

- Accounting
 - practices, 3–4
 - returns
 - analysis, 201
 - limitations, 201
- Acquired capital, percentage, 345–346
- Acquired firm, tax advantages (exploitation), 397
- Acquirers
 - characteristics, 346
 - number elevation, benefits, 397–398
- Acquisitions
 - analysis, 82–83
 - benefits, 396–399
 - competitive market, 394
 - control premium, relationship, 423e
 - financing, 357
 - perfect world example, 422–426
 - premium, 410
 - estimation, 420–422
 - simulation, 424e
 - transaction
 - benefits, 367
 - valuation example, 349
 - valuation
 - analysis standpoint, 372
 - considerations, 372–374
 - value, termination (critique), 408
- Acquisition value (investment value), 361, 362–363
 - case study, 375–377
 - determination, 377, 378–379
 - example, 377e
 - formation, elements, 367, 371e
 - term, usage, 364
- Active potential strategic buyers, absence, 399
- Activities integration, benefits, 373
- Actual debt, tax shield discounting (relationship), 189–190
- Additional rate premium (ARP), 220
- Adjusted beta, 214
- Adjusted discount rate
 - formulas, usage, 273
 - process, 263–264
- Adjusted earnings per share, 360
- Adjusted present value (APV), 162, 249
 - approach, 271–273
 - advantages, 260
 - method, usage, 164
 - model, usage, 176
- Already-earned orders, 44
 - revenues, relationship, 41
- Already-won orders, 42
- Alternative debt profiles, 262–263
- Alternative tax shields, uncertainty (relationship), 182–183
- Aluminum, prices, 94e
- Analysis
 - business model analysis, 7–8
 - competitors analysis, 8
 - market analysis, 8
 - model, 367–368
 - organization, 7–9
 - risk profile analysis, 8–9
 - uncertainty analysis, 7e
- Analytical procedure (valuation), 246–247
- Annuity (decrease), DCF formula (usage), 243
- APT. *See* Arbitrage pricing theory
- APV. *See* Adjusted present value
- Arbitrage pricing theory (APT), 204–205
- Arithmetic mean, geometric mean (contrast), 198–199
- ARP. *See* Additional rate premium
- Asset and liability statement, example, 285e
- Asset-pricing model, 466
- Assets
 - asset-side perspective, 165e
 - equity-side perspective, contrast, 165–166
 - book value, 245
 - disposal, 412
 - risk, 172

- Assets (*Continued*)
 usage, 159–160
 valuation, preference, 165
 value, 167
- Asset-side valuation, equity-side valuation (contrast), 374
- Assumptions
 addition, 114e
 example, 147e
 set, 458e
- Average daily volumes traded (ADTV), offering size (contrast), 436
- Average inventory days, 51
- Average outstanding trade credit days, 51
- Average outstanding trade debt days, 51
- Average rental cost per square meter, evolution, 37e
- Average uncertainty, average flexibility (relationship), 13–14
- Balance sheet
 example, 148e
 forecasts, development, 27, 28
 impacts, 24
 income statement, relationship, 134–136
 issues, 137–141
 items, 155e
 market value expression, 300e
 multiples, correspondence, 300e
 reorganization, 126–134
 case study, 133–134
 example, 128e
 guidelines, 126
- Bankruptcy costs, 318
- Bargaining power, elevation, 398
- Base rate, expression, 223
- Benchmark, 223
- Benefits, psychological nature, 418
- β_{equity} , 216–218
- Best case analysis, 58–59
- Best-case scenario, 65e
- Best-fitting distribution (finding), Excel (usage), 461
- Best/worst-case analysis, usefulness, 58
- Beta, 205
 adjusted beta, 214
 calculation, problems, 212–214
 estimation, 212–218, 468
 industry-level beta, 214–218
 levered beta, 213, 216
 pure beta, calculation, 215
 raw beta, 214
 total betas, 220–221
 unlevered beta, 215, 216
- Bilateral monopoly, 396
- $\beta_{\text{liquidity}}$, 217–218
- Blocks, transfer (prices), 429
- Bloomberg, 212, 213
- Bondholders, interest receivable (personal tax rate), 180
- Bonds
 convertible bonds, 225–227
 pure bond, 225
 ratings, issuance, 223
 value, 226
 yield to maturity, 226
- Book value, addition, 337
- Book value of assets, 245
- Break-up valuation, example, 406e
- Break-up value
 determination, 404
 estimation, 403–406
 example, 404–406
- Business
 activity, 28
 assumptions, 26
 base value, 269–270
 cash flows, 245, 405e
 example, 405e
 financial control, 38
 financial restructuring, 280
 forecasting, usage, 19
 multi-business company valuation, 231e
 multiples, 298
 examples, 298e
 needs, operating assets (relationship), 127
 operating assets, needs (relationship), 127
 operations
 continuation, 137
 financial cycle, 129
 operations, efficiency improvements (savings), 370
 possibility, 222
 presence, 333–334
 risk profile, constancy, 198
 soundness, 430
 stand-alone value, 379
 strategy, knowledge, 1
 valuation, situations, 12
- Business models, 8, 229
 affinity, benefits, 397
 development, depiction, 13e

