Index

ABN AMRO Bank, 155
Absolute return strategies, 389
Absolute return vehicles,
230–231, 352
Absolute returns, 342, 354, 400, 470
Acquisition activity and average
premium, 273
Actions, event creation of, 223
Active management for long-term
investment, 187
*Active Portfolio Management*
(Grinold), 170n5
Active return, 352
Activism
costs of, 51
in private assets, 52
in public markets, drawbacks to,
349–350
return enhancement through,
50–53
risk avoidance by, 132
unhedged arbitrage, 152
Activist initiatives, 151
Agency risk, 189, 192, 404, 405,
408, 459
Alaska Permanent Fund
Corporation, 379
Algorithmic trading, 280, 463
Allocation decision management
about, 396, 451–452
decision hierarchy, 465–468
dowment model, 457–459
governance and investment
decision-making, 452–457
hedge fund replication, 462–465
outsourcing, 459–462
Allocation decisions
about, 320–321, 419–420
exposure and rebalancing,
421–423, 426–429
neutral weighting, 421–423
new allocations, 423–426
orders of, 398–402
policy considerations, 429–431
targets, 50, 427, 447
Alpha, beta as, 244
Alpha identification, 112
Alpha-seeking investment
techniques, 47
Alternative and conventional
investments, tactical allocation
between, 319–321
Alternative investment portfolio,
311–316
Alternative investments
allocation models and, 91–92
environment of, 473
institutional liquidity and, 288–293
institutionalization of, 124
macroeconomic trends vs. transitory trading, 315
management, 281
managers, 282
optionality of, 91, 267–269
performance of, 470
questions regarding, 420
return characteristics of, 91
risk exposure, 404
from short-term direct lenders, 245
tactical allocation among, 315
Alternative investments and investment theory
about, 343–344
diversification perspectives, 349–350
information efficiency, 352–355
information efficient ecologies, 355–357
information levels, 348–349
investment strategies in environmental context, 350–352
investment strategies in information ecologies, 344–347
Alternative investments levels of institutional liquidity, 293–294
Altria, 224, 266
American Depository Receipts (ADRs), 26
Analysis sequence impacts, 371
Analytical resource sharing, 159
Anheuser-Busch, 149–150, 153, 273–274
Anson, Mark, 47, 120n5, 267, 368, 447
Arbitrage. See also fixed-income arbitrage; merger arbitrage approaches to, 390
and Capital Asset Pricing Model, 247
convertible, 199–200, 226, 332
diversification of, 389–391
leverage costs of, 390
non-linearity of, 247
within oil complexes, 175
operational risks of, 340
perfect, 31
relative value, 201
returns from, 26
reverse, 157
risk, 27, 338
risk-avoidance vs. return-seeking in, 44
riskless, 26, 32, 42
statistical, 27–28, 29
systematic, 179
tail-risk of, 390
volatility, 171–174
volatility effects of, 392
yield-curve, 202, 204
Arbitrage investments
diversification across, 390, 391
non-linearity of, 247
Arbitrage opportunities, 24, 201
Arbitrage pricing theory, 72
Arbitrage strategies
about, 25–29
defined, 19
vs. directional strategies, 369–370
factor loading of, 247
in institutional portfolios, 391
risk to, 29
use of, 246–248
Arbitrage technique purity, 179
Arbitrage trade, leverage in, 156
Arbitrage-based strategies, 373
Arbitrageurs
information ecologies of, 344
liquidity requirements of, 340
Arrangement pricing theory, 201
Artworks
investment technique classification, 376
liquidity information levels, 350
price discovery for, 303
valuation difficulty, 88
Asset allocation buckets, 229, 316, 320
Asset base shrinkage, 284
Asset categorization alternatives, 366–368
Asset class buckets, 381
Asset classes. See also classification of investments
categories of, 364
diversification by, 365
history of, 362–365
Asset control, 256
Asset-based classification, 372
Assoé, Kodjovi, 378
Asymmetric return patterns, 262
Asymmetric return profile, 254
Asymmetric return structure, 265
Autocorrelation, 90–91
Automated trade discovery, 280
Backwardation, 44, 239
Bank of New York, 408
Barbell structure, 458
Barclays Capital fixed-income indices, 89
Barclays Capital U.S. Aggregate Bond Index, 114
Barclays Global Capital U.S. Aggregate Index, 206
Basis trades defined, 202
Bayes factor, 73n2
Bear market performance, 230
Behavioral finance, 95
Benchmarks, 35, 397
Beta
as alpha, 244
defined, 105n1
hedge against, 106
Beta exposure, 106, 108, 157, 266
Beta hedging, 114, 116–117
Black, Fischer, 241
Black box trading, 280–281
Black Monday, 71
Black swans, 72
Boesky, Ivan, 141
Bond laddering, 34
Bonds, 23
Bookstaber, Richard M.
