15–35, 156, 177–8, 232–3,
 255, 305–13
 concepts 8–10, 14, 15–35, 232–3, 255, 305–11,
 313
 correlated liquidity crises 8–10, 255, 311, 313
 crises 8–10, 306–12
 definitions 15–16
 order books 15–16, 24–5, 156
 percolation model 24–5, 305–6
 ‘phase transition’ occurrences 24
 very liquid markets 16
 volatility 156
 zero liquidity 16, 18, 20, 24
 log changes 38
 log returns, concepts 285–9
 logging activities, trades and positions 7–8
 London markets 8
 Long Term Capital Management (LTCM) 9,
 135–6, 141, 179–80, 185–6, 191, 194–5,
 198–9, 306, 313
 long/short strategies 1–11, 45–56, 60, 102, 133,
 156–7, 179–80, 245, 253–7, 270–7, 293–4,
 306–13
 cointegration 179–80
 complex portfolios 274–82
 correlation 179–80, 295
 dissonance 102
 double alpha values 293–4
 hedge funds 179–80, 245
 investor fears 137, 313
 philosophies 295, 313
 simplest framework 255–7
 two-asset portfolio 270–4
 ‘losing streaks’ 245, 263
 losses 240–4, 245, 250–1, 263, 270–4, 313
 ‘cut losses and let profits run’ 240–4, 313
 gains 240, 250–1
 win/loss matrix 240–4, 250–1
 ‘loud and clear signals’, range expansion
 14–35
- Lowenstein, Roger 185–6
 lower quantile values
see also quantiles
 concepts 38–57, 71–93, 95–6
 LTCM *see* Long Term Capital Management
 Lux, Thomas 234

- Lyell, Charles 204–5
Lynch, Peter 1, 236–7
- MACD 27, 38, 91, 95–110, 115–21
 see also momentum indicators
 concepts 95–8, 115–17
 dissonance 101–8
 uses 96, 101
magnitude/frequency relationship, power laws 2,
 175–8, 201–20
- Malkiel, Burton G. 203
Mandelbrot, Benoit 203, 215–20
Marchesi, Michele 234
margin requirements 7–8, 35, 185–6
marine life, regime shifts 224–5
market makers 113–14, 120–1
 flag patterns 113–14
market metrics, spectrum of values 38, 42
Market Neutral Investing (Nicholas) 186–7
Market Wizards 14
markets
 see also capital markets
 behavioral phases 42–3, 310–13
 concepts 2–4, 245, 303–13
 dynamics 1–11, 245, 303–13
 fair value 311
 fractiousness 13–14, 15–35, 232–3, 312
 logical trading strategy 236–8, 313
 network dynamics 2–3, 245, 303–13
 physical/virtual realities 304–5, 306
 reflexivity 24–5, 304–6
 rupture dynamics 114–21
 timing factors 236–8, 240, 313
Markov processes 232–4
Markowitz, Harry 183, 265–6, 270–7, 301
Martha Stewart Omnimedia (MSO), Money Flow
 Index (MFI) 65–8, 84–5, 86–92
Marvell Technology (MRVL) 126–7
Massachusetts Institute of Technology 207
The Master Swing Trader (Farley) 108–10
A Mathematician Plays the Market (Paulos)
 304–5
The Mathematics of Money Management (Vince)
 251
maximum drawdowns 135, 246–9, 261
mean 37–8, 138–40, 143–4, 192, 221, 226–32,
 239–40, 247–9, 259–60
 limitations 37–8
 median 38
mean reversion 142–3, 194, 197–9, 237, 311,
 313
median 38–57, 165–6, 172–8, 221–2
 see also quantiles
 concepts 38–41
 mean 38
metals 309–10
- MFI *see* Money Flow Index (MFI)
micro-analysis, turning points 74–5
Microsoft Excel 38–9, 43, 46, 180–2, 268, 287,
 301, 313
Miller, Merton 265
MMM (3M) 167–8
modern portfolio theory (MPT) 265–82
 see also portfolio theory
momentum indicators 27, 38, 91, 95, 96–121
 see also MACD
money flow
 basics 68–71
 case studies 71–83, 118–21
 comparative quantile analysis (CQA) 68–9,
 84–93
 concepts 6–7, 59–93, 95, 110–14, 115–21
 flags 110–14
 key terminology 68–71
 positive/negative sessions 68–93
 technical analysis 6–7, 59–93
Money Flow Index (MFI)
 benefits 65
 calculation steps 64
