INDEX

Note: Page numbers followed by e refer to exhibits.

A
ABS, see Asset-backed securities
Absolute priority rule, 333
Acceleration provision, 405
Accountable (term), 541n12
Accrued interest, 105–109
Active/immunization combination (portfolio management), 577
Active management, 489–493, 553–554, 609–611
Active/passive combination (portfolio management), 577
Add-on rates, 123. See also Discount rate
Adjustable-rate mortgages (ARM), 336
Affirmative covenants, 15, 246
Africa, 48
Aftermarket, 63. See also Secondary bond markets
Agency bonds, 70. See also Quasi-government bonds
Agency RMBS, 338, 349
American calls, 35
Amortization, 12, 336–337
Amortizing bonds, 23–25, 24e
Amortizing loans, 336, 355–356
Analytics, bond, 462
Anchors, 60
Annual modified duration (AnnModDur), 167
Approximate duration, 168–169, 168e
Approximate modified duration (ApproxModDur), 168–169, 168e
Monte Carlo method in, 393–395, 395e for option-free bonds, 389–390, 389e, 390e pathwise valuation in, 391–393, 391e–393e for term structure analysis, 512–514
Arbitrage opportunity:
and arbitrage-free valuation framework, 373–374, 374e defined, 372
ArcelorMittal, 238, 243e, 245
Argentina, 356
ARM (adjustable-rate mortgages), 336
Asset AG, 404
Asset allocation, 655–657, 656e
Asset backing, 77
Asset class, 265e
Asset sales, 259
Asset swap, 138
AT&T, 257, 257e
Auctions, 59, 60–62, 61e–62e
Australia, 19, 31, 32
Auto loan receivable-backed securities, 356–359
Average life, 342. See also Weighted average life
B
Backup lines of credit, 73–74
Backup liquidity lines, 73
Backward induction valuation, 381
BADLAR (Buenos Aires Deposits of Large Amount Rate), 356
Bailey, Jeffery V., 541, 565
Balance sheet, 237, 259, 290v
Balloon payments, 23, 336, 353
Balloon risk, 353
Bancofinansur, 356
Bank(s):
  short-term funding alternatives available to, 80–87
  use of floating-rate debt by, 50
Bank credit facilities, 259. See also Bank lines
Bank debt, 260
Bank deposits, 221n14
Bank for International Settlements (BIS), 494
Bank guarantees, 15
Bank lines, 237, 259
Bank loans, as corporate debt, 72
Bankruptcy, 218–219, 334
Bankruptcy-remote vehicles, 12, 333, 334
Barbell portfolio, 569, 569v
Barclays Capital Emerging Markets USD Aggregate Bond Index, 542
Barclays Capital Global Aggregate Bond Index, 56
Barclays Capital Indices, 249, 249v
Barclays Capital US Aggregate Bond Index, 540
Barriers to entry, 57
Basel III global framework, 221n12
Base prospectus, 328n3
Basis, 598
Basis point, 6
Basis points (bps), 111
Basis risk, 598
BBA (British Bankers’ Association), 51
Bearer bonds, 19
Benchmark(s):
  in Monte Carlo method, 394
  selection of, for time value of money, 494
  and spreads, 136
Benchmark bond index, 537–543
Benchmark issues, 66
Benchmark par curves, 377, 377v
Benchmark rate, 111
Benchmark securities, 375
Benchmark spread, 137
Benchmark yield, 201–202
Bermuda-style calls, 35, 403, 411
Best effort offerings, 59
Bid–ask spread, 64
Bid–offer spread, 64
Bierwag, G. O., 566, 571
Bilateral loans, 72
Binary credit options, 603–604
Binomial interest rate tree, 376–380, 377v, 378v, 380v, 384–389, 384v–388v
BIS (Bank for International Settlements), 494
Black–Scholes–Merton option pricing model, 512
Black–Scholes option pricing model, 292, 296
Bloomberg Fixed Income Electronic Trading platform, 64, 139v
Bloomberg Fixed Income Relative Value (FIRV), 139v
Bloomberg Yield and Spread (YAS) Analysis page, 172–173, 173v, 187v
Bond(s). See also specific headings, e.g.:
  Zero-coupon bonds
    amortizing, 23–25, 24v
    bearer, 19
    bullet, 23–24, 24v
    collateral trust, 13
    with contingency provisions, 34–39
    coupon payment structures with, 28–33
    coupon rate and frequency of, 6–7
    covered, 14
    currency denominations of, 7–8
    defined, 10
    with embedded options, valuation of, 513–514
    foreign, 19
    foreign vs. domestic, 52
    general obligation, 270–271
    global, 19
    index-linked, 30–33
    investment-grade vs. non-investment-grade, 5
    issuers of, 5
    key elements of, for investors, 4
    legal/regulatory considerations with, 18–20
    maturity date of, 6
    non-sovereign, 69–70
    par value of, 6
    perpetual, 6
    principal repayment structures with, 23–27
    quasi-government, 70
    registered, 19
    revenue, 270–272
    secured, 13
    securitized, 5
    sovereign, 66–69
    supranational, 70–71
    surety, 15
    tax considerations with, 21–22
    and time value of money, 99v, 100v, 102v
    value of, at interest tree nodes, 381–383,
      381v–383v
    yield measures, 10
Bond classes, 331–332, 360. See also Tranches
Bond convexity, see Convexity
Bond covenants, see Covenants
Bond duration, 162–163. see also Duration
Bond equivalent yield, 126–127
Bond indenture, 10–16
and bond covenants, 15–16
and collateral backing, 13–14
and contingency provisions, 35, 37
and covenants, 246
and credit enhancement, 14–15
defined, 10
and legal identity of bond issuer, 11–12
and risk, 11
and source of repayment proceeds, 12
Bond market index, 534–554
enhanced indexing strategies, 550–552
and indexing, 536–554
risk profiles for, 543, 543e, 544, 545e, 546–547
strategies with, 535–536
tracking risk for, 547–550, 548e, 549e
Bond markets:
primary, 58–63
role of rating agencies in, 220
secondary, 63–64
Bond portfolio:
active management of, 489–493
duration of, 180–183
Bond prices:
and characteristics, 98–102, 99e, 100e, 102e
credit ratings lagging, 226–227, 227e
and par value, 6
Bond ratings, 5n2
Bonos del Estrado, 66
Bootstrapping, 483
Bottom-up portfolio management, 638
Brady bonds, 56
Brazil, 31
Breakeven reinvestment rate, 134. See also
Implied forward rates
Breakeven spread analysis, 616–617
Bridge financing, 73. See also Commercial
paper
British Bankers’ Association (BBA), 51
British Telecom, 29, 254–255, 254e–255e
Bulldog bonds, 19
Bullet bonds, 23–24, 24e, 651–652
Bullet mortgages, 337
Bullet portfolio, 569, 569e
“Bums” problem, 540
Bunds, 66, 498
Busted convertible, 458
Buy-and-hold programs, 646–647
Buyers, power of, 231
C
Calibration, 295. See also Implicit estimation
California, 271, 271e
Callable bonds, 34–36
and contingency provisions, 78
duration of, 170–171
effective duration, 436e
and effective duration, 179, 179e
with interest rate volatility, 413e, 415e, 416, 416e, 419–421, 419e
without interest rate volatility, 410, 410e
negative convexity of, 194–195
option-adjusted spread on, 140
risky, 426–429, 427e–429e
straight bond vs., 407–408
and structural analysis, 652
valuation and analysis of, 407–432
Call option, 405
Call option analogy, 290–291
Call premium, 35
Call price, 35
Call protection, 352–353
Call protection period, 118
Call provisions, 26–27
Canada, 31, 32, 404
Cap:
FRN, 28
interest rate, 602
Capacity, 231–238, 236e–245e
Capital:
in credit analysis, 230n22
for market making, 251
Capital asset pricing model (CAPM), 296
Capital gains and losses, 21, 157
Capital-indexed bonds, 32
Capital market securities, 6, 49
Capital structure, 214–215
CAPM (capital asset pricing model), 296
Capped floaters, 444–445, 445e
Capped FRNs, 28
Cap rate, 602
Cap risk, 568
Cardinal ranking, 283–284
Carrying value, 157
Carry trades, 492
Cash:
in credit analysis, 237
as liquidity source, 259
Cash flows:
and immunization, 573
in pathwise valuation, 393e
with residential mortgage-backed securities, 339–341, 341e–342e
for special purpose vehicles, 316
timing of, and yields-to-maturity, 115
Cash flow matching, 555, 574, 575e, 576–578, 576e
Cash flow measures (ratio analysis), 234–235
Cash flow reinvestment, 645
Cash flow yield, 181
Cash market securities, 131–132
Cash reserve funds, 350, 351
Cash settlement, 64
CBOs (collateralized bond obligations), 359
CBOT (Chicago Board of Trade), 595
CDs (certificates of deposit), 82
CDOs, see Collateralized debt obligations
CEE (Central and Eastern Europe), 48
Cell-matching technique, 544
Central and Eastern Europe (CEE), 48
Central banks, 56
Central bank funds, 81
Central bank funds market, 81
Central bank funds rates, 81
Century bonds, 76
Certificates of deposit (CDs), 82
Change of control covenants, 246n26, 264
Change of control events, 452
Change of control put, 264
Character, of corporate borrowers, 247–248
Cheapest-to-deliver (CTD), 595
Chicago Board of Trade (CBOT), 595
Chile, 31
China:
debt and equity outstanding in, 48
foreign bonds in, 19
securitization in, 325
CIA World Fact Book, 494
CIR (Cox–Ingersoll–Ross) model, 508–510, 510e
CIS (Commonwealth of Independent States), 48
Citigroup, 304, 304e–305e
Classical immunization, 563–571, 564e, 565e, 567e–569e
defined, 556
single-period, 556, 568
Classic relative-value analysis, 638, 639e
CLOs (collateralized loan obligations), 359
CMBSs, see Commercial mortgage-backed securities
CMOs, see Collateralized mortgage obligations
Collar(s), 602
Collateral, 10, 245–246
Collateral backing, 13–14, 77
Collateralized bond obligations (CBOs), 359
Collateralized debt obligations (CDOs), 316, 359–362, 614n6
Collateralized loan obligations (CLOs), 359
Collateralized mortgage obligations (CMOs), 343–349, 344e–347e
floating-rate tranches, 348
mortgage pass-through securities vs., 348
planned amortization class tranches, 345–348, 346e, 347e
sequential-pay tranches, 344–345, 345e
support tranches, 348
Collateral managers, 360
Collateral pools, 316
Collateral trust bonds, 13
Colombia, 31
Combination matching, 577
Commercial mortgage-backed securities (CMBSs), 352–355
balloon maturity provisions, 353
call protection, 352–353
in collateral pools, 316
and credit risk, 352
structure of, 352–353
Commercial paper (CP):
agency ratings on, 221n14
characteristics of, 72–73
as corporate debt, 72–75, 73e–75e
credit quality of, 73–74, 73e
as liquidity source, 259
maturity of, 49
US vs. Eurocommercial, 74, 74e, 75, 75e
Committed bank lines, 237
Common stock, 458–459, 459e
Commonwealth of Independent States (CIS), 48
Companion tranches, 346. See also Support tranches
Company(-ies):
assessing, in credit analysis, 232–233
as bond issuers, 5
Company analysis, 232–234
Competitors, rivalry among, 232
Concavity, 194
Conditions, see Economic conditions
Conditional prepayment rate (CPR), 340
Confidence interval, 570–571
Conforming mortgages, 339
Consols, 66, 176. See also Perpetual bonds
Constant default probability, 301
<table>
<thead>
<tr>
<th>Term</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant-yield price trajectory</td>
<td>101–102, 102e</td>
</tr>
<tr>
<td>Constraints on trading</td>
<td>see Trading constraints</td>
</tr>
<tr>
<td>Consumer Price Index (CPI)</td>
<td>30</td>
</tr>
<tr>
<td>Consumer Price Index for All Urban Consumers (CPI-U)</td>
<td>68</td>
</tr>
<tr>
<td>Contingency provision(s)</td>
<td>34–39</td>
</tr>
<tr>
<td>Callable bonds</td>
<td>34–36</td>
</tr>
<tr>
<td>Convertible bonds</td>
<td>37–39</td>
</tr>
<tr>
<td>Corporate notes/bonds</td>
<td>78</td>
</tr>
<tr>
<td>Defined</td>
<td>34</td>
</tr>
<tr>
<td>Putable bonds</td>
<td>36–37</td>
</tr>
<tr>
<td>Contingent claim risk</td>
<td>568</td>
</tr>
<tr>
<td>Contingent convertible bonds (CoCos)</td>
<td>38–39</td>
</tr>
<tr>
<td>Contingent immunization</td>
<td>566</td>
</tr>
<tr>
<td>Contingent put</td>
<td>447</td>
</tr>
<tr>
<td>Contraction risk</td>
<td>343</td>
</tr>
<tr>
<td>Contract rate</td>
<td>336. See also Mortgage rate</td>
</tr>
<tr>
<td>Conventional bonds</td>
<td>6. See also Plain vanilla bonds</td>
</tr>
<tr>
<td>Conversion factors</td>
<td>595</td>
</tr>
<tr>
<td>Conversion period</td>
<td>450</td>
</tr>
<tr>
<td>Conversion price</td>
<td>38, 450</td>
</tr>
<tr>
<td>Conversion ratio</td>
<td>38, 451–452</td>
</tr>
<tr>
<td>Conversion value</td>
<td>38, 453</td>
</tr>
<tr>
<td>Convertible bonds</td>
<td>37–39, 450–462</td>
</tr>
<tr>
<td>Analysis tools</td>
<td>453–456</td>
</tr>
<tr>
<td>Contingency provisions</td>
<td>78</td>
</tr>
<tr>
<td>Conversion value</td>
<td>453</td>
</tr>
<tr>
<td>Defining features</td>
<td>450–453, 451e</td>
</tr>
<tr>
<td>Downside risk</td>
<td>456</td>
</tr>
<tr>
<td>For high-yield companies</td>
<td>260</td>
</tr>
<tr>
<td>Market conversion premium per share</td>
<td>454–455</td>
</tr>
<tr>
<td>Market conversion premium ratio</td>
<td>455</td>
</tr>
<tr>
<td>Minimum value</td>
<td>453–454</td>
</tr>
<tr>
<td>Risk–return characteristics</td>
<td>458–459, 459e</td>
</tr>
<tr>
<td>Upside potential</td>
<td>456</td>
</tr>
<tr>
<td>Valuation of</td>
<td>456–457</td>
</tr>
<tr>
<td>Convertible mortgages</td>
<td>336</td>
</tr>
<tr>
<td>Convexity</td>
<td></td>
</tr>
<tr>
<td>Of bonds with embedded options</td>
<td>440–441</td>
</tr>
<tr>
<td>And duration</td>
<td>185–195</td>
</tr>
<tr>
<td>And yield spreads</td>
<td>254</td>
</tr>
<tr>
<td>Convexity adjustment</td>
<td>186, 544</td>
</tr>
<tr>
<td>Convexity effect</td>
<td>99, 100e</td>
</tr>
<tr>
<td>Core-plus</td>
<td>618</td>
</tr>
<tr>
<td>Corporate bonds</td>
<td>75–79</td>
</tr>
<tr>
<td>Asset or collateral backing for</td>
<td>77</td>
</tr>
<tr>
<td>Contingency provisions for</td>
<td>78</td>
</tr>
<tr>
<td>Coupon payment structures for</td>
<td>76–77</td>
</tr>
<tr>
<td>Issuance, trading, and settlement for</td>
<td>78–79</td>
</tr>
<tr>
<td>Corporate debt</td>
<td>71–79</td>
</tr>
<tr>
<td>Bank loans</td>
<td>72</td>
</tr>
<tr>
<td>Commercial paper</td>
<td>72–75, 73e–75e</td>
</tr>
<tr>
<td>Notes and bonds</td>
<td>75–79</td>
</tr>
<tr>
<td>Syndicated loans</td>
<td>72</td>
</tr>
<tr>
<td>Corporate notes</td>
<td>75–79</td>
</tr>
<tr>
<td>Asset or collateral backing for</td>
<td>77</td>
</tr>
<tr>
<td>Contingency provisions for</td>
<td>78</td>
</tr>
<tr>
<td>Issuance, trading, and settlement for</td>
<td>78–79</td>
</tr>
<tr>
<td>Maturities of</td>
<td>76</td>
</tr>
<tr>
<td>Principal repayment structures of</td>
<td>77</td>
</tr>
<tr>
<td>Repayment proceeds for</td>
<td>12</td>
</tr>
<tr>
<td>Settlement of</td>
<td>64</td>
</tr>
<tr>
<td>Yields on</td>
<td>250–251</td>
</tr>
<tr>
<td>Corporate structure (high-yield companies)</td>
<td>262–263, 263e</td>
</tr>
<tr>
<td>Corporations, assessing</td>
<td>232–233</td>
</tr>
<tr>
<td>Counterparty risk</td>
<td>15. See also Third-party risk</td>
</tr>
<tr>
<td>Country beta</td>
<td>611</td>
</tr>
<tr>
<td>Coupon(s):</td>
<td></td>
</tr>
<tr>
<td>Defined</td>
<td>6</td>
</tr>
<tr>
<td>Fixed-income markets classified by type of</td>
<td>50–52</td>
</tr>
<tr>
<td>Coupon effect</td>
<td>100</td>
</tr>
<tr>
<td>Coupon bonds</td>
<td></td>
</tr>
<tr>
<td>Credit-linked</td>
<td>29</td>
</tr>
<tr>
<td>Deferred</td>
<td>30</td>
</tr>
<tr>
<td>Payment-in-kind</td>
<td>29–30</td>
</tr>
<tr>
<td>Payment structures</td>
<td>76</td>
</tr>
<tr>
<td>Price and characteristics</td>
<td>98–102</td>
</tr>
<tr>
<td>As sovereign bonds</td>
<td>68</td>
</tr>
<tr>
<td>Step-up</td>
<td>29</td>
</tr>
<tr>
<td>Valuation of</td>
<td>308–309</td>
</tr>
<tr>
<td>And credit spreads</td>
<td></td>
</tr>
<tr>
<td>Coupon rate</td>
<td>6</td>
</tr>
<tr>
<td>In bond valuation</td>
<td>93–94</td>
</tr>
<tr>
<td>And convexity</td>
<td>192</td>
</tr>
<tr>
<td>And Macaulay duration</td>
<td>176</td>
</tr>
<tr>
<td>Coupon reinvestment risk</td>
<td>160–161, 197, 200</td>
</tr>
</tbody>
</table>
Covenants, 15–16
  and credit analysis, 246–247
defined, 10
  for high-yield companies, 264
Coverage ratios, 236
Covered bonds, 14, 77
Covered call writing, 602
Cover pools, 14
Cox–Ingersoll–Ross (CIR) model, 508–510, 510