classification system of, 374
on information in high-energy-state, 351
on investment techniques’ half-life, 165n3
investments after, 325–326
on liquidity habitats, 343
on “malling” of Wall Street, 328, 342
on Markowitz diversification, 327, 343
on subjective risks, 409–410
on systemic risk, 407
Borrowing, 38
Borrowing for liquidity requirements, 296–297
Boston University, 189, 197
Bounded trades, 157, 271, 276
Bowie Bonds, 187
Bridge equity, 189
Brinson, G. P., 118, 371, 427
Broker-dealers, hedge funds as, 166
Bubbles, 276. See also market crises
Bucket-think, 319, 320, 365, 380
Bufferd, Allan, 458–459
Butterfly structure, 212
Butterfly trade, 203
Buy straddle, option payoff diagram for, 165
Buy-and-hold income investment, 274
Buy-and-indefinitely hold investment, 271, 272
Calendar trades, 175
CalPERS, 51, 379
CalPERS Investment Committee, 453, 467
CalSTRS, 379
Campbell, John Y., 435
Campbell, Rachel, 46
Cap rates on real estate, 302
Capacity constraints on firms, 283
Capital asset pricing model (CAPM) and arbitrage, 247
commodity pricing within, 241–242
fixed-income arbitrage beta, 205
market philosophy of, 337
underestimate of risk by, 72
“zeta” factor caricature, 243
Capital gains, 387
Capital preservation. See preservation of capital
Capital-structure arbitrage defined, 202
Carlyle Group, 190, 281
Cash flow, 386
Cash flow investments vs. directional investments, 351
Cash flow return on investment, 386
Cash flow strategies about, 19, 23–25
for alternative investments, 244–246
diversification of, 384–389
leverage as part of, 21
as liquidity providers, 341
for long/short equity, 108
risk to, 24
in sub-category scheme, 373
volatility level of, 370
Cash flow trades, 271
Cash leverage, 41
Catalysts, 112
Catastrophes, correlation of, 416
Categorization by investment strategy, 368–370
Charitable endowments, 382
Chicago Board of Options Exchange Volatility Index (VIX) future, 164
Chief investment officer (CIO), 227
Classification, vehicle-based, 368–370
Classification criteria, 375
Classification of investments about, 361–362
asset classes, history of, 362–365
categorization by investment strategy, 368–370
classification matrix, 370–373
by factors, 379–380
proposals regarding, 365–368
secondary categories, 373–379
Closed pension funds, 436
Closing and reopening, 283–285
Co-efficient of determination, 64
Co-investment, 196–197
Co-kurtosis and co-skewness, 395n3
Collars, 228
Collateral, 140
Collateral-based financing, 40
Collateralized debt obligations (CDOs), 133, 202
Collectibles, 88, 465
Commercial real estate, performance during market crises, 332
Commodities, volatility data for, 98
Commodity complex trades, 175
Commodity futures, convenience yields on, 262
Commodity Futures Trading Commission (CFTC), 55
Commodity prices/pricing, 241–242, 242, 278
Commodity trading advisors (CTAs), 174–175, 237, 314n1
Complex simultaneity, 402, 419, 445
Complex simultaneity notion, 13, 401
Compounding and volatility, 60–62
Concentrated positions, 256
Concentration vs. diversification, 255
virtues of, 256
Concentration measures, 193
Consultants, 460–461
Consumer lending, 127
Contact networks, 279, 318
Contango, 44, 56, 239
Continuous optionality, 265
Contrarian approach, 258, 474
Control, value of, 261
Control investment vs. passive investment, 259
Conventional investments environment, 473
Conventional portfolio holdings direct lending in, 136–140
event-driven investment in, 228–233
fixed-income arbitrage in, 214–215
INDEX

high-frequency trading in, 179–181
vs. long/short equity, 116–121
merger arbitrage in, 157–160
private assets for cash flows in, 193–198
Convertible arbitrage, 199–200, 226, 332
Convertible bonds, 264
Convexity, 262
Conviction, 443
Core/satellite approach, 214
Corporate bonds vs. direct lending, 140
Corporate credit habitat, 330
Corporate debt performance during market crises, 332
Corporate default risk, 139
Correlation and efficient frontier, 69–71
Correlation failure, 29
Correlation risk, 39
Correlation statistic, 64
Correlation(s). See also diversification about, 62–69
after market crises, 338
autocorrelation, 90–91
departures from, 177
to fixed-income benchmarks, 168
in long funds, 119
with merger arbitrage, 390
and portfolio liquidity during market crises, 325–329
serial correlation, 303
short correlation, 109
short-bias vs. counter-correlation, 113
Cost of carry, 108, 156
Cost reduction benefits vs. risk reduction, 255
Council of Institutional Investors, 51
Counter-correlation, 29, 45, 64, 66
Counter-correlation vs. short-bias, 113
Counterparty risk, 404, 405
Crash of 1987, 42, 46, 80, 301, 323, 327
Credit crunch, 324, 330
Credit exposure, 129
Credit morality, decline of, 131
Credit provision, 135
Credit quality, 138, 201
Credit ratings, 137, 200–201
Credit risk, 407
Credit-default swaps, 25
Credit-market default risk, 25
Credit-pair trading, 202
Crises. See also bubbles; Crash of 1987; market crises
credit crunch, 324, 330
plasma state of, 343
series of, 77
state of, 327
Cross-border mergers, 142, 154
Currency carry trade, 208
Currency hedging, 43
Currency management, 88
Currency price relationship, 242
Currency risk, 202
Data mining, 211
Day-trading, 20
Day-trading strategies, 168
Deal-flow, 282
Debt. See also distressed debt
corporate, 332
mezzanine, 127, 139
tax efficiency of, 39
Decision failures, 444
Decision hierarchy, 308, 402, 444, 465–468
Decision model, 378
Decision rules, 177
Default coverage, 25
Default risk, 25, 131, 136
Defaults, 23, 24, 45, 139
Defined benefit plans, 434
Definitions
arbitrage strategies, 19
basis trades, 202
Definitions (Continued)

- beta, 105
- capital-structure arbitrage, 202
- credit-pair trading, 202
- defined benefit plans, 434
- efficient frontiers, 400
- inflation trades, 202
- investment strategies, 17
- liquidity, 287
- mortgage trade, 202
- portfolio functions, 381
- return enhancers, 18
- swap-spread trading, 202
- tactical allocation, 48
- volatility generators, 18, 38
- yield-curve arbitrage, 202

- Deflation hedge, 417
- Delta hedges (dynamic option strategies), 42, 172
- Derivative exposure, 317
- Derivatives, 26
- DiBartolomeo, Dan, 87
- Direct lenders, 134
  - for cash flow shortfalls, 130
  - leverage use by, 125–126
  - sources of, 124
- Direct lending
  - about, 123–125
  - in conventional portfolio holdings, 136–140
  - vs. corporate bonds, 140
  - diversification in, 140
  - in funds of hedge funds, 124
  - as investment technique, 125–131
  - risks of, 131–136
  - transparency of, 132
  - volatility data for, 137
- Direct loans, 134
- Directional exposure, 213
- Directional hedges, 251
- Directional high-frequency trading, 178
- Directional high-frequency trading returns, 167
- Directional investments, 240–244, 351
- Directional strategies
  - about, 18–19
  - vs. arbitrage strategies, 369

- bounded by liquidity, 274
- diversification of, 391–394
- elements of, 391–392
- as liquidity providers, 341
- in sub-category scheme, 373
- types of, 20–23
- Directional trades, 55, 105, 392
- Directionally hedged transaction, 167
- Distressed debt, 20, 117, 125, 128, 274, 332
- Distressed debt category, 380
- Distressed debt investments, 340
- Diversification. *See also* vintage diversification
  - across event-driven strategies, 158
  - among liquidity habitats, 345
  - by asset class, 329, 365
  - vs. concentration, 255
  - cost and benefits of, 394
  - in direct lending, 140
  - vs. hedging, 42–43, 96, 121, 417
  - implementation of, 267
  - index illusion and, 84
  - opportunity cost reduction through, 414–415
  - and optionality, 265–267
- Diversification among strategies
  - about, 381–383
  - allocation decisions, orders of, 398–402
  - arbitrage, 389–391
  - cash flow strategies, 384–389
  - directional strategies, 391–394
  - investment strategies and portfolio function, 383–384
  - portfolio construction tools, 394–398
- Diversification and concentration, 254–257
- Diversification demand vs.