 concepts 38, 64–8, 70, 90–2, 109–14, 115–21
 software availability 65
 suitable uses 68, 90–2
money management techniques 239–64
 concepts 239–64
 drawdowns 135, 244
 extreme ideas 251–2
 Kelly formula 26, 240–1, 249–51
 position sizing 253–6, 278–82, 313
 risk 239–45
Monte Carlo simulation 230–1, 235
Morningstar 237
morphology
 concepts 115
 gaps 163–78
moving averages
 concepts 24, 25, 37, 39–42, 63, 96, 110–17,
 161, 189
 ‘fade’ strategies 24
MPT *see* modern portfolio theory
MRVL *see* Marvell Technology
MSO *see* Martha Stewart Omnimedia
Murphy, John 98
mutual funds 1, 4–6, 61–2, 104–5, 236–7, 304–6
 see also institutional investors; unit trusts
- narrow range days 27
NASA 204
NASDAQ 3–4, 22, 39–41, 149–50, 157, 165, 172,
 174, 182–3, 284, 287–90
 100 39–41, 165, 174, 182–3
 collapse (2000) 1, 9, 157, 287–8
 QQQQ 39–41, 168–9, 174

- natural sciences, 'phase transition' occurrences 23
- negative correlation values 47
- negative interest rates 9, 312
- Negative Money Flow, Money Flow Index (MFI) 64–8
- negative sessions, money flow analysis 68–93
- Negative Volume Index (NVI) 62–4
- neighbourhood of interest, volatility 156
- Nelson, S.A. 98
- NEM *see* Newmont Mining
- network dynamics 2–3, 245, 303–13
- collective behavior 305–6
 - conclusions 311–13
 - financial contagion 306–13
 - markets 2–3, 245, 303–13
- Neu, Peter 214–15
- New Concepts in Technical Trading Systems* (Wilder) 69
- new market dynamics 1–11
- Newmont Mining (NEM) 43–50, 71–5, 79, 280–1
- news events 113, 114, 135–7, 141–4, 157–8, 213
- Nicholas, Joseph G. 186–7
- Nikkei 225 index 214, 308–9
- 'noise', financial markets 1–2, 4, 19, 37, 45, 221–3
- NOK 173
- nonalignments 40, 95–133
- see also* comparative quantile analysis
- nonconfirmations
- see also* divergences
 - concepts 96–100, 102
- Nordstrom (JWN) 131–3
- normal distributions 138–42, 203, 216–18, 221–5, 239–40, 245, 267–9, 273–4
- see also* standard deviations
- normal phase, market behavior 42–3
- NORMSINV Excel function 268
- NR7 pattern 27–35, 120
- NTRI 173
- NVI *see* Negative Volume Index
- NYSE 3–4, 292
- OBV *see* On Balance Volume
- oceanographic studies 224–5
- October 1987 market crash 7, 138, 141, 144, 157, 199, 213, 228, 245
- Office Depot (ODP) 28–31
- OHLC data 25–7, 40–2, 95
- On Balance Volume (OBV) 59–64
- see also* volume
 - calculation formula 59
 - concepts 59–64
 - index variant 61
- on-the-run arbitrage 185–7
- see also* arbitrage
- open outcry model, concepts 16
- opening price breaks
- see also* gaps
 - additional strength 174–5
 - concepts 164–9, 173–8
 - price reversals 173–4
- opening price gaps
- see also* gaps
 - concepts 164, 170
- opening range breakout 27–8, 34–5
- option-writing strategies, regime shifts 229–32
- options 161, 229–32
- see also* derivatives
 - regime shifts 229–32
 - 'selling or going short volatility' 229
- order books
- electronic order books 16, 155–6
 - liquidity 15–16, 24–5, 156
- OSG *see* Overseas Shipholding Group
- OSI Pharmaceuticals (OSIP) 108–9
- out of the money options, regime shifts 229–32
- 'outlier' events 37, 217, 241, 244–6, 297
- see also* crashes
- output statistics, quality of data 37, 41–2
- outside days 26–7
- overhead resistance 31, 110, 198, 306–8
- 'overnight gap' events 16, 244
- overnight price breaks
- see also* gaps
 - concepts 166–70, 244–6
- overnight risk
- see also* gaps
 - concepts 244–6