CP, see Commercial paper
CPI (Consumer Price Index), 30
CPI-U (Consumer Price Index for All Urban Consumers), 68
CPR (conditional prepayment rate), 340
Credit analysis, 211–275
  and capacity, 231–238, 236e–245
  and capital structure, 214–215
  and character, 247–248
  and collateral, 245–246
  and covenants, 246–247
  and credit risk, 212–214. See also Credit risk
defined, 212
  four Cs of, 230–231
and global credit bond portfolio management, 655
high yield, 258–265, 263e
non-sovereign government debt, 270–272, 271e
rating agencies, role of, 220–229
  and recovery rates, 217–219
  and seniority ranking, 215–216
  sovereign debt, 266–269
  and yield spreads, 249–251, 249e, 250e, 252e,
    253–258, 254e–257e
Credit analysis models, 279–318
  for asset-backed securities, 315–317, 316e
credit risk measures for, 281–283
  reduced form, 297–307, 304e–306e
  structural, 289–297, 290e
  and term structure of credit spreads, 308–315,
    310e
  traditional, 283–289, 286e–288e
Credit card receivable-backed securities, 358–359
Credit crisis (2007–2009), 14
Credit curves, 256–257, 257e
Credit curve analysis (global credit portfolio management), 654–655, 654e
Credit cycles, 218, 251
Credit default swaps, 607–608, 607e
Credit default swap spreads, 648
Credit-defense trades, 643–644
Credit derivatives, 603
Credit duration, 171, 201
Credit enhancements, 14–15, 350–351
Credit event, 607
Credit forwards, 605–607
Credit-linked coupon bonds, 29, 76
Credit mitigation risk, 213
Credit options, 603–607
Credit protection seller, 603
Credit quality:
  of commercial paper, 73–74, 73e
  of fixed-income markets, 48–49
  of non-sovereign bonds, 70
  of sovereign bonds, 67
Credit ratings, 332, 333
  from agencies, 221–223, 222e
  of asset-backed securities, 317
crises in, 225–226, 226e
  comparison of, with other models, 307
  as credit risk measure, 286–289, 286e–288e
  and default risk, 255–256, 256e
  and financial crises, 280
Credit rating agencies, 5n2
Credit relative-value analysis:
  classic, 638, 639e
  and global credit portfolio management, 636,
    637e, 638, 639e, 640
  methodologies, 640
  relative value and, 638
Credit risk, 201–202
  and agency RMBS, 5
  for benchmark bond index, 537
  and bond issuer, 5
  and commercial mortgage-backed securities, 352
  and credit analysis, 212–214
defined, 5
derivatives for managing, 603–608, 607e
  and portfolio management, 561–562
  with repurchase agreements, 84
  and yields-to-maturity, 128
Credit risk measures:
  for credit analysis models, 281–283
  with reduced form models, 300–302
  with structural models, 292–295
Credit Roundtable, 247
Credit scoring, 283–286
Credit spreads, term structure of, 308–315, 310e
Credit spread curves, 654, 655
Credit spread options, 604
Credit spread risk, 603
Credit swaps, 607–608, 607e
Credit upside trades, 643
Cross-default clauses, 284
Cross-default provisions, 223
CTD (cheapest-to-deliver), 595
Currency:
status of, in sovereign credit analysis, 267
and yields-to-maturity, 128
Currency denomination(s), 7–8, 49, 49e–50e
Currency-hedged instruments, 612
Currency option bonds, 7
Currency return, 614
Currency risk:
defined, 609
hedging of, 613–616, 613e
with international bonds, 611–616, 613e
Currency swaps, 658
Current yield, 10, 116
Curvature movement, 517, 518, 521, 522
Curve-adjustment trades, 644–645
Curve duration, 163
Cushion, 35
Cushion spread, 566
Customers, power of, 231
Cyclical industries, 232