  - management capacity, 279
- Diversification perspectives, 349–350
- Dividend models, 250
- Dividend payments, 238
- Dividend payout ratio, 250
- Dividend yields, 249, 250
- Dividend-producing equities, 22
- Dividends, 105, 108, 147, 249
Dollar cost averaging, 34
Dorsey, Alan H.
  illiquidity discounts examination by, 303
  on notional leverage, 41
  on real estate categorization, 364n2
  on relative value strategies, 57
Duarte, Jefferson
  on correlation of fixed-income arbitrage, 210–211
  on optionality, 267, 389–390
  on skewness of fixed-income arbitrage, 215
  on strategies for fixed-income arbitrage, 205–208
Dubai Port Authority, 153
Due diligence
  on billable assets under management, 276
  of candidate managers’ actual trades, 151, 158
  control values through, 257
  costs and benefits of, 192
  of direct lending fund, 128–129, 134, 139
  of directional high-frequency products, 176, 180
  of funds of hedge funds, 48
  of fund’s operating capabilities, 179
  of hedge fund managers, 108
  on leverage and information advantage, 354
  lockups and notice periods, 291
  on management firm decision-making, 283
  of management size implications, 233
  for manager review, 179
  for manager selection, 158
  market-neutrality, 179
  notice periods, 133
  on operational and counterparty risk, 404
  personnel stability considerations, 165n1
  qualitative vs. quantitative techniques, 112
  short book construction, 119
  on trading firms, 179
  trading firms vs. private equity firms, 179
  transaction costs control, 176

Ecologies. See also information vs. habitats, 330n1
  and habitats, 347
  for long positions, 348
  for short-selling, 348
Economic visibility limit, 422, 442
Efficient frontiers, 70, 400
Efficient market hypothesis, 326, 327, 356
Ellis, Charles, 413
Embedded ecologies, 344
Embedded optionality, 261–265
Embedded options in merger arbitrage, 262
Embedded short-put positions, 263
Emerging managers, 282
Employee Retirement and Income Security Act, 457
Endowed institutions
  principal spending requirements, 388n2
  spending rates among, 294n3
  value decline, 297
Endowment model, 437, 457–459, 461
Endowments, 382–383, 457
Energy level, 343
Environment differentiation from techniques applied to assets, 350
Environmental context, investment strategies in, 350–352
Expiry dates, 93
Equity Hedge Index, 105
Equity investments, 364
Equity loans supply, 272
Equity markets
  ecologies of, 344
  embedded information ecologies, 344
Equity returns from public exposure, 50
Equity warrants, 125
Equity-market participants, 201
Estimation by analogy, 84
European (continental) model of private equity, 197n3
European Union, 153
Event-driven arbitrage, 142–143
Event-driven investment about, 217–219
bear market performance, 230
beta exposure for, 266
collar characteristics, 228
in conventional portfolio holdings, 228–233
correlation experience, 221
event opportunity time windows, 225–226
as investment technique, 219–223
vs. long/short investment, 222–223, 231–232
management size implications, 233
market beta avoidance, 224
market beta of, 221
market exposure, 220–221
portfolio turnover, 219
research-intensity, 226, 229
returns for, 224
risk of, 223–228
types of opportunities, 217–218
Event-driven managers, 160
Event-driven strategies, diversification across, 158
Events
examples of, 218
nature of, 219
selection of, 233
staging of, 223
uniqueness of, 225
Ex ante structured options, 267
Ex ante symmetry of returns, 267
Ex ante trades, 254, 266
Ex post performance measurement, 378
Ex post real options, 267
Ex post trades, 254
Excess returns, 352, 353
Exchange-traded funds (ETFs), 67, 230, 231, 462
Execution risks, 164, 175
Exits through trade sales, 346

Expiry dates, 109
Explanatory factors, 243
Exposure and rebalancing, 426–429
Exposure limits, 35
External experts, 446
Factor exposure, 193, 262
Factor loading, 247, 251
Factor models, 242, 247
Factor-based hedges, 318
Factor-based value at risk models, 267
Factoring, 130, 131, 132, 133
Factors, classification of investments by, 379–380
Fair value, 26
Fama, Eugene F., 364
Fama-French three-factor model, 242, 363n1
Farmland investment, 186, 194
Fat tails, 72, 73, 75
Fear indicator, 115
Federal Communications Commission (FCC), 146, 150, 152
Fee level reductions, 464
Feshbach Brothers, 348n1
Fetish for liquidity, 385
Finance
academic research in, 457
morality of, 248
Finance theory on diversification vs. concentration, 255
Financial engineering, 272
Financial futures, 166, 175
Financial prices, 209
Financial theory, 452
Financial time series, 76–77, 91–92
Finite trades, 157. See also bounded trades
Firm size, 280
Firm’s capacity constraint factors, 283
5 percent investment distribution requirement, 398
Fixed-cost constraints, 166n4
Fixed-income allocation, 246
Fixed-income arbitrage about, 199–202
in conventional portfolio holdings, 214–215
directional exposure in, 213
as investment technique, 202–208
kurtosis and skewness of, 214–215
leverage of, 207
operational risks in, 210
return dispersion among, 214
risk of, 208–214
Fixed-income beta, 205
Fixed-income instruments, 22, 53–54, 168
Fixed-income investments
asset class category, 364
performance during market crises, 352
Forecasting risk, 176
Forfaiting, 130, 131, 132, 133
Foundations
equity concentration in, 256n2
mission creep and agency issues, 435
perpetual, 382
tax-free status of, 382
Fractals, 161–162, 170
Fraser-Sampson, Guy
on fair market value, 81n1
on fetish of liquidity, 288
on illiquid instruments, 299
on liquidity in secondary market, 293, 316
on market liquidity, 428
French, Kenneth R., 364
Functional analysis of portfolio constituents, 319
Functional classification, 369
Fund capital absorption, 272
Fund risk reduction, 206
Fundamental analysis vs. quantitative analysis, 111
Fundamental categories of investments, 372
Fundamental investing, 163
Fundamental law of active management, 353
Fund-raising vs. investment, 459
Funds of funds index, 311
Funds of hedge funds, 124
Fung, William, 264
Futures markets
backwardation in, 239
contango in, 239
liquidity levels in, 275
Futures trading, 174
Gamma options, 262
Gates, 292–293, 449
Gaussian distributions, 174, 472
Gaussian statistical analysis, 72
General Electric (GE), 153, 335, 337
General partners, 52, 128, 259