- relationships, search, 340
- understanding, 230e
- Business plans
 - analysis, 49
 - company operation expiry, 50
 - critical analysis phase, development
 - aspects, 50–51
 - elaboration, phases, 19–28
 - horizon
 - debt pattern, 242e
 - expected revenues composition, 42e
 - forecast, debt patterns, 240e, 241e
 - forecast, debt profile, 237–239
 - net financial debt, absolute value, 239
 - preparation
 - factors, 27
 - nominal terms, 50
 - profitability, assessment, 145
 - projections, 142–150
 - assumptions, 143–146
- Business unit(s), 28
 - cash flow profiles, 229–231
 - distribution channel targets, 19
 - shutdown/divestment, 19
- Buyback deals, absence, 238
- Buy-transform-sell, 129
 - operations, 137
- CAGR. *See* Compound annual growth rate
- Cap-and-trade system, 451
- Capital
 - acquired capital, percentage, 345–346
 - acquired fraction, premium, 425e
 - acquisition value, 380
 - carbon-adjusted cost, usage (implication), 470
 - fraction, acquisition, 381e
 - gains, 213
 - increases, 337–338
 - multiple estimation, 359e
 - P/E ratio, relationship, 358–360
 - investment, remuneration, 357
 - limited share, 426
 - structure, 436
 - decisions, short-term reversion (absence), 175
- Capital asset pricing model (CAPM), 204–206, 466
 - adoption, 218
 - forecasts, 212
 - formula, integration, 220
 - personal taxes, involvement, 227–228
 - setting, rate calculation, 220
 - taxes, inclusion, 206
- Capital cash flow (CCF), 173
- Capital cost
 - calculation, formulas (derivation), 183–190
 - estimation, 194, 221
 - formulas, 173–178
 - leverage/growth, relationship, 191e
 - opportunity cost of capital, defining, 194
 - parameters, 176e
- Capital expenditures (capex), 40
 - assumptions, 38–39, 43
 - growth capex, impact, 39
 - impact, 34
 - maintenance, 39
 - spending, 45
 - time distribution, 45e
 - total capex, spending, 45
- Capitalization level, 436
- Capital, opportunity cost
 - double meaning, 152
 - functions, 152
- CAPM. *See* Capital asset pricing model
- Captive companies, 236
- CAPV. *See* Compressed APV
- Carbon
 - adder, 452
 - beta, 466–470
 - application, 467–470
 - defining, 466–467
 - European utilities, 469e
 - cost, 452
 - ex-post returns, beta coefficient, 467
 - price, 457
 - scenario-based valuation, relationship, 454–458
 - stochastic simulation valuation, relationship, 458–465
- Carbon dioxide, social cost (estimates), 453e
- Carbon pricing, 450–453
 - objective, 450–451
 - practice, 450–451
- Carbon risk
 - corporate value, relationship, 448
 - existence, 449–450
 - importance, 448–450
 - overview, 449e
 - premium, 466
 - usage, 453–465