D
Day-count conventions, 106–107
DBRS (Dominion Bond Rating Service), 221
“Death-put” bonds, 405
Debentures, 13
Debt:
in credit analysis, 237–238
senior, 13
Debt/capital ratio, 236
Debt/EBITDIA ratio, 236
Debt option analogy, 291
Debt service coverage ratio (DSCR), 272
Debt structure (high-yield companies), 260–262,
261e
Debt-to-service-coverage (DSC) ratio, 352
Dedication strategies:
immunization, 556–574, 557e–558e, 560e,
561e
for managing funds against liabilities,
555–575
Default flags, 304
Default-free bonds, 408–409, 408e
with interest rate volatility, 418–422, 418e
without interest rate volatility, 409–412
Default intensity, 298
Default interest rate, 353
Default probability, 212, 281, 307. See also
Default risk
Default rates, 224e–225e, 288, 288e
Default risk:
as component of credit risk, 212
and credit curve analysis, 654, 654e
and credit rating, 255–256, 256e
defined, 551
with EMD, 620
and repo rate, 590–591
Deferment period, 35
Deferred coupon bonds, 30, 76
Delivery options, 406, 595
Delta, 601
Derivatives:
interest rate futures, 596–600
and interest rate risk, 591–592
interest rate swaps, 600–601
portfolio management with, 591–608, 594e,
607e
Developed markets, 53
Direct quotation, 612
Discount, issue at:
tax considerations of, 21–22
for US commercial paper, 75
Discount, trading at a, 6
Discount bonds:
and Macaulay duration, 176
rate of returns for, 155
valuation of, 93, 95
yield-to-maturity for, 98
Discount factor, 474
Discount function, 474
Discount margin, 120, 122. See also Required
margin
Discount rates, 25
for money market instruments, 123–124
in Monte Carlo method, 395e
in pathwise valuation, 393e
Distressed credit, 256n33
Dollar, US, 7
Dollar duration, 560
Domestic bonds, foreign bonds vs., 52
Dominance, 373–374
Dominion Bond Rating Service (DBRS), 221
Downgrade risk, 213, 603
Drift term:
in Cox–Ingersoll–Ross model, 508–509
in Ho–Lee model, 512
in Monte Carlo method, 394
in Vasicek model, 510
DSCR (debt service coverage ration), 272
DSC (debt-to-service-coverage) ratio, 352
Dual-currency bonds, 7
Duration:
- approximate, 168–169, 168e
- and bond convexity, 185–195
- of bond portfolio, 180–183
- of bonds with embedded options, 432–440, 434e–436e, 438e–440e
- credit, 171, 201
- curve, 163
- defined, 162–163
- effective, 170–174. See also Effective duration
- inflation, 201
- key rate, 174
- liquidity, 201
- Macaulay, 163–166, 164e, 165e. See also Macaulay duration
- modified, 167–168. See also Modified duration
- money, 183–185
- OAS, 173
- one-sided, 437–438, 438e
- partial, 174
- and portfolio construction, 544
- and portfolio risk, 593–594
- properties of, 174–180, 175e, 179e, 180e
- real rate, 201
- spread, 547, 561–562
- yield, 163
- Duration gap, 200
- Duration hedging, 598–600
- Duration management, 596–598

E
- Early repayment option, 337
- Earnings before interest, taxes, depreciation, and amortization (EBITDA), 235
- EBITDA (earnings before interest, taxes, depreciation, and amortization), 235
- EBITDA/interest expense ratio, 236
- EBIT/interest expense ratio, 236
- ECNs (electronic communication networks), 642
- Economic conditions:
  - and corporate bond spreads, 251
  - in credit analysis, 230n22
- Economic structure, 267
- Economic surplus, 567, 567e–568e, 568
- ECI; see Eurocommercial paper
- Effective annual rate, 114
- Effective convexity (EffCon), 194–195, 440–441
- Effective duration (EffDur), 170–174
  - of bonds with embedded options, 432–438, 434e–436e, 438e
  - of callable bonds, 179, 179e
- defined, 551
- duration formula for, 432–433
- and portfolio construction, 544
- and yield curve sensitivity, 521
- Egan-Jones Rating Company, 287
- Electronic communication networks (ECNs), 642
- ELNs (equity-linked notes), 33
- Embedded options, 34
  - call options, 403–403. See also Callable bonds
  - complex, 404–407
  - defined, 402
  - extension options, 404. See also Extendible bonds
  - and interest rate risk, 432–444
  - overview, 402–407
  - put options, 404. See also Putable bonds
  - scenario analysis of bonds with, 431, 431e
  - simple, 403–404
  - valuation/analysis of bonds with, 401–465
  - valuation/analysis of convertible bonds, 450–462
  - valuation and analysis of callable/putable bonds, 407–432
  - valuation and analysis of capped/floored floating-rate bonds, 444–450
  - valuation of bonds with, 376, 513–514
  - and yield measures, 118
- EMBI+ (Emerging Markets Bond Index Plus), 618
- EMBI (J.P. Morgan Emerging Market Bond Index) Global, 56
- EMD (emerging market debt), 617–620
- Emerging markets:
  - defining, 266n42
  - as fixed-income markets, 53
  - sovereign bonds issued in, 67
- Emerging market debt (EMD), 617–620
- Emerging Markets Bond Index Plus (EMBI+), 618
- Enhanced indexing, 535–536, 550–552
- Enron, 646
- Enterprise value (EV), 265
- Entry, threat of, 231
- Entry barriers, 231
- Equilibrium term structure models, 507–511
- Equipment trust certificates, 13
- Equity analysis:
  - credit vs., 230
  - and high-yield analysis, 264–265, 265e
- Equity issuance, 259
- Equity-linked notes (ELNs), 33
- Estate puts, 405
Estimation:
  historical vs. implicit, 295
  of interest rate volatility, 381
  with reduced form models, 303–307, 304e–306e
  with structural models, 295–297
EU (European Union), 333n5
Euro, 7
Eurobonds, 19, 52
Eurobond market, 19, 20
Eurocommercial paper (ECP), 74, 74e, 75, 75e
Euribor, 7
European calls, 35, 403, 411
European Model Covenant Initiative, 247
European Union (EU), 333n5
EV (enterprise value), 265
Excess currency return, 615
Excess interest cash flow, 15
Excess returns, 635e
Excess spread, 15, 351
Excess spread accounts, 350–351
Expected loss:
  in credit risk, 213
  as credit risk measure, 281
  present value of, 281–282, 311–315
Expected returns, 485–486
Explanatory variables, 304
Extendible bonds, 404, 422–423
Extension risk, 343
External credit enhancement, 15