of event-driven funds, 227
lobbying of, 191
tax treatment of, 190
Geographical-based classification, 372, 373
Global trading habitat, 328
Glosten, Lawrence R., 263
Gold, 70, 407, 417
Gold exposure, 69
Governance and investment decision-making, 452–457
Governance structures, 456
Government-backed instruments as deflation hedge, 417
Greater fool theory. See naïve quantitative methods
Greek options, 262
Grinold, Robert, 170n5, 352, 353, 354, 355, 363n1, 435, 463
Grosvenor estate, 23–24, 184
Growth Fund of America, 281
Grupo Modelo, 153, 155
Habitat sharing, 330
Habitats. See also liquidity
vs. asset or factor exposure diversification, 327
diversification among, 329
vs. ecologies, 330n1
and ecologies, 347
Handy, Alice, 319
Harvard Management Company, 453, 455, 467, 468
Hedge fund beta, 463
Hedge fund holdings, over-diversification of, 48
Hedge fund managers, concentration among, 282
Hedge fund replication, 462–465
Hedge Fund Research Indices (HFRI), 113
Hedge funds, 22
activities of, 199
asymmetric returns of, 267
audits of, 429
as broker-dealers, 166
illiquid holdings of, 83, 291–292
liquidation from positions in, 449
liquidity in secondary market, 293
multi-strategy, 48–49
in municipal bonds, 275
origins of, 103
replication technologies, 317
returns from, 90–91
risk management technique, 223n1
short exposures, 349
transparency and liquidity policies of, 314
Hedge funds indices
 replication of, 463
returns from, 469–470
Hedge overlaps, 41–42
Hedge ratios, 68, 114, 212, 338
Hedged convergence trades, 151
Hedges/hedging, 19, 37, 41–46
basic rules of, 111
against beta, 106
and diversification, 96
vs. diversification, 417
ex post reinterpretation of, 351
factor-based, 318
of illiquid exposure, 317
positive correlation of, 110
vs. return-seeking trade, 111
against volatility, 393
Hedging inaccuracy, 67
Hedging trades, 338
Henricksson, Roy D., 263
Herding behavior, 404, 408, 471
Hermeneutic circle, 459, 461
HFRI Asset-Backed Index, 209, 210
HFRI Equity Hedge Index, 220
HFRI indices, 206, 222
HFRI Merger Arbitrage Index, 142
HFRI Multi-Strategy Index, 311, 314
HFRX Volatility Index, 173
Hidden optionality, 407
Hierarchy of investments, 403–409
High volatility, risk of, 178
High-energy, diversification by counter-parties as protection from, 327
High-energy behavior, 336
High-energy markets, multi-factor analysis affects from, 351
High-frequency arbitrage, 178
High-frequency arbitrage and systematic arbitrage, 179
High-frequency electronic trading models, 112
High-frequency trading about, 161–165
commodity trading advisors, 174–175
in conventional portfolio holdings, 179–181
ecology of, 347
in independent decisions in, 353
as investment technique, 166–171
liquidity habitat of, 346–347
.option straddles for, 264
performance during market crises, 331, 341
volatility arbitrage, 171–174
High-frequency trading performance during market crises, 341
High-yield bonds, 138
Honeywell, 153
Hospital endowments, 185
HRFX Market-Neutral Index, 113, 114
Hsieh, David A., 264
Hybrid investment activities, 185
Idiosyncratic risks, 211, 241
Illiquid exposure, hedging of, 317
Illiquid holdings, of hedge funds, 83
Illiquid investments, rebalancing of, 428
Illiquid securities, timing risk from, 54
Illiquidity discounts, 303–304
Illiquidity from gate imposition, 292n2
Illiquidity premia, 53, 138
Immeasurable risks, 410
Imperfect hedges, 110
Inbev, 149–150, 153, 273–274
Income-generating assets, 183
Independent decisions in high-frequency trading, 353
Index derivatives, 112
Index illusion, 84
Index products, 45
Indices
composition of, 110
correlation within, 84
Indiscriminate trading vs. trade bottleneck risk, 227
Inflation, 193
Inflation trades defined, 202
Information
outperformance through, 344
vs. trading behavior, 327
Information coefficient, 170n5, 352–353
Information ecologies
alternative investments in, 470, 473
investment strategies in, 344–347
vs. liquidity habitats, 343, 351
Information efficiency, 352–355, 356–357
Information efficient ecologies, 355–357
Information levels, 348–349
Information ratios, 352, 355
Information rights through mezzanine lending, 257
Informationless ecologies, 349
Infrastructure investment. See public infrastructure
Inherently bounded trades, 272–274
Inherently illiquid investments, 289
Initial public offerings (IPOs), 84
Institutional governance, 451
Institutional investments, management of, 452
Institutional liquidity
about, 287–288
alternative investments and, 288–293
alternative investments levels of, 293–294
liquidity premia, 302–304
and portfolio structure, 300–302
requirements of, 294–300
Institutional portfolios, arbitrage strategies in, 391
Institutional time horizon, 434–437
Institutions
directors’ liability, 189
nature of, 451
reputational risks, 190
Insurance, 416
Intellectual property, 186, 187
Interaction among investment strategies, 248–251
Interest rate options, 174
Internal rate of return, 30
Investment, long/short equity as, 105–108
Investment allocation models, 82, 91–92
Investment banks, 465
Investment committee decisions, 198
Investment fashions, 474
Investment firms, 283
Investment policymaking, 400–402, 422
Investment priorities, 398
Investment returns information, 18–20
Investment risk, 403
Investment role of liquidity, 244
Investment strategies, 344
defined, 17
in environmental context, 350–352
in information ecologies, 344–347
and portfolio function, 383–384
as tools for fulfilling portfolio functions, 383
Investment strategies in practice
about, 237–238
arbitrage strategies, 246–248
cash flow strategies, 244–246
Investment strategies in practice (Continued)
directional investment, 240–244
interaction among, 248–251
strategic promiscuity, 238–240
Investment styles vs. strategy, 240
Investment technique
direct lending as, 125–131
event-driven investment as, 219–223
fixed-income arbitrage as, 202–208
high-frequency trading as, 166–171
merger arbitrage as, 143–152
private assets for cash flows as, 186–189
used for non-investment goals, 383
Investment technique employment
classification, 374–375
Investment techniques, 458
Investment theory, 305–306
Investment time horizon, 437–440
Investment time horizons, 31
Investment value added, 354, 355
Investments, long lead-time, 425–426
Investor activism, 132
Investors Diversified Realty, 330