- Cash, 129
 generation, 137–138
 outlay, 443
- Cash equivalents, 129
- Cash flow profiles, 229–231
 development, 231
 examples, 231–236, 234e–236e
 whole entity, contrast, 230–231
- Cash flow projections, 142, 147–150, 175
 assumptions, 143–147
 debt level, debt profile (equivalence), 241–242
 examples, 248e, 404e, 407e
 hypotheses, translation, 296
- Cash flows
 availability, 250
 convergence, 169
 corporate taxes, 181e
 definitions, 141–142
 determination, 125
 differential effects, 365–366
 discounting, 280
 dynamic, 253–254, 280
 example, 265e
 estimation, 373–374, 456e, 457e
 examples, 232e, 233e
 expectation, 176e
 explicit projections, 280
 generation
 assets, usage, 159–160
 assumption, 175–176
 growth
 nominal/real terms, 239
 rates, constancy, 295
 inflation, impact, 253
 investing activities, 138–139
 model, 229
 identification, problems, 236
 net present value, 286
 personal taxes, 181e
 plan, 248
 present value, 286
 projecting, 146–150
 projections, time horizon. *See* Explicit cash flow projections.
 representations, 17e
 stand-alone cash flow, 376e
 statement
 example, 285e
 forecasts, development, 27, 28
 impacts, 24
- CCF. *See* Capital cash flow
- Central structure costs, assumptions, 38
- Clients, portfolio concentration, 414
- Collusive policies, incremental cash flow, 365–366
- Commercial activities, revenues (contrast), 29e
- Commercial companies
 average rental cost per square meter, evolution, 37e
 capital expenditures, assumptions, 38–39
 central structure costs, assumptions, 38
 contribution margin, assumptions, 36
 logistics management cost, assumptions, 38
 managed commercial surface, evolution, 35e
 managed surface, revenue per square meter (evolution), 35e
 percentage contribution margin, evolution, 36e
 points of sale
 location, costs assumption, 37
 number, evolution, 35e
 start-up phase, 36
 points of sale network operation, 34–40
 promotional activities costs, assumptions, 37
 revenues, assumptions, 34–36
 sales force employee costs, assumptions, 37
 working capital, assumptions, 38
- Commercial costs, assumptions, 32
- Commercial credits, forecast, 48
- Commercial debts, forecast, 48
- Commercial network, exploitation, 406–408
- Commercial strategy, definition, 38
- Commercial surface, management, 34
- Companies
 acquisition value, determination, 377
 activities, 40
 adoption, legal structure, 20
 assets, risk, 172
 assumptions, 143
 balance sheet, income statement (relationship), 134–136
 breakup value, 281
 business activity, 22
 business plan, 50
 captive companies, 236
 carbon risk, overview, 449e

- classification, 333
- competitive advantage, advance, 236
- corporate-level tax strategy, 20
- debt, absence, 320
- delisting, 210
- equilibrium value, 281
- equity valuation, approaches, 166e
- European companies, multiples, 352e
- features, analysis, 18
- financials, 370e
- flow, 159e
- geographical market operation, 19
- growth, 138
- intrinsic value, 52
- management, quality, 215
- market sentiment, 437
- market share, 33
- maturity, 138
- multi-business company valuation, 231e
- multiples, estimation, 343
- multi-utility companies, evaluation, 230
- objectives, pursuit, 24
- one-man companies, 196
- operation (geographical areas),
 - macroeconomic assumptions (formulation), 26
 - performances, features, 52
 - pricing policies, transfer, 20
 - product sale, geographical markets, 22
 - prudential value, stand-alone scenario, 179
 - results, industrial/economic key drivers (correlation), 144
 - sectors, operation, 19–20
 - selection, 215
 - short list, defining, 332
 - size, 430
 - total cash flow, expression, 180
 - undistributed profits, usage, 325
 - unlevered value, 271
 - unrelated business operation, 19
 - value
 - change, 295
 - decrease, 175
 - equilibrium, 247
 - growth, 270
- Companies, on order operation, 40–44
 - business plan horizon, expected revenues composition, 42e
 - capital expenditure (capex), assumptions, 43
 - direct costs, assumptions, 41–42
 - indirect costs, assumptions, 43
 - revenues assumptions, 41
 - working capital, assumptions, 43
 - Companies, regulated sectors operation, 44–49
 - capital expenditure, time distribution, 45e
 - D&A assumptions, 47
 - equity injection, time distribution, 45e
 - infrastructure development, assumptions, 45
 - revenues, assumptions, 46
 - taxes, assumptions, 47
 - toll per kilometer evolution, 46e
 - toll road infrastructure management costs, hypotheses, 46–47
 - traffic volume evolution, 46e
 - working capital, assumptions, 48
 - Company-specific assumptions,
 - industry market assumptions (consistency), 145–146
 - Company-specific conditions (scenario categorization), 55
 - Company valuation, 416
 - analysis, organization, 7–9
 - assumptions, 143
 - cash flows, determination, 125
 - dynamic standpoint, assumption, 15–16
 - information, requirement, 1–2
 - methodologies/approaches, 2e
 - methods, 2–4
 - multiples, selection, 341
 - P/BV multiple regression, 329
 - steady-state condition, 311–312
 - uncertainty, impact, 5–9
- Comparable approach, 3
 - analysis, steps, 357
 - case study, 349–358
 - elements, analyses, 350–351
 - exit multiples estimate, 355–357
 - fiscal effects, estimates, 354e
 - multiples
 - tax rate adjustments, 353–355
 - trend, example, 358e
 - transaction, logic, 349
 - valuation
 - information, relevance, 349–350
 - multiples basis, 355
 - value, multiples (usage), 357e
 - value multiples, analysis, 351–353