F
Factor exposures, 591
“Fallen angels,” 644
Fannie Mae, see Federal National Mortgage Association (Fannie Mae)
FCF, see Free cash flow
Federal Home Loan Banks (FHLBs), 28
Federal Home Loan Mortgage Corporation (Freddie Mac), 28, 338
Federal National Mortgage Association (Fannie Mae), 28, 338
Federal Reserve (Fed), 81, 505, 505e
Federal Reserve Bank of New York (New York Fed), 62
Federal Trade Commission, 285
Fed funds, 81
FFO (funds from operations), 235
FFO/debt ratio, 236
FHLBs (Federal Home Loan Banks), 28
Fideicomiso Financiero Autos VI, 356
Financial crises (generally), 279–280

  and corporate bond spreads, 251
  and sovereign debt, 266
  swap spreads during, 498
  yield curves during, 515, 515e, 516e
  yield curves following, 492
Financial projections, 260
Financial Services Authority (FSA), 51
Firm commitment offerings, 59. See also
  Underwritten offerings
  First lien debt, 215–216
  First mortgage debt, 215
FIRV (Bloomberg Fixed Income Relative Value), 139e
Fitch Ratings, 5n2
  ratings from, 48, 222
  role of, 220
  sovereign ratings by, 67
Fixed-income markets, 45–57
  about, 45–46
  classification of, 46–55
  coupon type, classification by, 50–52
  credit quality, classification by, 48–49
  currency denomination, classification by, 49, 49e–50e
  geography, classification by, 52, 53, 53e
  indices for, 55–56
  investors in, 56–57
  issuer type, classification by, 47, 47e, 48, 48e
  maturity, classification by, 49
Fixed-income securities. See also Bond(s)
  arbitrage-free valuation framework for, 374–375
  common shares vs., 3
  investors in, 56–57
  key elements of, for investors, 4
  in portfolio management, 3–4
Fixed-income valuation, 91–143
  and future cash flows, 92–104
  and matrix pricing, 109–112, 110e
  and maturity structure of interest rates, 128–136, 129e, 130e, 133e
  and price paid vs. quoted price, 105–109
  and yield measures, 113–128
  and yield spreads, 136–138, 139e, 140
Fixed-rate bonds:
  and convexity, 186e, 192
  and interest rate risk, 162–195
  and Macaulay duration, 176
  as sovereign bonds, 68
  yield measures for, 113–119
Fixed-rate debt, 50
Fixed-rate mortgages, 336
Fixed-rate payer, 600
Flat price, 105–109
Floaters, 6. See also Floating-rate notes
Floating-rate bonds, 50, 68, 69. See also Floating-rate notes
Floating-rate debt, 50
Floating-rate loans, 72
Floating-rate notes (FRNs, floaters), 6, 7, 28–29, 50
payment structures of, 76
yield measures for, 119–123
Floating-rate payers, 600
Floating-rate tranches, 348
Floor:
FRN, 28
interest rate, 602
Floored floaters, 447–448, 447e
Floored FRNs, 28
Fong, H. Gifford, 566, 570–572, 574
Forced conversion, 453
Ford Motor Company, 226, 227e
Foreclosures, 335, 337–338
Foreign bonds, 19, 52
Forward curves, 133, 133e, 135
defined, 475
spot vs., 480–482, 481e, 482e
and yield curve movement, 487–489
Forward discount, 612
Forward hedging, 613, 614
Forward markets, 132
Forward pricing model, 475
Forward rates:
defined, 475
implied, 377e
and interest rates, 132–135
and term structure of interest rates, 474–484, 481e, 482e
Forward rate model, 476–477
Forward yields, 132. See also Implied forward rates
Four Cs of credit analysis, 230–231
France, 31
Freddie Mac, see Federal Home Loan Mortgage Corporation
Free cash flow after dividends (FCF after dividends), 235
Free cash flow after dividends/debt ratio, 236
Free cash flow before dividends (FCF before dividends), 235
Freescale Semiconductor, 260–262, 261e
French consumer price index (CPI), 68
Frictionless markets:
and structural model, 292
and term structure of credit spreads, 310
FRNs, see Floating-rate notes
Front-end bullets, 651
FSA (Financial Services Authority), 51
FTSE Global Bond Index Series, 56
Full price, 105–109
Full replication, 535. See also Pure bond indexing
Fully amortized bonds, 23–24, 24e
Fully amortized loans, 336
Functional duration, 565. See also
Multifunctional duration
Funds from operations (FFO), 235
Future cash flows, 92–104
Future performance (portfolio manager), 621
Futures contract(s), 594, 596–600
Futures price, 594
G
GE Capital, 359, 404–405, 499
General obligation (GO) bonds, 270–271
Geography, classification of fixed income markets
by, 52, 53, 53e
Geopolitical risk, 620. See also Political risk
Germany:
inflation-linked bonds in, 31
sovereign rating of, 67
swap market in, 494
Gilts, 66, 498
Global bonds, 19
Global credit portfolio management, 633–658, 635e, 636e
and asset allocation, 655–656, 656e
and credit analysis, 655
and credit curve analysis, 654–655, 654e
and credit relative-value analysis, 636, 637e, 638, 639e, 640
and liquidity, 642
and primary market analysis, 640–642
and secondary trade rationales, 642–647
and sector rotation, 655–656, 656e
and total return analysis, 640
GO (general obligation) bonds, 270–271
Goldman Sachs, 6
Governments, as bond issuers, 5
Government bonds, 47, 56, 64
Government bond forward curves, 133, 133e
Government bond spot curves, 128–129, 129e
Government bond yield curves, 130, 130e, 131
Government equivalent yield, 116
Government gilts, 54
Government National Mortgage Association
(Ginnie Mae), 338
Government-sponsored enterprises (GSEs), 28, 70, 338
“Great Spread-Sector Crash” (1998), 652
Grey market, 60
Growth industries, 232
Growth prospects, 267
GSEs, see Government-sponsored enterprises
G-spread, 137, 140
Guarantors, 14, 329

H
Haircut, 84
Harmonized Index of Consumer Prices (HICP), 68
Hazard rate estimation, 303, 307
HBOS (Holding Bank of Scotland), 29
Hedged return, 614
Hedge ratio, 598–599
Hedging, 602–603
Hibor (Hong Kong interbank offered rate), 7, 52
HICP (Harmonized Index of Consumer Prices), 68
High-yield bonds, 5, 222, 222e. See also Non-investment-grade bonds
High yield companies, 258–265
High yield credit analysis, 258–265, 263e
Historical estimation:
and reduced form model, 303–307, 304e–306e
and structural model, 295
Historical performance, 621
Ho, Thomas S. Y., 512
Holding Bank of Scotland (HBOS), 29
Holding companies, 11, 262–263
Holding-period rate of return, 198. See also Horizon yield
Ho–Lee model, 512–514
Hong Kong, 494
Hong Kong interbank offered rate (Hibor), 7, 52
Horizon yield, 157, 198

I
ICMA (International Capital Market Association), 64
Immunization, 556–574, 557e–558e, 560e, 561e
classical theory, 563–571, 564e, 565e, 567e–569e
defined, 555
for general cash flows, 573
with multiple liabilities, 571–573
return maximization with, 573–574
Immunization risk, 570
Immunized time horizon, 559
Implicit estimation:
and reduced form model, 303
and structural model, 295–297
Implied forward rates, 132–133, 377e
Implied risk-neutral probability, 512
Implied volatility, 295
Implied yield volatility, 653
In arrears payment structure, 119
Income risk, 537
Indenture, see Bond indenture
Indexed-annuity bonds, 32
Indexed-referenced ARM, 336
Indexing, 537–543
Index-linked bonds, 30–33
India, 13, 48
Indices (fixed-income markets), 55–56
Industry analysis, 231–234
Industry structure, framework for analysis of, 231–232
Inflation duration, 201
Inflation-linked bonds (linkers), 30–32, 31e
fixed income markets classified by, 53–54
payment structures of, 76
as sovereign bonds, 68
Initial conversion price, 452
Initial-period-fixed-rate mortgages, 336
Institutional investors, 57
Interbank funds, 81
Interbank markets, 51
Interest-indexed bonds, 32
Interest-only lifetime mortgages, 337
Interest-only mortgages, 337
Interest provisions, 75
Interest rates:
lognormal distribution of changes in, 380–381
maturity structure of, 128–136, 129e, 130e, 133e
for residential mortgage loans, 336
and step-up coupons, 29
term structure of, see Term structure of interest rates
Interest rate caps, 602
Interest rate floors, 602
Interest rate futures, 596–600
Interest rate models, 376
Interest rate parity (IRP), 612–613
Interest rate risk, 162–201, 591–592
and approximate duration, 168–169, 168e
and approximate modified duration, 168–169, 168e
for bonds with embedded options, 432–444
and derivatives-enabled portfolio management strategies, 591–592
and effective duration, 170–174
and investment horizon, 195–201
and key rate duration, 174
and Macaulay duration, 163–166, 164e, 165e, 198–201
and modified duration, 167–168
and money duration, 183–185
and portfolio construction, 544
and portfolio management, 568
in structural model, 292
Interest rate swaps, 600–601
Interest rate trees:
and arbitrage-free valuation framework, 375–393
binomial, 376–380, 377e, 378e, 380e, 384–389, 384e–388e
lognormal, 378
Interest rate volatility, 413–414
in arbitrage-free valuation framework, 380–381
and callable bond valuation, 419–421, 419e
in Ho–Lee model, 513
and putable bond valuation, 421–422, 421e
in term structure of interest rates, 520
Intermediate credit bullets, 652
Internal credit enhancement, 14–15
Internal ratings, 286
International bonds:
breakeven spread analysis for, 616–617
currency risk with, 611–616, 613e
and emerging market debt, 617–620
International Capital Market Association (ICMA), 64
International Capital Market Association (ICMA), 64
International Capital Markets (ICM), 64
International debt issuers, 20e
Interpolated spread (I-spread; ISPRD), 138, 498n6, 500
Inverse FRNs, 28–29
Inverted yield curves, 484
Investment banks, 59
Investment-grade bonds, 5
default rate for, 253
rating categories of, 222, 222e
Investment horizon, 160–161, 195–201, 199e
Investors:
central banks as, 56
in fixed-income markets, 56–57
in fixed-income securities, 56–57
institutional, 57
retail, 57
Ireland, 67
IRP (interest rate parity), 612–613
I-spread (ISPRD), 138, 498n6, 500
Issuance of corporate notes and bonds, 78–79
Issuer(s):
bond, 5
and covenants, 15–16
fixed-income markets classified by type of, 47, 47e, 48, 48e
legal identity of, 11–12
and repayment proceeds, 12
Issue ratings, 223–224, 224e
Issuer liquidity, 237–238
Issuer pay model, 221n13, 287–288
Issuer ratings, 223–224, 224e