- Overseas Shipholding Group (OSG) 79–81
- P&L range, extreme trend days 16–35, 202
- P/E (price-earnings) ratios 9, 236–7
- PAAS *see* Pan American Silver
- pairs trading
- see also* relative value trades
 - concepts 187–92, 199
- Pan American Silver (PAAS) 174, 280–1
- Pareto, Vilfredo 217–18, 303
- past performance, future results 180
- Patelli, Paolo 234
- pattern analysis
- definitions 16–17
 - extreme trend days 10–11, 16–35, 38, 139–44, 198, 202, 215–16
 - forecasts 26–35
 - range contraction 25–35
 - reversal days 26–7, 31, 119–20

- pattern recognition
 candlestick techniques 26, 28–34, 75–7,
 108–21, 306–8, 313
 critique 202–3
 dissonance 100–6
 Doji formations 28–35, 75–7, 118–21
 double top formation 115–21
 flags 71–5, 92, 102, 108–18
 Gartley patterns 106, 121, 126–33
 Hanging Man formation 118–21
 head and shoulders patterns 28
 Hikkake patterns 121–6
 inside days 26–35, 115–21
 NR7 pattern 27–35, 120
 OHLC data 25–7, 40–2
 plateaus 96–8, 102–5
 pullback channels 31, 71–2, 75–9, 92, 102,
 104–8
 Spinning Top formation 115–18
 staircase pattern 92
 pattern templates 1–2
 ‘Patterns to Profits’ study (Williams)
 26–7
 Paulos, John Allen 304–5
 PD *see* Phelps Dodge
 pennants 121
 see also flags
 pension funds 5–6, 61–2, 104–5
 see also institutional investors
 PERCENTILE Excel function 38–9
 percentiles 38–57
 see also quantiles
 percolation lattices 2, 235
 percolation model, liquidity 24–5, 305–6
 Pesavento, Larry 131
 PG *see* Procter & Gamble
 ‘phase transition’ occurrences
 liquidity 24
 natural sciences 23
 Phelps Dodge (PD) 84
 ‘phynance’ 2
 physics 2, 23–4, 163, 204, 206–20
 pits, exchanges 4
 plateaus 96–8, 102–5
 portfolio insurance 104, 313
 portfolio management 135, 245–9, 257–64,
 283–302, 313
 portfolio performance
 alpha 283–302
 measures 257–64, 283–302
 portfolio theory 141–2, 183, 253, 265–82
 see also diversification
 complex portfolios 274–82
 concepts 265–82
 historical background 265–7, 270–2
 two-asset long/short portfolio 270–4
 portfolio volatility 268–9
 position sizing
 hedge ratios 278–82, 313
 money management techniques 253–6,
 278–82, 313
 positive feedback 25, 114
 Positive Money Flow, Money Flow Index (MFI)
 64–8
 Positive Volume Index (PVI) 63–4
 positive/negative sessions, money flow analysis
 68–93
 Poundstone, William 249
 power laws 2, 175–8, 201–20, 303–4
 see also inverse square law
 characteristics 205, 207–9
 different exponents 175–8, 207–8, 213–16
 Internet 306
 inverse cubic law 207–8, 213–16
 Pareto formula 217–18, 303
 predictions 211–16
 seismicity 209–13, 303
 predator/prey model, collective behavior 198
 Prediction Company 233
 predictions
 see also forecasts
 power laws 211–16
 premiums, volatility 156–60
 price congestion 65–8
 price development 5, 14–35, 42–57, 59–93,
 114–16, 305–6, 311–13
 accumulation/distribution divergences 7, 59–93
 data-selectivity considerations 42, 69
 dissonance 100–6
 Dow Theory 98–100
 Fibonacci ratios 128–31
 gaps 163–78
 price development influences 25, 305–6
 ‘pump and dump’ strategy 5
 random walks 140, 143–4, 192–7, 201–20
 trajectory issues 163, 203–4, 247–8
 turning points 31–4, 37–57
 price direction 13–35, 37–57, 71–83, 203–4,
 305–6
 price discovery 2, 13–35
 price driven volume, concepts 85–93
 price envelopes 40–1
 price formation 2–3, 24–5, 304–6
 price gaps *see* gaps
 price geometry, OHLC data 25–7, 95
 price targets, flags 110–14