iShares S&P 500 Index Exchange Traded Funds, 280
Italian savings shares, 31, 32, 203
J-curve effects, 245, 386, 439
Jones, Alfred, 103
Kahn, Ronald N., 352, 353, 354, 355, 363n1, 435, 463
Keynes, John Maynard
on backwardation and contango, 239
on fetish for liquidity, 385
on liquidity, 288
on long-run mortality, 44
on why interest is paid, 242
Kirschner, Sam, 142n1, 156
Kritzman, Mark P., 378
Kurtotic distribution, 75
Kurtosis, 73
Kurtosis and skewness
in direct lending index, 138
of financial time series, 91–92
of long/short equity, 119–120
Learned, Michelle, 157–158
Lehman Brothers, 155, 213
Leverage, 37, 38–41
in arbitrage trade, 156
change with liquidity increase, 274
change with volatility reduction, 274
contribution of riskiness by, 208
economics on assets held for cash, 188
effects of incremental, 210
kurtosis and, 120
in merger arbitrage, 143
sources of, 40
from timing risk, 39
use by direct lenders, 125
Leverage costs, 147, 390
Leverage ratios, 120, 223–224
Leveraged buyouts, 188
Lhabitant, François-Serge
on alpha as driver for directional strategy returns, 244
on beta levels, 396
on CAPM philosophy vs. stock picking, 337
classification of investments by, 370
on diversification across event-driven strategies, 157–158
matrix scheme risk axis proposal by, 375–376
on results from non-linear regression, 263
on value-at-risk models, 292n2
Liability, 190, 431, 457
Lien financing, 134
Life cycle planning, 436
Life insurance settlements, 127
Limited partners, 136, 429, 431
Linear analytic methodologies, 248
Linear clones, 463–464
Linear multi-factor models, 247
Linear regression, 64
Liquidation costs, 132
Liquidation timing, 449
Liquidation value of an asset, 191
Liquidity defined, 287
dependency on, 276
excessive, 302
factors affecting, 289
hoarding of, 300–301
investment role of, 244
during market stress, 299
requirements of, 288
in secondary market, 293
speed of, 345
Liquidity challenges, 210
Liquidity environment, 343
Liquidity fetish, 425
Liquidity habitats
alternative investments in, 470
analysis of, 339
diversification among, 345
vs. information ecologies, 343, 351
Liquidity premia, 133, 302–304
Liquidity providers, 341
Liquidity reserve function, 300
Liquidity risk, 133
Liquidity risk acceptance, 53–54
Liquidity shortfall, 245
Liquidity supply during market crises, 331
Liquidity-based market understanding vs. efficient market hypothesis, 327
Liquidity-takers and liquidity-providers, 326, 339–342
Lo, Andrew W.
on autocorrelation of hedge fund returns, 90–91
on catastrophe reserves, 416
on clones of hedge funds, 463–464
on collective risk preference tools, 399
on fixed cost constraints on active traders, 166n4
on information ecologies, 343
information ecologies described, 344
information ecologies vs. liquidity habitat, 330
on negative autocorrelation among merger arbitrage returns, 143, 158
on phase-locking behavior, 45–46
on serial correlation, 303
on tail risk, 415–416
on timing benefits from short exposures, 349
Loan security, 129, 132
Loan size, 129
Locational arbitrage, 26
Lockups and notice periods, 124, 291, 292, 299, 399–400, 448
Long funds, 119
Long positions, 266, 348
Long tailed, 75
Long-bias investments, 118
Long-bias vs. positive correlation, 113
Longevity risk, 39
Long-only commodities, 82
Long-only fixed income investment risks, 310
Long-only portfolio management, 263
Long/short equity about, 103–105
cash flow strategies for, 108
vs. conventional portfolio holdings, 116–121
as investment, 105–108
kurtosis and skewness of, 119–120, 120n5
risk of, 108–116
Long/short investments vs. event-driven investments, 222–223, 231–232
performance during market crises, 331
Long/short trades, 167
Long-tail investments, 315, 437
Long-Term Capital Management (LTCM), 44, 208, 248
Long-term horizons, 434
Long-term investments, 31
Long-term lenders, 126, 135–136
Long-term OTC hedging contracts, 272
Long-term ownership, 184
Long-term prices vs. short-term prices, 163
Long-term private market investments, 353–354
Lookback straddle, 264
Low-cost options, 265
Low-energy state, 343
“Lumpers,” 200, 201, 472
Lumpy investments, 34
Lumpy returns, 219, 229

Macroeconomic trends vs. transitory trading, 315
Madoff affair, 404
Mainelli, Michael, 287
Malkiel, Burton, 120n5
“Malling” of Wall Street, 328
Man Group, 281
Management capacity vs. diversification demand, 279
Management services, 461
Manager review, 179
Manager selection, 118, 121, 158, 192
Managerial expertise, 444
Managers
  performance of, 311, 314
  responsibilities of, 279
  work load of, 192–193
Mandelbrot, Benoit, 71–72, 72n1, 94, 161, 170
Margin calls, 331, 431
Maritime charters, 193–194
Marked-to-market assets, 191
Market behavior during high-energy state, 336
Market beta, 395
  avoidance of, 224
  of event-driven investment, 221
  exposure to, 217
Market capitalization, 280
Market crises. See also bubbles; Crash of 1987; Credit Crunch
corporate debt performance during, 332
correlations after, 338
diversification during, 323, 326
effects on venture capital investments, 323
fixed-income investments performance during, 332
hedge ratios after, 338
high-frequency trading performance during, 331, 341
investments after, 325–326
liquidity supply during, 331
long/short investments performance during, 331
portfolio liquidity correlations during, 325–329
portfolio liquidity in aftermath of, 329–333
real estate investment performance during, 331
risk arbitrage after, 338
standard deviation after, 338
venture capital investments performance during, 330
Market efficiency assumptions, 258
Market efficiency hypothesis, 364
Market energy state, 326
Market interest rates, 278
Market isolation, 345, 347
Market liquidity, 24, 274–276, 428
Market neutrality, 116
Market portfolio, 96, 97, 242, 247, 255, 363
Market sentiment, 139
Market stress/crisis
  liquidity during, 299
  managing liquidity options after, 300
Market timing, 405
Marketing as management distraction, 283
Market-makers, 178
Market-neutral investments, 106, 157, 278
Market-neutrality, 179
Markets, globalization and consolidation of, 328
Market-timing, 34, 35, 157
  exposure to signals of, 158
  long position models, 263
  options to analyze, 267
Market-timing risk, 156
Markowitz, Harry, 72, 398, 407
Markowitz diversification, 327, 343
Mark-to-market instruments, 429