J
Japan:
as bond issuer, 52
debt and equity outstanding in, 48
foreign bonds in, 19
swap market in, 494
yield curve factors for securities in, 518, 519e
yield curve movement in, 515, 516e
Japan Bank for International Cooperation (JBIC), 70, 338
Japanese bubble (1989–present), 279
Japanese government bonds (JGBs), 66, 116
Jarrow, R., 280n2
JBIC (Japan Bank for International Cooperation), 70, 338
JGBs (Japanese government bonds), 66, 116
Johnson & Johnson, 242e, 244–245
J.P. Morgan Emerging Market Bond Index (EMBI) Global, 56
Junior bond classes, 350
Junior tranches, 14
Junk bonds, 222, 222e

K
Kangaroo bonds, 19
Kaufman, George G., 566, 571
Key rate durations, 174, 546, 565. See also Multifunctional duration of bonds with embedded options, 438–440, 439e, 440e
and tracking risk, 549
and yield curve sensitivity, 521–522
**Index**

<table>
<thead>
<tr>
<th>Page</th>
<th>Entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>705</td>
<td>Index</td>
</tr>
<tr>
<td>704</td>
<td>Kimchi bonds, 19</td>
</tr>
<tr>
<td></td>
<td>Korea interbank offered rate (Koribor), 52</td>
</tr>
<tr>
<td></td>
<td>Kuwait, 49</td>
</tr>
<tr>
<td></td>
<td><strong>L</strong></td>
</tr>
<tr>
<td></td>
<td>Large-denomination negotiable certificates of deposit, 82, 85</td>
</tr>
<tr>
<td></td>
<td>Latin America, 48</td>
</tr>
<tr>
<td></td>
<td>Lattice models, 376. <em>See also</em> Interest rate trees</td>
</tr>
<tr>
<td></td>
<td>Laws, <em>see</em> Legal requirements</td>
</tr>
<tr>
<td></td>
<td>Law of one price, 373</td>
</tr>
<tr>
<td></td>
<td>LBOs (leveraged buyouts), 247</td>
</tr>
<tr>
<td></td>
<td>Lea, Michael, 335</td>
</tr>
<tr>
<td></td>
<td>Lee, Sang Bin, 512</td>
</tr>
<tr>
<td></td>
<td>Legal identity of bond issuer, 11–12</td>
</tr>
<tr>
<td></td>
<td>Legal requirements, 18–20</td>
</tr>
<tr>
<td></td>
<td>Lehman Brothers, 304, 305e</td>
</tr>
<tr>
<td></td>
<td>Lehman Brothers Holdings Inc., 498</td>
</tr>
<tr>
<td></td>
<td>Leibowitz, Martin L., 566</td>
</tr>
<tr>
<td></td>
<td>Letras del Tesoro, 66</td>
</tr>
<tr>
<td></td>
<td>Letters of credit, 15</td>
</tr>
<tr>
<td></td>
<td>Level movement, 517, 518</td>
</tr>
<tr>
<td></td>
<td>Leverage, 586–591, 587e</td>
</tr>
<tr>
<td></td>
<td>and debt structure, 260–262, 261e</td>
</tr>
<tr>
<td></td>
<td>and repurchase agreements, 589–591</td>
</tr>
<tr>
<td></td>
<td>Leveraged buyouts (LBOs), 247</td>
</tr>
<tr>
<td></td>
<td>Leverage ratios, 235–236</td>
</tr>
<tr>
<td></td>
<td>Liabilities, managing funds against, 555–578</td>
</tr>
<tr>
<td></td>
<td>cash flow matching strategies, 574, 575e, 576–578, 576e</td>
</tr>
<tr>
<td></td>
<td>dedication strategies, 555–575</td>
</tr>
<tr>
<td></td>
<td>Liability framework risk, 537</td>
</tr>
<tr>
<td></td>
<td>Libor (London interbank offered rate), 7, 50–52</td>
</tr>
<tr>
<td></td>
<td>Libor–OIS spreads, 502</td>
</tr>
<tr>
<td></td>
<td>Libor/swap curve, 498</td>
</tr>
<tr>
<td></td>
<td>Limitations on liens covenants, 264</td>
</tr>
<tr>
<td></td>
<td>Limited liability, 290</td>
</tr>
<tr>
<td></td>
<td>Linear programming, 570</td>
</tr>
<tr>
<td></td>
<td>Linear regression, 305</td>
</tr>
<tr>
<td></td>
<td>Linkers, 30</td>
</tr>
<tr>
<td></td>
<td>Liquidity:</td>
</tr>
<tr>
<td></td>
<td>during financial crisis of 2008–2009, 498</td>
</tr>
<tr>
<td></td>
<td>and global credit portfolio management, 642</td>
</tr>
<tr>
<td></td>
<td>for high-yield companies, 258–259</td>
</tr>
<tr>
<td></td>
<td>and secondary bond markets, 63</td>
</tr>
<tr>
<td></td>
<td>in sovereign credit analysis, 267–268</td>
</tr>
<tr>
<td></td>
<td>of swap market, 494</td>
</tr>
<tr>
<td></td>
<td>and yields-to-maturity, 128</td>
</tr>
<tr>
<td></td>
<td>Liquidity duration, 201</td>
</tr>
<tr>
<td></td>
<td>Liquidity enhancement, 73</td>
</tr>
<tr>
<td></td>
<td>Liquidity preference theory, 503–504</td>
</tr>
<tr>
<td></td>
<td>Liquidity premiums, 503</td>
</tr>
<tr>
<td></td>
<td>Liquidity risk, 201–202</td>
</tr>
<tr>
<td></td>
<td>Litterman, Robert, 517</td>
</tr>
<tr>
<td></td>
<td>Loan-to-value ratio (LTV), 335</td>
</tr>
<tr>
<td></td>
<td>Local expectation theory, 502–503</td>
</tr>
<tr>
<td></td>
<td>Lockout period, 35, 403</td>
</tr>
<tr>
<td></td>
<td>Logistic regression, 305–306, 306e</td>
</tr>
<tr>
<td></td>
<td>Lognormal distribution, 380–381</td>
</tr>
<tr>
<td></td>
<td>Lognormal random walks, 378–379</td>
</tr>
<tr>
<td></td>
<td>Lognormal trees, 378</td>
</tr>
<tr>
<td></td>
<td>London interbank offered rate (Libor), 7, 50–52</td>
</tr>
<tr>
<td></td>
<td>Long straddle, 406</td>
</tr>
<tr>
<td></td>
<td>Long-term capital gains, 21</td>
</tr>
<tr>
<td></td>
<td>Loss given default, 212. <em>See also</em> Loss severity</td>
</tr>
<tr>
<td></td>
<td>as credit risk measure, 281</td>
</tr>
<tr>
<td></td>
<td>and reduced form models, 301</td>
</tr>
<tr>
<td></td>
<td>Loss severity, 212</td>
</tr>
<tr>
<td></td>
<td>LTV (loan-to-value ratio), 335</td>
</tr>
<tr>
<td></td>
<td><strong>M</strong></td>
</tr>
<tr>
<td></td>
<td>Macaulay, Frederick, 163</td>
</tr>
<tr>
<td></td>
<td>Macaulay duration (MacDur), 163–166, 164e, 165e, 174–175, 175e, 560n26</td>
</tr>
<tr>
<td></td>
<td>in bond portfolios, 181–182</td>
</tr>
<tr>
<td></td>
<td>and investment horizon, 198–201, 199e</td>
</tr>
<tr>
<td></td>
<td>properties affecting, 176</td>
</tr>
<tr>
<td></td>
<td>Maintenance covenants, 264</td>
</tr>
<tr>
<td></td>
<td>Make-up calls, 35</td>
</tr>
<tr>
<td></td>
<td>Make-whole calls, 35, 403</td>
</tr>
<tr>
<td></td>
<td>Management:</td>
</tr>
<tr>
<td></td>
<td>active, 489–493, 609–611</td>
</tr>
<tr>
<td></td>
<td>passive, 533e, 534, 609–611</td>
</tr>
<tr>
<td></td>
<td>Manager(s):</td>
</tr>
<tr>
<td></td>
<td>bond vs. equity, 622</td>
</tr>
<tr>
<td></td>
<td>character assessment of, 247–248</td>
</tr>
<tr>
<td></td>
<td>historical vs. future performance, 621</td>
</tr>
<tr>
<td></td>
<td>selection of, 620–624</td>
</tr>
<tr>
<td></td>
<td>Maple bonds, 19</td>
</tr>
<tr>
<td></td>
<td>Market conversion premium per share, 454–455</td>
</tr>
<tr>
<td></td>
<td>Market conversion premium ratio, 455</td>
</tr>
<tr>
<td></td>
<td>Market discount rate:</td>
</tr>
<tr>
<td></td>
<td>of bonds, 98–102</td>
</tr>
<tr>
<td></td>
<td>defined, 92</td>
</tr>
<tr>
<td></td>
<td>and time value of money, 92–96</td>
</tr>
<tr>
<td></td>
<td>Market liquidity risk, 213</td>
</tr>
<tr>
<td></td>
<td>Market performance, 251</td>
</tr>
<tr>
<td></td>
<td>Market price risk, 160–161, 197, 200</td>
</tr>
<tr>
<td></td>
<td>Market value risk, 537</td>
</tr>
<tr>
<td></td>
<td>Marshall, William J., 566</td>
</tr>
<tr>
<td></td>
<td>Matador bonds, 19</td>
</tr>
<tr>
<td></td>
<td>Matrix pricing, 109–112, 110e</td>
</tr>
</tbody>
</table>