 price to book ratios 236
 price-earnings (P/E) ratios 9, 236–7
The Principles of Geology (Lyell) 204–5
 probability
 statements 203
 theory 138–42

- Procter & Gamble (PG) 280–1
 ‘profit-taking’ moves 113
 profits 83–93, 100–5, 113, 184, 240–4, 250–1, 313
 see also gains; returns
 ‘cut losses and let profits run’ 240–4, 313
 dissonance opportunities 83–93, 100–5, 184
Profits in the Stock Market (Gartley) 126–7
 program trading, algorithmic trading 6–7
 projection/profit matrices 27
 proprietary trading, trends 1–2
 pseudo-regression approaches 46–50
 psychological elements
 collective behavior 198, 234–5, 304, 312
 flag patterns 113–15
 herding behavior 232, 234–5, 312
 risk 240
 pullback channels 31, 71–2, 75–9, 92, 102, 104–8, 110–21, 128–33
 see also flags; range expansion
 concepts 102, 104–8, 110–14, 128–9
 definition 106
 Gartley patterns 106, 121, 126–33
 Hikkake patterns 121–6
 ‘pump and dump’ strategy 5
 PVI *see* Positive Volume Index
- QCOM *see* Qualcomm
 QQQQ, NASDAQ 39–41, 168–9, 174
 Qualcomm (QCOM) 165–77
 quality of data, output statistics 37, 41–2
 quantiles
 see also median
 comparative quantile analysis (CQA) 40, 42–57, 62, 68–93, 95–6, 184
 concepts 38–41, 68–93, 95–6, 101, 150–5, 184
 data-selectivity considerations 41–2, 69
 definition 38
 dissonance 101
 examples 39–41
 market-behavior phases 42–3
 windows 39–40, 101
 quantitative techniques 2, 9, 37, 265, 297–8
 quiet volume sessions 62–4, 65, 68, 86–92, 120–1, 197–8
 see also volume
 quite phase, market behavior 42–3
- rallying phases 31–4, 48–50, 53–6, 59–60, 79–83, 104, 108–10
A Random Walk Down Wall Street (Malkiel) 203
 random walks 140, 143–4, 192–7, 201–20
 concepts 192, 201–20
 critique 202–4, 216–17
 definition 202–3
 linear bias 203–4
 metaphors 203–4
 technical analysis 202–3
 trajectory fallacy 203–4
- range contraction
 breakouts 27–35
 concepts 25–35
 OHLC data 25–7
 trend days 34–5
- range expansion
 see also pullback channels
 concepts 13–35, 43, 73–5, 95, 106–8, 112–14, 126, 215–16
- Raschke, Linda Bradford 14–15
 rationality 234, 237–8
 ratios 9, 27–8, 106–8, 128–31, 236–7, 257–64, 277–82
 see also individual ratios
- RD *see* Royal Dutch
 real-time monitoring, interim profit and loss
 accounts 7–8
- reflexivity, financial markets 24–5, 304–6
- regime shifts
 agent-based modeling techniques 232–6
 causes 232–6
 concepts 223–38
 detection techniques 224–7
 marine life 224–5
 model benefits 238
 option-writing strategies 229–32
 out of the money options 229–32
 S&P 500 225–32
 turning points 235–8
 volatility 140, 149–52, 196–7, 223–38
- regression analysis, closing bias/actual price
 45–50
- Relative Strength Index (RSI) 64–8, 91–2, 115–21
 see also Money Flow Index
- relative value trades 186–92
 see also pairs trading
- repo agreements 186
- research and trading costs, separation proposals
 5–6
- resistance 31, 110, 198, 306–8
- retail investors
 diminishing role 1–2
 dumb money 61–4
- retracements
 see also pullback channels
 comparative quantile analysis (CQA) 43–56
 concepts 43–56, 106–8, 110–14, 128–31
 Fibonacci ratios 106–8, 128–31
 flags 110–14
- returns
 see also profits
 alpha 237, 283–302

- returns (*Cont.*)
 Calmar ratio 257, 260–4
 log returns 285–9
 long/short strategies 1–11, 45–56, 60, 102, 133, 156–7, 179–80, 245, 253–7, 270–7, 293–4, 306–13
 ranked returns 263–4
 ratios 257–64, 277–82