Mark-to-market valuations, 257, 345, 350, 427
Mars family, 184, 239
Master Limited Partnerships, 86, 259
Mean reversion, 114–115
  of non-symmetric correlations, 334
  periodicity of, 337
  speed of, 339
  of valuation levels, 277
  in volatility, 178
Mean-variance optimization, 72–73
Mechanical trading algorithms, 463
Merger activity cycle, 144–145
Merger arbitrage, 27, 29
  about, 141–143
  activist initiatives, 151
  attractions of, 143
  in conventional portfolio holdings, 157–160
  correlations with, 390
  embedded options in, 262
  examples of, 145–146
  hedge characteristics of, 148
  hedge fund strategy, 142
  information ecologies, 344
  intellectual/informational requirements of, 158
as investment technique, 143–152
  kurtosis in, 143
  leverage in, 143
  market timing, 147
  option decisions in, 266
  risk in, 152–157
  in short positions, 263
  size of, in United States, 273
Merton, Robert C., 90, 263
Metallgesellschaft, 44–45, 55, 239
Mezzanine debt, 127, 139
Mezzanine finance, 40, 134
Mezzanine funds, 125
Mezzanine investments, 355
Mezzanine lending, 130–131, 140, 257, 332
Mezzanine loans, 129
Michaud, Richard O, 397
Microcap environment, 347
Miller, Merton, 44
Modeling
  quantitative risk, 411
  vs. reality, 265, 464
  as risk control, 411
Models, 91–92. See also capital asset pricing model (CAPM);
  multi-factor models; value at risk models
  decision, 378
  dividend, 250
  European (continental) model of private equity, 197n3
  factor, 242, 247
  factor-based value at risk, 267
  Fama-French three-factor, 242, 363n1
  high-frequency electronic trading, 112
  investment allocation, 82, 247
  long position, 263
  non-linear regression, 263
  off-the-shelf, 348
  SABR (Stochastic, Alpha, Beta, Rho) models, 174
Modern financial theory, 174
Modern portfolio theory (MPT)
  asset classes, 363
  beta in, 105n1
  criticisms of, 94
  diversification effects in, 43
  diversification use, 96
  Gaussian distributions and, 472
  market efficiency assumptions of, 258
  vs. option value, 257
  outliers in, 95
  price change interpretation, 392
  return volatility as proxy for riskiness in, 229
  on transaction risk, 404
  underestimation of risk by, 72, 91
  on value of control, 261
  as working hypothesis, 92
Montier, James, 264
Moral hazard, 34, 37
Morality of finance, 248
Morningstar, 240, 363n1
Morningstar Style Box, 363
Mortgage trade, 202, 274
Mortgage-backed securities, 121
Mortgages, 127
Multi-dimensional risk
about, 403–405
within hierarchy of investments,
403–409
identification of, 409–413
opportunity cost, 413–415
tail risk, 415–418
Multi-factor analysis, 87n2, 242,
243, 251, 397
Multi-factor models, 242, 263,
410, 411
Multi-strategy hedge funds, 48–49
Multi-valued logic, 170n5
Municipal bonds, 274, 275
Näive quantitative managers, 40n1,
279, 331
Näive quantitative methods, 246,
338, 348–349, 463
National Venture Capital
Association, 280
Negative demand elasticity, 327
Negative skewness, 418
Neutral hedge ratio, 117
Neutral weighting of allocation
decisions, 421–423
New allocations, 423–426
1940 Act, 348
Non-directional strategies, 264
Non-Gaussian distribution, 371
Non-Gaussian domains, 174
Non-Gaussian statistical analysis, 178
Non-investment goals, 382–383
Non-linear regression models, 263
Non-linearity, 247
Non-normal distribution, 73, 75–76
Non-normality, 71–79
Normal market habitat, 333–339
Notation, 59–60
Notice periods, 291, 292

Oil and gas lenders, 135
Oil and gas properties, 185, 186
Oil complexes, 175
Oil prices, 27, 29
Omega function, 93
130/30 investments, 348
Open-ended funds, 197n3
Operational risks, 175, 210,
340, 404
Opportunism vs. vintage
diversification, 441
Opportunity cost, 20, 413–415, 418
Opportunity cost reduction,
414–415
Opportunity cost risk, 405
Opportunity pools as a category, 380
Opportunity screening, 212
Optimal portfolio, 70
Optimizers as estimation error-
maximizers, 397
Option management burden, 266
Option payoff diagram, 165
Option premium, 265
Option pricing, 42, 177–178
Option straddles, 56–57, 264–265
Option structures, 171
Option valuation, 260
Option value vs. modern portfolio
theory (MPT), 257
Optionality, 47, 68
about, 253–254
of alternative investments, 91
and alternativeness, 267–269
continuous, 265
and diversification, 265–267
diversification and concentration,
254–257
embedded optionality, 261–265
identification and analysis of, 390
meanings of, 254
with pre-payments, 205
real options, 257–261
and regression analysis, 389
return patterns for, 267–269
trading situations, 267
Option-analogues, convexity in, 274
Options
for market-timing analysis, 267
without volatility forecasts, 173
writing, 263
Options overlay, 267
Order flow, 55, 56
OTC derivatives, 213
OTC hedges, 317
Outliers, 95, 138, 215
Outsourcing, 452, 459–462
Over-collateralization, 132
Overlay hedges, 316–319

Pair trades, 156
Pareto principle, 395
Partial hedging, 24
Partner status, 318
Passive fund managers, 279
Passive investing, 465
Passive investment vs. control investment, 259
Pension funds, 30, 185
Pension plan sponsors, 457
Perception of risk, 406
Perceptual re-allocations, 316
Perfect arbitrages, 31
Perfect hedges, 19, 71, 114, 316
Per-period returns, 61
Perpetual bonds, 193
Perpetual foundations, 382
Perpetual institutions, 436
Phantom income, 137
Phase-locking, 178
Phase-locking behavior, 46, 336
Philip Morris International, 266
Photo archives investment, 186
Physical-against futures trades, 174, 175
PIMCO Total Return Fund, 281
PIPE (Private Investment in Public Equity) market, 53
Plasma state, 343
Policy allocation decisions vs. manager selection, 118
Policy committees, 399–400
Policy considerations, 429–431
Policy vs. tactics, 46–47
Policymakers tactical decision-making by, 446
and timing questions, 446–448
Portable alpha techniques, 41, 49, 267
Portfolio constituents, 319
Portfolio construction tools, 394–398
Portfolio drift, 298
Portfolio focus, 180
Portfolio functions defined, 381
of investment strategies, 383–384
of underlying assets, 315
Portfolio implementation issues, 425
Portfolio liquidity about, 323–325
in aftermath of market crises, 329–333
correlations during market crises, 325–329
effects on, 425
liquidity-takers and providers, 339–342
normal market habitat, 333–339
Portfolio oversight committees, 453
Portfolio rebalancing, 329, 388