*Source: [The Bond Market](https://example.com)*
Maturity:
of commercial paper, 74
of corporate notes and bonds, 76
fixed-income markets classified by, 49
of residential mortgage loans, 335
of sovereign bonds, 66
Maturity date, 6
Maturity effect, 100
Maturity structure:
of interest rates, 128–136, 129e, 130e, 133e
of yield curve volatilities, 520, 520e
Maturity variance, 570
Maximum likelihood estimation, 305
MBSs, see Mortgage-backed securities
Mean reversion:
in Cox–Ingersoll–Ross model, 509
in Monte Carlo method, 394
Mean-reversion analysis, 649–650
Measurable (term), 541n12
Medium-term notes (MTNs), 76, 641
Mexican “tequila crisis” (1994-1995), 280
Mibor (Mumbai interbank offered rate), 52
Middle East, 48
Mikuni & Co., 221
Modified duration (ModDur), 167–168, 174–175
in bond portfolios, 181–182
properties affecting, 176
and yield spreads, 253–254
Monetary policy, 268
Money convexity (MoneyCon), 191–192
Money duration (MoneyDur), 183–185
Money market accounts, 80
Money market instruments, 64
Money market securities, 6, 49, 55
Money market trades, 64
Monitoring, 577
Monte Carlo method, 393–395, 395e
Moody, John, 220
Moody’s Investors Service, 5n2
bond ratings, 48, 222
credit ratings, 286e–287e
EMD ratings, 620
Ford Motor Company ratings, 226, 227e
role of, 220
sovereign ratings, 67
Morgan Stanley, 6
Mortgage-backed securities (MBSs), 13
commercial, 316, 352–355. See also
Commercial mortgage-backed securities
(CMBBSs)
defined, 324
effective duration for, 171
overcollateralization of, 14
purchased by Federal Reserve, 505–506
Mortgage loans, 335. See also Residential
mortgage loans
Mortgage pass-through securities, 339, 348
Mortgage rate, 336
MTNs (medium-term notes), 76, 641
Multifactor model technique, 544
Multifunctional duration, 565
Mumbai interbank offered rate (Mibor), 52
Municipal bonds (munis), 21, 404
as non-sovereign government debt, 270
rating of, 271e
as tax-exempt bonds, 54
N
National bond markets, 18
National governments, see Sovereign governments
National Highways Authority of India (NHAI), 54
Negative convexity, 194–195
Negative covenants, 15–16, 246
Negotiable certificates of deposit (CDs), 49, 82
Net coupon pass-through rate, 339
Netherlands, 67
Net interest pass-through rate, 339
Net operating income (NOI), 352
New issue swaps, 644
New Zealand, 32
NHAI (National Highways Authority of India), 54
No-arbitrage principle, 475
NOI (net operating income), 352
Nominal rate, 6. See also Coupon rate
Nominal spread, 561
Non-agency residential mortgage-backed
securities (non-agency RMBS), 338, 349–351
Non-amortizing loans, 355
Non-conforming mortgages, 339
Non-cyclical industries, 232
Non-investment-grade bonds, 5, 222, 222e
Non-negotiable certificates of deposit (CDs), 82
Non-recourse loan, 226, 227e
Non-senior bond classes, 350
Non-sovereign bonds, 69–70
Non-sovereign government bonds, 69–70
Non-sovereign government debt credit analysis,
270–272, 271e
Non-sovereign government debt issues, 12
Notching, 223–224
Notional principal amount, 600

O
OAS, see Option-adjusted spread
OAS duration, 173
Obligaciones del Estado, 66
Obligations assimilables du Trésor (OATs), 66
Off-the-run securities, 137
OIS (overnight indexed swap) rate, 502
One-factor models, 376, 514
One-sided durations, 437–438, 438e
On-the-run securities, 66, 137
Open market operations, 56, 57
Operating cash flow:
in credit analysis, 237
as liquidity source, 259
Optimization, 577
Option(s):
embedded, see Embedded option
optimal exercise of, 411
Option-adjusted price, 119
Option-adjusted spread (OAS), 427–428, 427e, 428e, 462, 562, 647–648
on callable bonds, 140
defined, 427
and interest rate volatility, 428–429, 429e
Option-adjusted yield, 119
Option analogy, 290–291
Option-free bonds, 408–409, 408e
arbitrage-free valuation framework for, 389–390, 390e
effective duration, 436e
valuation discounting with spot rates for, 376
Options on futures, 601
Options on physicals, 601
Ordinal ranking, credit scoring as, 283–284
Organized exchange, 64
OTC (over-the-counter) markets, 64
Overcollateralization, 14, 351
Overnight indexed swap (OIS) rate, 502
Overnight repo, 83
Over-the-counter (OTC) markets, 64