 risk 27–8, 239–45, 265–82, 289–90
 Sharpe ratio 258–64
 simple returns 285–9
 standard deviations (STDs) 239–40, 244, 265–74
 Value at Risk 141–2, 238, 266–9, 273–82, 313
 The Revelation of St John 205
 reversals 26–7, 31, 119–20, 173–4, 245
 opening price breaks 173–4
 pattern analysis 26–7, 31, 119–20
 RFR *see* risk-free rate of return
 Richter scale 209–11
 risk 10, 135–7, 166–70, 180, 239–46, 265–82
see also volatility
 arbitrage 186–92
 aversion 253–4
 Calmar ratio 257, 260–4
 concepts 239–45
 definitions 239–40, 244
 disclosure notices 180
 exposures 7–8
 gaps 166–9, 244–6
 immanence 10, 211
 money management techniques 239–45
 overnight price breaks 166–70, 244–6
 psychological elements 240
 ratios 27–8, 257–64, 277–82
 returns 27–8, 239–45, 265–82, 289–90
 Sharpe ratio 257, 258–64
 standard deviations (STDs) 239–40, 244, 265–74
 Value at Risk 141–2, 238, 266–9, 273–82, 313
 ‘risk free’ trading 195
 risk management 1–2, 141–2, 245, 253–4, 270–82, 294–5
 risk-free rate of return (RFR) 258–60
 risk/reward ratio, NR7 pattern 27–8
 Robbins World Cup Trading Championships 251
 Royal Dutch (RD) 191–4
 RSI *see* Relative Strength Index
 rupture dynamics
see also crashes
 case study 118–21
 concepts 114–21
 Russell 2000 index 33–4, 137, 144–55, 283, 298–9
 Russell, Richard 98–100
 Russian debt default (1998) 3, 9, 136–7, 185–6
 RW *see* random walks
 S&L problems 136–7, 141
 S&P 500 6, 27, 102–5, 136–61, 165–78, 182–3, 225, 245, 279–80, 283–9, 296–9, 306–8
 alpha case study 284–9
 regime shifts 225–32
 SPY 165–78
 volatility 136–61, 201
 Salomon Brothers 185, 289–90
 sand piles 2, 206–9, 212, 303
 Sante Fe Institute, New Mexico 233–4
 SC *see* Shell
 scalpers 13, 14–35, 240
 Schwager, Jack 14, 35
 screens, network dynamics 304
 seismology 2, 10, 209–13, 303
 selectivity considerations, data 41–2, 69
 self-organized criticality (SOC) 26, 198, 205–7
 concepts 26, 205–7
 definition 206
 self-organizing economy, financial economy 9
 self-regulation 198
 sell signals 31, 84–6
 sell-offs 53–6, 104, 108–10, 156–7, 306–8
 sell-side parties 5–6
 ‘selling or going short volatility’ 229
 Shannon, Claude 249
 Sharpe ratio 257, 258–64
 Sharpe, William F. 259, 265
 Shell (SC) 191–4
 short/long strategies *see* long/short strategies
 signed volume
 money flow concepts 68, 70–93
 solitary uses 83–4
 Silverman, Andrew 6
 Simons, Jim 179, 190–1
 simple returns, concepts 285–9
 six sigma events 154–5
 skewness 221–3
 ‘sliced and diced’ orders 5, 155–6
 small capitalization stocks, Russell 2000 index 33–4, 137, 144–55, 283, 298–9
 smart money
 concepts 61–4, 86–92
 ‘footprints’ 4–5, 62–4
 Smart Money Index (SMI) 63–4
 SMI *see* Smart Money Index
 SOC *see* self-organized criticality
 Solomon, Sorin 218
 Sorensen, Eric 289–90
 Sornette, Didier 115, 207, 209, 211, 217, 228, 235–6

- Soros, George 179, 239–40, 244
 Sortino ratio 257, 260–4
 SPDR 165
 see also SPY
 spectrum of values
 see also quantiles
 market metrics 38, 42
 spikes 47–50, 55–6, 110, 114, 137, 141–4, 158,
 160, 245, 306–8, 312
 Spinning Top formation 115–18
 spread trading 180, 191–2, 199
 see also convergence
 spreadsheets 38–9, 43, 46, 142
 SPY 165–78, 296–9
 staircase pattern 92
 Standard & Poor's 500 *see* S&P 500
 standard deviations (STDs) 25, 37, 135, 138–44,
 192, 217–18, 221–32, 238–40, 244, 247,
 258–74, 289–91, 313
 see also volatility
 drawdown values 247