Portfolio risk of new allocations, 424
Portfolio structure and institutional liquidity, 300–302
Portfolio termination, 448–449
Portfolio volatility, 415
Position size, 193
Positive carry, 208
Positive correlation of hedging, 110
Practical considerations bounded, 278–283
Predatory trading, 109n2
Pre-payment risk, 137
Preservation of capital, 381–382, 383
Price, 21, 25
Price appreciation vs. dividend yields, 249
Price convergence, 32
Price discount and enhanced yield, 302
Price discovery for artworks, 303
through transactions, 240
Price forecast failure, 108
Price movements, 163, 347
Price relationships among currencies, 242
Price series as fractals, 170
Price stability, 166
Price volatility, 55, 392
Price-aggregating screening techniques, 211
Pricing risk, 133
Prime office buildings, 194
Private assets
  active management for long-term
  investment of, 187
  activism in, 52
  investment issues, 420
  tax status of, 186–187
Private assets for cash flows
  about, 183–186
  in conventional portfolio holdings,
  193–198
  as investment technique, 186–189
  risks of, 189–193
  types of, 183
Private equity, 83, 86
Private equity investments
  performance during market
  crises, 331
Private market investments
  ecological isolation of, 346
  liquidity habitat of, 345
  liquidity requirements of, 341
Private market lending, 140
Privately traded assets vs. publicly
traded assets, 196
Procter and Gamble (P&G),
  335–336, 337
Prospect theory, 413
Prudent man rule, 471
Public exposure, 50
Public infrastructure, 185, 186
Public infrastructure
  investment, 264
Public market investments, 345
Publicly traded assets vs. privately
traded assets, 196
Publicly traded equities, 248
Publishing companies, 184
Purchasing power maintenance, 383
Pure tactical allocation, 49
Quantitative analysis vs. fundamental
analysis, 111
Quantitative investment
  management approaches, 242
Quantitative risk modeling, 411
Quantitative strategies, 348
Quantitative techniques, 430
Quantitative toolkit, 59–80
  compounding and volatility,
  60–62
  correlation and efficient frontier,
  69–71
  correlations, 62–69
  non-normality, 71–79
  notation, 59–60
  statistical calculations, outlier
  sensitivity, 79–80
  statistical significance, 62–63
Quantitatively-driven
  portfolios, 112
Random walk hypothesis, 170
Rapid dissemination of acquisition
information, 142n1
“Rational transparency,” 430
Raw land, 22
Real estate, 23, 83
  asset class category, 364
  cap rates on, 302
  cash flow, 386
  characteristics of, 424
  Dorsey on, 364n2
  institutional investments in, 385
  land grant universities, 184
  market size, 275
Real estate investment
  as convertible bond, 264
  investment character of, 264
  long-only portfolio management
  in, 263
  performance during market
  crises, 331
Real Estate Investment Trusts
  (REITs), 86, 426
Real estate lending, 130–131
Real options, 257–261
  costs and efficiency regarding, 258
  ex post trades, 254
  independent decisions
  regarding, 354
  long positions in, 266
Real options theory, 260
Reality vs. modeling, 265, 464
Risk and return
about, 17–18
arbitrage strategies, 25–29
cash flow strategies, 23–25
directional strategies, 20–23
investment returns information, 18–20
time, return and risk, 29–33
timing, 33–35
Risk arbitrage, 27, 338. See also merger arbitrage
Risk aversion, risks from, 421
Risk classification, 370
Risk control, 411
Risk estimation
about, 81–82
alternative investments and, 91–92
autocorrelation, 90–91
investment allocation model, 91–92
time, application of, 95–99
time, uncertainty, 92–95
volatility estimation, 82–89
Risk factors of short positions, 109
Risk management
requirements, 257
Risk management technique, 223n1
Risk policy issues, 425
Risk premiums, 244
Risk reduction vs. cost reduction benefits, 255
Risk taken in tactical allocation, 310–311
Risk-control measure, 329
Riskless arbitrage, 26, 32, 42
Riskless bond prices, 387
Riskless investments, yields on, 383
Riskless strategies, 301
Risks
do direct lending, 131–136
from illiquidity, 408
of private assets for cash flows, 189–193
from risk aversion, 421
types of, 408
Roll yields, 31, 238, 239, 383, 462
Rolling futures, 44
SABR (Stochastic, Alpha, Beta, Rho) models, 174
S.C. Johnson & Son, 24, 184, 239
Seasonal trades, 175
Secondary market discount pricing, 294
Security borrowing costs, 147
Security selection, 253
Self-similarity, 161
Separate account arrangement, 430–431
Separate account management, 314
Serial correlation, 303
Share classes, 291
Shareholder opposition, 153–154
Sharpe ratios, 82–83, 90–91, 143, 209, 291, 352
Short correlation, 109
Short positions, 21, 109, 262, 263
Short sales, 106, 119
Short squeezes, 40
Short straddle, 263
Short-bias index, 107
Short-bias investments, 117
Short-bias vs. counter-correlation, 113
Shorter-term lenders, 129
Short-exposure exchange traded funds (EFTs), 45
Shorting in quantitatively-driven portfolios, 112
Short-selling ecologies, 348
Short-term investments, 437
Short-term lenders, 126, 135
Short-term prices vs. long-term prices, 163
Short-term time horizon, 161
Short-term trading, 180–181
Side-pocketing, 449
Singer, Brian D., 86, 378
Sirius Satellite Radio, 146–148, 150, 152, 273
Skewed distributions, 73, 74
Skewness, 73, 74
Small Business Investment Company (SBIC), 134–135
Socially responsible investing (SRI), 401
Soft closing, 284
Sovereign wealth funds, 389
Specific risk, 408
Specific risk returns, 255, 334
“Splitters,” 201, 281, 472
“Squishy” valuations, 428
Stale prices, 90–91
Standard & Poor’s 500 Index, 78, 86
Standard & Poor’s 500 Index futures, 22
Standard & Poor’s 500 Index options, 164
Standard deviation, 62, 85, 168
after market crises, 338
from long/short equity, 120
of private equity, 86
Standard deviation events, 473
Standard error, 62
Statistical arbitrage, 27–28, 29
Statistical calculations, 79–80
Statistical significance, 62–63
Statman, Meir, 394
Steady-state efficiency, 356
Strategic promiscuity, 238–240
Strategic purity, 238
Strategic vs. tactical allocation, 266, 447, 448
Strategy vs. investment styles, 240
Strategy-based classification, 372
Stress testing, 329–330, 411
Structured asymmetric return, 254
Style drift, 364
Style purists, 364
Subjective risks, 410
Swap trades, 202
Swaps, 55, 210, 213
Swap-spread trading, 202
Swenson, David F.