P
PAC (planned amortization class) tranches, 345–348
Panda bonds, 19
Parallel movement, 521, 522
Parallel shift, 182
Par curves, 131, 482–483
Pari passu, 217
Parity value, 38. See also Conversion value
Par rates, 483
Par swaps, 494
Partial duration, 174, 438. See also Key rate duration
Partial equilibrium models, 514
Partially amortized bonds, 23–24, 24e
Partially amortized loans, 336
Par value (of bond), 6, 93, 96
Pascal’s Triangle, 391, 391e, 392
Passive management, 533e, 534, 609–611
Pass-through rate, 339
Pathwise valuation, 391–393, 391e–393e
Payment-in-kind (PIK) coupon bonds, 29–30, 76–77
PCA (principal components analysis), 517
People’s Bank of China, 325
Percent yield spread analysis, 650
Performance, of portfolio manager, 621
Periodicity:
of annual rate, 113
for money market instruments, 127–128
and yields-to-maturity, 128
Perpetual bonds, 6, 176
Perpetuity(ies), 176. See also Perpetual bonds
PIK (payment-in-kind) coupon bonds, 29–30, 76–77
Plain vanilla bonds, 6–7, 8e, 11
Planned amortization class (PAC) tranches, 345–348
Political risk, 267, 620
Porter, Michael, 231
Portfolio duration, 549
Portfolio management, 531–579, 585–625. See also Global credit portfolio management
and bond market index, 534–554. See also Bond market index
combination strategies, 586
with derivatives, 591–608, 594e, 607e
framework for, 532, 533e, 534
and immunization, 556–574, 557e–558e, 560e, 561e, 564e, 565e, 567e–569e
and international bond investing, 608–620, 608e–609e, 613e
with leverage, 586–591, 587e
and liabilities, 555–578
manager selection, 620–624
Portugal, 269, 269e
Preferred habitat theory, 504–506, 505e
Preferred stock, 260
Premium, issue at, 22
Premium, trading at, 6
Premium bonds:
rate of returns for, 155
and spread curves, 256n33
valuation of, 93, 95–96
yield-to-maturity for, 97
Prepayments, 337, 340
Prepayment option, 337
Prepayment penalty mortgages, 337
Prepayment risk:
contraction/expansion risk, 342–343
and securitization, 330
and support tranches, 348
Present value, 393, 395e
Present value distribution of cash flows, 546
Present value of the expected loss, 281–282, 311–315
Price paid, quoted price vs., 105–109
Price risk, 598
Price value of a basis point (PVBP), 184–185
Primary bond markets, 58–63, 58e
Primary dealers, 62
Primary market analysis (global credit portfolio management), 640–642
and market-structure dynamics, 641
and product structure, 641–642
Primary risk factors, 535
Prime mortgage loans, 350
Prime paper, 73
Principal, 6. See also Par value
Principal amount, 6. See also Par value
Principal components analysis (PCA), 517
Principal repayment structures, 23–27
bullet bonds, 23–24, 24e
for corporate debt, 77
sinking fund arrangements, 26–27, 27e
Principal value, 6. See also Par value
Principle of no arbitrage, 372
Priority of claims, 215, 218–219
Private placement, 58, 63
Private sector, public vs., 267
Probability of default, 281. See also Default probability
Profitability, 234–235
Prospectus(es), 246
Protection period, 35
Protective puts, 602
Proxy hedging, 613–614
PSA (Public Securities Association) prepayment benchmark, 340
Public offering (public offer), 58–59
Public sector, private vs., 267
Public Securities Association (PSA) prepayment benchmark, 340
Pure bond indexing, 535
Pure discount bonds, 7. See also Zero-coupon bonds
Pure expectations theory, 502
Putable bonds, 36–37
and contingency provisions, 78
defined, 404
effective duration, 436e
extendible bonds vs., 422–423
interest rate characteristics of, 180, 180e
with interest rate volatility, 414e, 417–418,
417e, 421–422, 421e
without interest rate volatility, 410–411, 411e
risks, 426–429, 427e–429e
straight bond vs., 407–408
and structural analysis, 653
valuation and analysis of, 407–432
PVBP (price value of a basis point), 184–185
Q
Qatar, 49
QE (quantitative easing), 505–506, 505e
Quality option, 595
Quality-spread analysis, 650
Quality spread duration, 549
Quantitative easing (QE), 505–506, 505e
Quarterly income debt securities (QUIDS), 6
Quarterly interest bonds (QUIBS), 6
Quasi-government bonds, 64, 70
Quasi-government entities, 5
QUIBS (quarterly interest bonds), 6
QUIDS (quarterly income debt securities), 6
Quoted margin, 119
Quoted price, price paid vs., 105–109
R
Ratchet bonds, 445–447
Rate duration, 546
Rating agencies:
credit analysis by, 220–229
risks of relying on, 224–228, 224e–227e
Rating categories. See also Credit ratings
corporate yields by, 249e
trailing 12-month returns by, 250e
Ratios/ratio analysis, 234–238, 236e–237e
Realized returns, 486
Real rate duration, 201
Rebalancing, 558–559
Rebalancing ratio, 560
Recombining trees, 379
Reconstitution, 375
Recourse loans, 337, 338
Recovery rates:
and credit analysis, 217–219, 217e, 218e
as credit risk measure, 281
Redemption yield, 10. See also Yield-to-maturity
Reduced form models, 297–307, 304e–306e
comparison of, with other models, 307
credit risk measures with, 300–302
estimation with, 303–307, 304e–306e
valuation with, 299–300
Reference entity, 607
Reference rate, 50–51, 493
Reflective of current investment opinions,
541n12
Registered bonds, 19
Regulatory considerations, 18–20
Reinhart, Carmen, 268n44
Reinvestment risk, 570
Reitano, Robert R., 572
Repayment proceeds, source of, 12
Repos (repurchase agreements), 82–86, 589–591
Repo margin, 84
Repo rate, 83
Repo to maturity, 83
Repurchase agreements (repos), 82–86, 589–591
Repurchase date, 83
Repurchase price, 83
Required margin, 119–120
Required rate of return, 92
Required yield, 92
Required yield spread, 111
Reserve funds, 350
Residential mortgage-backed securities (RMBS),
338–351
cash flow characteristics, 339
cash flow construction, 340–341, 341e–342e
collateralized mortgage obligations, 343–349,
344e–347e
in collateral pools, 316
conforming/non-conforming loans, 339
contraction risk, 342–343
credit enhancements, 350–351
extension risk, 342–343
measures of prepayment rate, 340
mortgage pass-through securities, 339
non-agency securities, 349–351
weighted average life, 342
Residential mortgage loans, 335–338
amortization schedule, 336–337
interest rate determination, 336
lender’s rights in foreclosure, 337–338
maturity, 335
prepayments/prepayment penalties, 337
Restricted payments covenants, 264
Restricted subsidiaries, 264
Restrictive covenants, 246
Retail deposits, 80
Retail investors, 57
Retail Price Index (RPI), 30, 31, 68
Returns:
about, 154
maximization, for immunized portfolios,
573–574
sources of, 154–162
Reuters electronic dealing system, 81
Revenue bonds, 270–272
Reverse FRNs, 28–29
Reverse repurchase agreements (reverse repos),
83–84
Reversion to the mean, see Mean reversion
Reviewable ARM, 336
Richards, Thomas M., 541, 565
Riding the yield curve, 491
Risk(s). See also specific headings, e.g.: Credit risk
and bond indenture, 11
unpredictable, in credit ratings, 227
Risk-neutral probability, 512
Risk profiles, 543–547, 545e
RMBS, see Residential mortgage-backed securities
Rogoff, Kenneth, 268n44
Rolling down the yield curve, 491
Rolling over the paper, 73
Royal Bank of Canada, 404
RP, see Repurchase agreements
RPI, see Retail Price Index
Running yield, 10. See also Current yield
Russian debt crisis (1998), 280
S
Samurai bonds, 19
Savings accounts, 80
Scenario analysis, 431, 431e, 554
Scheinkman, José, 517
Seasonality, 647
SEC (Securities and Exchange Commission), 286
Secondary bond markets, 63–64
Secondary markets, 72
Secondary trade rationales (global credit portfolio
management), 642–647
cash flow reinvestment, 645
and constraints on trading, 645–647
credit-defense trades, 643–644
credit-upside trades, 643
Secondary trade rationales (continued)
curve-adjustment trades, 644–645
new issue swaps, 644
and reasons for trading, 643–645
sector-rotation trades, 644
structure trades, 645
yield/spread pickup trades, 643
Second lien, 216, 260
Sector rotation, 655–657, 656e
Sector-rotation trades, 644
Secured bonds, 13
Secured debt:
for high-yield companies, 260
and seniority ranking, 215
unsecured vs., 77
Securities and Exchange Commission (SEC), 286
Securitization(s), 5
benefits to economies/financial markets, 324–326
defined, 323
process of, 326–334, 328e
Securitized assets, 324
Securitized bonds, 5, 12, 47. See also Structured finance bonds
Segmented markets theory, 504
Semiannual bond basis yield, 114
Semiannual bond equivalent yield, 114
Semivariance, 593
Senior debt, 13
Seniority rankings, 13, 215–216, 215e
Senior tranches, 14
Sequential-pay CMOs, 344–345, 345e
Sequential-pay tranches, 344–345, 345e
Serial maturity structure, 77
Settlement:
of corporate notes and bonds, 78–79
in secondary bond markets, 64
Settlement date, 105, 594
Shaping risk, 515
Shelf registration, 60
Shortfall risk, 593
Short-term capital gains, 21
Short-term funding (banks), 80–84
repurchase agreements, 82–84
retail deposits, 80
wholesale funds, 81–82
Sibor (Singapore interbank offered rate), 7, 52
Siegel, L. B., 540
Simple yield, 116
Singapore, 67
Singapore interbank offered rate (Sibor), 7, 52
Single monthly mortality (SMM), 340
Sinking fund arrangements, 26–27, 27e, 405–406
and principal repayment structures, 77
and structural analysis, 652–653
Small-denomination negotiable certificates of deposit, 82
SMM (single monthly mortality), 340
South America, 326
South Korea:
foreign bonds in, 19
swap market in, 494
yield curve factors for securities in, 518, 519e
yield curve movement in, 515, 516e
Sovereign bonds (sovereigns), 66–69
as benchmarks, 375
characteristics of, 66
credit quality of, 67
fixed-rate bonds as, 68
floating-rate bonds as, 68
inflation-linked bonds as, 68
legal issuer of, 11
repayment proceeds for, 12
Sovereign debt credit analysis, 266–269, 269e
Sovereign governments, 5
Sovereign ratings, 67
Spain, 19, 67
Special purpose companies (SPCs), 327
Special purpose entities (SPEs), 12, 327. See also Special purpose vehicles (SPVs)
Special purpose vehicles (SPVs), 12
asset-backed securities as, 316–317, 316e
and covered bonds, 14
for securitization, 327, 329, 332–333
Specified in advance, 541n12
Speculative bonds, 5. See also Non-investment-grade bonds
Split coupon bonds, 30. See also Deferred coupon bonds
Spot curves, 128–129, 129e, 135, 474, 480–482, 481e, 482e
Spot rates, 135
and active bond portfolio management, 489–491
of par rates, 377e
and term structure of interest rates, 474–484, 481e, 482e
and time value of money, 102–104
valuation discounting with, 376
and yield-to-maturity, 484–487
Spot yield curve, 474
Spreads, 6–7
and benchmarks, 136
excess, 15, 351
and step-up coupons, 29
Spread analysis (global credit portfolio management), 647–650
alternative spread measures, 647–648
mean-reversion analysis, 649–650
percent yield spread analysis, 650
quality-spread analysis, 650
and swap spreads, 648–649
tools for, 649–650
Spread curves, 256–257. See also Credit curves
Spread duration, 547, 561–562
Spread over the benchmark, 111
Spread risk, 213, 544
SPVs, see Special purpose vehicles
Standard deviation, 593–594. See also Variance
Standard & Poor’s, 5n2
credit ratings, 286, 286e–287e
default rates of companies rated CCC on, 288, 288e
EMD ratings, 620
notching guidelines, 224
ratings, 48, 222
role of, 220
sovereign credit analysis, 267–268
sovereign ratings, 67
State governments, 5
Static spread, 561
Steepness movement, 517, 518, 521, 522
Step-up coupon bonds, 29
“Story” disagreement, 646
Straight bond, 403, 458
Strategic default, 338
Stratified sampling, 544. See also Cell-matching technique
Street convention, 116
Strike spread, 604
Strip curves, 128–129. See also Spot curves
Stripping, 375
Structural analysis (global credit portfolio management), 650–653, 651e
and bullets, 651–652
and callables, 652
and putables, 653
and sinking funds, 652–653
Structural models, 289–297, 290e
comparison of, with other models, 307
credit risk measures with, 292–295
estimation with, 295–297
and option analogy, 290–291
valuation with, 291–292
Structural subordination, 223
Structured bonds, 315. See also Asset-backed securities
Structured finance bonds, 47
Structured finance CDOs, 359
Structured products, 315. See also Asset-backed securities
Structure trades, 645
Subordinated debt, 216, 260
Subordination, 14, 331, 350
Subprime mortgage loans, 350
Subsidiaries, 11, 264
Substitutes, threat of, 231–232
Supplementary prospectus, 328n3
Suppliers, power of, 231
Support tranches, 346, 348
Supranational bonds, 70–71
Supranational organizations, 5
Surety bonds, 15
Survivor’s option, 405
Swap curves, 494. See also Swap rate curves
Swap markets, 494
Swap option, 595. See also Quality option
Swap rates, 493
Swap rate curves, 493–497, 495e
Swap spreads, 498–502, 501e, 648–649
Sweden, 31
Switzerland, 67
Symmetric cash flow matching, 577
Syndicated loans, 63, 72
Syndicated offerings, 59
Synthetic CDOs, 359