 risk 239–40, 244, 265–74
 Stanford University 157
 stationarity
 concepts 192–3, 203, 221–38
 testing 222–3
 Stauffer, Dietrich 235
 STDs *see* standard deviations
 'stealth' advantage, algorithmic trading 7–8
 step-ups 92–3
 sterling ratio 257, 260–4
 stochastic volatility 224
Stock Market Logic (Fosback) 62–3
 structural breaks *see* regime shifts
 Struzik, Z. 228
 supply chain management 304
 swarming behavior 232, 312
 synthetic financial instruments 2–3
- t*-test 222–5, 267–77
 TABB Group 3, 5–6
 Taleb, Nicholas 217, 229
 tame beta 255–7
 Taser International (TASR) 111–12
 technical analysis 1–2, 6–7, 13–35, 37–41, 42–57,
 62, 70–93, 126, 202–3, 237, 311–13
 abstract territory 202–20
 algorithmic trading 2, 4–11, 62, 101, 108, 120,
 125, 155–6
 comparative quantile analysis (CQA) 40,
 42–57, 62, 70–93
 critique 202–3, 237
 divergences 40, 95–133
 Dow Theory 98–100
 gaps 16, 26–7, 163–78
 landmark publications 25
 legacy indicators 6–7, 9, 14–15, 39–41, 100
 market timing 236–8, 313
 momentum indicators 27, 38, 91, 95, 96–121
 money flow 6–7, 59–93, 95, 110–14, 115–21
 random walks 202–3, 216
 smart money 61–4, 86–92
 volume 6–7, 13–35, 38, 43, 59–93
 'worthlessness' 202–3
 techniques 1–11, 59–62, 236–7, 313
 new techniques 1–11
 traditional techniques 2, 3–4, 7–8
 technologies, transaction technologies 1–2
 Terminal Wealth Relative (TWR) 251–2, 257–8,
 261–2
 terrorist attacks 135–7, 157, 160, 213
 Thorp, Edward 199, 249
 tick by tick data 208–9
 time series 37–57, 71–83, 140–9, 216–20
 alpha values 289–90
 comparative quantile analysis (CQA) 40,
 42–57, 71–83
 data-selectivity considerations 41–2, 69
 granularity 25, 214–15, 289–90
 Mandelbrot distribution model 216–20
 quality of data 37, 41–2
 stationarity 192–3, 203, 221–38
 volatility clustering 140–55, 201–2, 223–5,
 226–7, 234, 238, 244–6
 'time to wait' issue, flags 113–14, 125–6
 tiny candlesticks 31–4, 113, 306–8
 see also candlestick techniques
 Toll Brothers (TOL) 106–8
 tools 1–11, 59–62, 236–7, 313
Toward Agent-based Models for Investment
 (Farmer) 233
 tracking indices 195–7
 traders 4, 13–35, 106–8, 113–14, 120–1, 126,
 128–31, 234, 236–8, 240, 303–13
 'cut losses and let profits run' 240–4, 313
 Fibonacci ratios 106–8, 128–31
 flag patterns 113–14, 126
 market timing 236–8, 240, 313
 network dynamics 2–3, 245, 303–13
 traditional markets 4
 zero intelligence 234
 trading activities
 automated trades 2–3, 4–11
 network dynamics 2–3, 245, 303–13
 trading hubs 304, 306
 trading limits, brokers 7–8
 TradingMarkets.com 160–1
 traditional techniques 2, 3–4, 7–8
 trajectory issues, prices 163, 203–4, 247–8
 transaction
 fees 306
 technologies 1–2

- transparency issues 5–6
- trend days
 concepts 10–11, 14–35, 38, 197–9, 202, 215–16
 dangers 15
 extreme trend days 10–11, 16–35, 38, 139–44, 198, 202, 215–16, 245
 importance 14–15, 38, 202
 range contraction 34–5
- triangles 121
see also flags
- trigger points, flags 110–14
- true range, money flow concepts 68–93, 95
- turning points 31–4, 37–57, 64, 71–93, 98–100, 104–6, 160–1, 197–9, 235–8, 305–13
 cointegration 197–9
 comparative quantile analysis (CQA) 40, 42–57, 71–93
 confirmations 98–100
 micro-analysis 74–5
 regime shifts 235–8
 Smart Money Index (SMI) 64
- twilight zone line, option-writing strategies 231–2
- TWR *see* Terminal Wealth Relative
- TZOO 173
- Uniformitarianism 205
- unit trusts 1