on asset selections, 296
complex simultaneity notion, 401
on dangers of inexperienced management, 189
on efficient frontiers, 400
equity concentration in, 256n2
on investment management, 462
liquidity fondness, 288
on liquidity levels required, 295–296
on management arrogance cycle, 319
on market returns, 323
portfolio drift, 298
on prices vs. inflation, 382n1
on reserve components, 416, 416n3
on U.S. Treasury securities, 299
on Yale University’s and Boston University’s experience, 197
Synergy, 350, 351
Synthetic straddle, 164
Synthetic trading vehicles, 463
Systematic arbitrage, 179
Systematic links, 200
Systemic risk, 407
Tactical allocation about, 46–50, 304–306
between alternative and conventional investments, 319–321
within alternative investment portfolio, 311–316
among alternative investments, 315
characteristics of, 306
decision hierarchy, 308
defined, 48
determinants of, 309–310
examples of, 307–308
focus of, 37
implications of, 306–311
as managerial equivocation, 308–309
practical difficulties with involving alternative investments, 321
returns from, 108
risk taken in, 310–311
signals of, 319
vs. strategic allocation, 266, 447, 448
through overlay hedges, 316–319
volatility conditions in, 89
volatility requirements of, 311
Tactical asset allocations, 259
Tactics vs. policy, 46–47
Tail risk, 415–418
Tail size, 95
Tail-risk sensitivity, 262
Taleb, Nassim, 96n4
Tax efficiency of debt, 39
Tax risk, 191
Tax treatment, 190
Tax-free status, 382
Taxonomy of investments, 375
Technical investment support, 453
Technology bubble, 323–324
Technology Bubble, 327, 333, 392, 470
Temporal diversification, 34
Theory, application of, 95–99
TIAA-CREF, 51
Timberland investment, 184–187, 189, 194, 259–260, 264, 385
Time, return and risk, 29–33
Time and timing
   about, 433–434
   institutional time horizon, 434–437
   investment time horizons, 437–440
   policymakers and timing questions, 446–448
   portfolio termination, 448–449
   timing and tactics, 444–446
   timing and time horizon, 440–444
Time and uncertainty, 433
Time horizons, 31, 33
   stress from length of, 93
   volatility over, 89
Time periods for investing and analysis, 435
Time series, 63, 79
Timing, 3–35
Timing and tactics, 444–446
Timing and time horizon, 440–444
Timing horizon, 442, 444
Timing risk
   for cash flow investments, 33
   from illiquid securities, 54
   leverage from, 39
   return-seeking short sales, 112–113
   in short sales, 119
   of shorting, 117
Total return approaches, 23
Total return swaps, 317
Tracking error, 67
Trade automation, 176–177
Trade capacity
   about, 271–272
   closing and reopening, 283–285
   inherently bounded trades, 272–274
   market liquidity bounded, 274–276
   practical considerations bounded, 278–283
   valuations bounded, 276–278
Trade discovery, cost of, 281, 282
Trade timing, 33, 147
Trading around, 213, 273
Trading behavior vs. information, 327
Trading constraints, 278
Trading habitats. See habitats
Trading infrastructure, 176
Trading morality, 110
Trading opportunities, 277
Trading research, 256
Trading scandals, 141
Trading signals, 169, 177
Trading structures, 262
Trading volumes, 279
Transaction costs, 147, 176
Transaction efficiency, 176
Transaction environment, 347
Transaction risk, 404
Transaction timing, 33
Transparency of direct lending, 132
Treasury Investment Protection Securities (TIPS), 202
Unbounded approaches, 272
Unbounded trades, 271, 276
Uncertainty, 92–95
Uncertainty and risk, 414
University endowments, 189, 452
University of Virginia Endowment, 317, 318, 319
University presses, 184n1
Unrelated Business Taxable Income liability, 188
U.S. Tax Court, 190, 191
U.S. Treasury securities, liquidity of, 297–299
Valuation background, 154
Valuation estimates, 191
Valuation risk, 191
Valuation standards, 82
Valuations, 441
basis of, 277
bounding of trade capacity by, 276–278
changes of, 277
factors in, 277
mean reversion of levels of, 277
Value
of control, 261
vs. price, 21
and price, 25
Value and price, 24
Value at risk models, factor-based, 267
Value trap, 31
Value-at-risk models, 292n2, 409, 411
Variable hedge ratios, 247
Vehicle-based classification, 368–370
Venture capital investments
habitat of, 333
market crises effects, 323
performance during market crises, 330
Venture capitalists, 280, 346
Vermeer painting, 88
Very long-tail investments, 438
Vintage diversification, 197, 410, 436, 439–440, 441
Vintage diversified private equity simulation, 86
Virtual volatility, 137, 139
VIX Index, 115–116, 115n3, 173–174
Volatility, 47, 83
effects of, on arbitrage, 392
execution risk of, 164
of fixed-income instruments, 168
forecasts of, 172, 177
hedges against, 393
mean reverting in, 178
measurements of, 163
over time horizons, 89
perspectives of, 180
of private equity, 86
Volatility arbitrage, 171–174
Volatility data, 98, 137
Volatility drought, 89, 96n4, 178
Volatility estimation, 82–89
Volatility generators, 18, 38, 55–57
Wall Street Journal, 51
Wall Street (movie), 141
Warrants, 127, 130, 136, 139, 140
Wasting assets, 186, 187, 385
Wilmott, Paul, 327
Withdrawal and expense sharing, 290
Wrappers, 288–289
XM Satellite Radio, 146–148, 150, 152, 273
Yale University, 189, 197
Yale University Endowment
asset selections, 296
cash flow strategies of, 389
charitable gifts to, 437
experience of, 184
liquidity levels in, 295–296
reserve components, 416
tactical borrowing by, 468
value of, 297
Yale University Investments Office, 86
Yale University Press, 184n1
Yield to maturity concept, 200
Yield-curve, level vs. shape, 205
Yield-curve arbitrage, 202, 204
Yield-curve discontinuity, 203
Yield-curve normality, 204
Zeta factor, 243