T
Target return, 559
Target value, 557
Tax considerations, 21–22
Tax-exempt bonds:
defined, 537n7
fixed income markets classified by, 53–54
Tax-exempt municipal bonds, 404. See also Municipal bonds
Tax-exempt securities, 21
Taxing authority of issuer, 12
Tax status, 128
TED spreads, 501, 501e
Tennessee Valley Authority (TVA), 446
Tenor, 6, 132
Term CDs, 82
Term premium, 509
Term repo, 83
Term structure. See also Maturity structure
of corporate notes/bonds, 77
of credit spreads, 111, 308–315, 310e
of volatility, 520, 520e
of yield volatility, 195
Term structure of interest rates, 128, 473–524
and active bond portfolio management, 489–493
arbitrage free models of, 512–514
Cox–Ingersoll–Ross model of, 508–510, 510
equilibrium term structure models of, 507–511
Ho–Lee model of, 512–514
liquidity preference theory of, 503–504
local expectation theory of, 502–503
preferred habitat theory of, 504–506, 505
segmented markets theory of, 504
spot rates and forward rates in, 474–484, 481, 482
and swap rate curves, 493–497
and swap spreads, 498–502, 501
Vasicek model of, 510–511, 511
yield curve factor models of, 515–524, 515
yield curve movement, 487–489
yield-to-maturity and spot rates, 484–487
Term structure of yield volatility, 195
Tesco, 60
Texas, 271, 271
Third-party risk, 15
Thomas, Lee R., 610–611
Tibor (Tokyo interbank offered rate), 52
Tierney, David E., 541, 565
TIIS (Treasury Inflation-Indexed Securities), 30
Time step (binomial interest trees), 378
Time-to-maturity, 176
Time tranching, 330
Time value of money:
and bond price vs. characteristics, 98–102, 99, 100, 102
and market discount rate, 92–96
selection of benchmarks for, 494
and spot rates, 102–104
and yield-to-maturity, 96–98
Timing option, 595
TIPS (Treasury Inflation-Protected Securities), 30, 68
Toews, Alden, 566, 571
Tokyo interbank offered rate (Tibor), 52
Top-down portfolio management, 638
Total return, 553
Total return analysis, 553–554, 640
Tracking risk (tracking error), 547–550, 548, 549
Trading constraints (global credit portfolio management), 645–647
buy-and-hold programs, 646–647
portfolio constraints, 646
seasonality, 647
"story" disagreement, 646
Traditional credit analysis models, 283–289, 286–288
Trailing 12-month returns:
by asset class, 265
by rating categories, 250
Tranches, 360
in collateralized mortgage obligations, 344–348, 345–347
and credit risk, 212
junior vs. senior, 14
for special purpose vehicles, 316
Treasury bills (T-bills), 66
Treasury bonds (T-bonds), 66
Treasury bond futures, 595
Treasury Inflation-Indexed Securities (TIIS), 30
Treasury Inflation-Protected Securities (TIPS), 30, 68
Treasury notes (T-notes), 66
Treasury note futures, 595
Treasury rates, 500, 501
Treasury securities (treasuries):
credit assets vs., 634
historical volatility structure of, 520
as sovereign bonds, 66
spot curve vs. forward curve for, 480–482, 481, 482
and spread duration, 562
swap spread for, 498
yield curves for, 517, 518
Treasury spot curve, 559, 648
Treasury yield curve, 648
Trend GDP, 267
True yield (fixed-rate bonds), 116
Trust deeds, 10, 246
Trustees, 26
Turnbull, S., 280
TVA (Tennessee Valley Authority), 446
2013 CIA World Fact Book, 494
Twist (yield curve), 544
Two-factor models, 376
U
Unambiguous (term), 541
Unbiased expectations theory, 502
Underlying, 594
Underwriters, 59
Underwritten offerings, 59–60
Unhedged return, 614
United Kingdom:
bankruptcy in, 219
debentures in, 13
foreign bonds in, 19
gilts as benchmark in, 498
indexed bonds in, 31, 32
Index

sovereign rating of, 67
tax-exempt bonds in, 54
UK Financial Service Authority, 286
United Rentals, Inc., 224, 224e, 263, 263e
United States:
bankruptcy in, 219
as bond issuer, 52
credit scores in, 285
debt and equity outstanding in, 48
foreign bonds in, 19
inflation-linked bonds in, 31
mortgage maturity length in, 335
sovereign rating of, 67
swap market in, 494
yield curve movement in, 515, 515e
US commercial paper (USCP), 74, 74e, 75, 75e
US Department of the Treasury, 61, 62
US dollars, 7
US Treasuries, see Treasury securities
Unrestricted subsidiaries, 264
Unsecured debt, 77, 215

V
Valuation:
backward induction, 381
of bonds, at interest tree nodes, 381–383, 381e–383e
of bonds with embedded options, 513–514
of coupon bonds, 308–309
of financial assets, 372
pathwise, in arbitrage-free framework, 391–393, 391e–393e
with reduced form models, 299–300
with structural models, 291–292
swap curve in, 495–497, 495e
Value additivity, 373
Value at risk (VAR), 593
Variable-rate mortgages, 336. See also Adjustable-rate mortgages
Variable-rate notes, 28
Variance, portfolio risk and, 593–594
Vasicek, Oldrich, 566, 570–572, 574
Vasicek model, 510–511, 511e
Volatility:
of interest rates, 380–381, 513, 520
of yield curves, 520, 520e
of yields, 195–197
Volpert, Kenneth E., 550–551

W
WAC (weighted average coupon rate), 339
WAL (weighted average life), 342
Walt Disney Company, 76
WAM (weighted average maturity), 339
Warrants, 38
Waste Management Utility PLC (WMU), 451–452
Waterfalls, 14, 316, 329
Watson Pharmaceuticals, Inc., 238, 238e–242e, 244–245
Weighted average coupon rate (WAC), 339
Weighted average life (WAL), 342
Weighted average maturity (WAM), 339
Weinberger, Alfred, 566
Western Europe, debt and equity outstanding in, 48
When issued market, 60. See also Grey market
Wholesale funds, 81–82, 85
Wild card option, 595
Willner, Ram, 610–611
WMU (Waste Management Utility PLC), 451–452
Working capital, 259
Workout period, 353
World Bank, emerging markets defined by, 266n42
WorldCom, 644

Y
Yankee bonds, 19
YAS, see Bloomberg Yield and Spread Analysis page
Yawitz, Jess B., 566
Yield(s):
of corporate bonds, 250–251
measures of, 10
Yield beta, 600
Yield curves, 130, 130e, 131, 408e
and callable bond valuation, 415–416, 415e, 416e
with equilibrium term structure models, 511 in Ho–Lee model, 512
parallel shifts in, 182
and portfolio construction, 544
and putable bond valuation, 416–418, 417e
riding, 491
rolling down, 491
and structure trades, 645
of swap rates, 494
Yield curve-adjustment trades, 644–645
Yield curve factor models, 515–524, 515e–520e
Yield curve movement, 487–489, 515e, 516e
Yield curve risk, 521–523, 544
Yield curve sensitivity, 521
Yield curve volatilities, maturity structure of, 520, 520e
Yield duration, 163
Yield measures, 113–128
and fixed-income valuation, 113–128
for fixed-rate bonds, 113–119
for floating-rate notes, 119–123
for money market instruments, 123–128
Yield spreads:
and credit analysis, 249–251, 249e, 250e, 252e, 253–258, 254e–257e
and fixed-income valuation, 136–138, 139e, 140
Yield/spread pickup trades, 643
Yield to call (YTC) basis, 249n30
Yield-to-maturity (YTM), 10
building blocks of, 137e
and convexity, 192
and duration, 176
and spot rates, 484–487
and time value of money, 96–98
Yield to redemption, 10. See also Yield-to-maturity (YTM)
Yield to worst (YTW), 118, 249n30
Yield volatility, 195–197
YTC (yield to call) basis, 249n30
YTM, see Yield-to-maturity
YTW (yield to worst), 118, 249n30

Z
Zero-coupon bonds (zeros), 7, 31
convexity of, 187–189, 187e
payment structure of, 76
as sovereign bonds, 68
and spot curve, 474
valuation of, 96
viewing all securities as packages of, 374–375
yield-to-maturity for, 98
Zero-coupon rates, 483
Zero curves, 128–129. See also Spot curves
Zero rates, 102. See also Spot rates
Zero volatility spreads (Z-spreads), 138, 140, 499–500, 561. See also Static spread