see also mutual funds
- University of Reading 193
- upper quantile values
see also quantiles
 concepts 38–57, 71–93, 95–6, 150–5
- upward triggers 34–5
- US
 Federal Reserve 9–10, 157, 312
 Geological Survey (USGS) 209
 Treasury market 27, 185, 190–2, 310
- Value Added Monthly Index (VAMI) 246–7, 257, 258, 260–2, 284–5
- Value at Risk (VaR) 141–2, 238, 266–9, 273–82, 313
 concepts 266–9, 273–7, 313
 critique 273–4, 313
 expected returns 277–82
- VAMI *see* Value Added Monthly Index
- VaR *see* Value at Risk
- variance
see also volatility
 concepts 135, 143–4, 226–7, 239–40, 267–74
- Vince, Ralph 251–2
- virtual traders 234–5, 304
- viruses 234–5
- VIX *see* Volatility index
- volatility 42, 65, 69–70, 92, 95, 102, 135–61, 189–92, 201–2, 223–38, 284–90, 298–9, 311–13
see also standard deviations; variance
- algorithmic trading 155–6
- buy-write strategies 156–9
- clustering 140–55, 201–2, 223–5, 226–7, 234, 238, 244–6, 264
- concepts 42, 135–61, 201–2, 311
- confirmations 137
- correlation 148–9
- divergences 137
- Gaussian assumptions 139–44, 201, 313
- implied volatility 135–7, 157–9
- increases 152–5
- interday/intraday contrasts 42, 137–40, 149–52
- liquidity 156
- low volatility epoch 149–52, 156–9, 231–2
- maximum drawdowns 135, 246–9, 261
- mean reversion 142–3, 311, 313
- measurement methods 135
- phase transitions 142–3
- portfolios 268–9
- premiums 156–60
- price fluctuations/movements contrast 147–8
- regime shifts 140, 149–52, 196–7, 223–38
- Russell 2000 index 137, 144–55, 283
- S&P 500 136–61, 201
- 'selling or going short volatility' 229
- Volatility index (VIX), CBOE 135–7, 149, 156–9, 224–5, 310–12
 critique 137, 159–61, 310–11
 interpretation problems 159–61
 uses 135–7, 149, 159–61, 224–5, 310–11
- volume
see also accumulation/distribution analysis
- case studies 71–83, 118–21
- closing bias driven volume 85–93
- concepts 6–7, 13–35, 38, 43, 59–93, 95, 110–18
- Dow Theory 98–100
- flags 110–18
- leading-indicator assessment 59–93
- money flow analysis 6–7, 59–93
- Money Flow Index (MFI) 64–8, 79, 90–2, 109–14, 115–21
- Negative Volume Index (NVI) 62–4
- On Balance Volume (OBV) 59–64
- Positive Volume Index (PVI) 63–4
- 'precedes price' assumption 59, 61
- price driven volume 85–93
- quiet volume sessions 62–4, 65, 68, 86–92, 197–8
- signed volume 68, 70–83
- smart money 61–4, 86–92

-
- technical analysis 6–7, 13–35, 38, 43, 59–93
 - tools 59–62
 - Volume Weighted Average Price (VWAP) 5
 - Wald statistic 226
 - Wall Street Journal* 98
 - WCS *see* worst case scenarios
 - wedges 121
 - see also* flags
 - When Genius Failed* (Lowenstein) 185
 - whipsaws 35
 - white noise 221–3
 - Why Stock Markets Crash: Critical Events in Complex Financial Systems* (Sornette) 207
 - Wikipedia 206
 - wild beta 255–7
 - Wilder, J. Welles 69
 - Williams, Larry 14, 25–7, 34–5, 251
 - win ratio 240–4, 250–1
 - win/loss matrix 240–4, 250–1
 - windows, quantiles 39–40, 101
 - ‘winning streaks’ 245, 263
 - Wolfram, Steven 234
 - World Trade Center (WTC) 135–7, 213
 - World Wide Web *see* Internet
 - worst case scenarios (WCS), extreme money management ideas 251–2
 - writers, options 229–32
 - WTC *see* World Trade Center
 - Y2K mania 157
 - Yamamoto, Y. 228
 - zero intelligence, traders 234
 - Ziemba, William 249
 - zigs and zags, intraday charts 13–14, 161, 304–5
 - Zovko, Ilija 234
- Indexed compiled by Terry Halliday*