- Comparable companies
 - characteristics, 351e
 - market multiples, analysis, 401
 - market price (calculation), reference period (definition), 341
 - multiples, value (estimation), 349
 - sales breakdown, 351
 - selection, 350–351
- Comparable companies, short list (making), 333–334
- Comparables, 329–330
 - sample
 - building, 332–333
 - cleaning, 334
- Competitive advantage, absence, 236
- Competitive market, 394
- Competitive positioning, 19, 22
- Competitive strategies, 27
 - company level, 19–22
 - corporate level, 21e
 - defining, 19–23
 - implementation, 50
 - implementation, actions, 23–25
 - defining, 25e
 - single business activity level, 23e, 24e
 - single business unit level, 22
- Competitors analysis, 8
- Components manufacturer
 - commercial costs, assumption, 32
 - example, 28–34
 - industrial costs, assumptions, 31–32
 - revenues, assumptions, 29
 - working capital, assumptions, 32–33
- Compound annual growth rate (CAGR), example, 37
- Compressed APV (CAPV), 173
- Concentration, processes (analysis), 399
- Consensus forecasts, analysis, 202
- Constant growth, 241–242
 - model
 - APV approach, 271–273
 - usage, 273
 - scenario
 - cash flow dynamic, 265e
 - flow dynamic, 269e
- Consulting services, receipt (importance), 28
- Consumption, evolution, 143
- Contribution margin, assumptions, 36
- Control
 - absence, discount (usage), 411, 412–413
 - data, relationship, 416
 - market, competition level, 420
 - market, price formation, 393–396
 - premiums
 - estimation, 417–420
 - perfect world example, 422–426
 - private benefits, 390, 416–417
 - private benefits, relationship, 383e
 - pyramidal control structure, presence, 419–420
 - transfer, 412
- Controlling block price, average, 384
- Controlling interest
 - acquisition price limit, identification, 384
 - acquisition value, 377–382
 - model, application, 379–382
 - base, 415
- Controlling share, acquisition price, 385
- Controlling shareholder, private benefits, 383
- Controlling stakes
 - sale price, comparison, 418
 - value, estimation, 426–427
- Control premium
 - acquisition, relationship, 423e
 - determinants, 382–384
 - example, 427
 - simulation, 424e
- Convertible bonds, 225–227, 338–339
- COP21, 451
- Core markets, size, 91, 92
- Corporate control, market, 297
 - value/prices, 393
- Corporate intangible assets,
 - investment/management strategy, 20–21
- Corporate-level assumptions, 26
- Corporate-level competitive strategy, 21e
- Corporate-level tax strategy, 20
- Corporate structure, role, 21
- Corporate taxes, 159e
 - cash flow, relationship, 181e
- Corporate valuation
 - carbon risks, incorporation, 453–465
 - Monte Carlo method, relationship, 74–76
 - scenario analysis, usage, 455
- Corporate value, carbon risk (relationship), 448
- Correlation
 - adjustment, selection, 117e
 - matrix, 118e
 - selection, 116e

- Correlation coefficients
 - setup, 115e
 - values, entry, 117e
- Cost of capital
 - calculation, formulas derivation, 183–190
 - estimation, 194, 221
 - example, 175–178
 - formulas, 173–178
 - leverage/growth, relationship, 191e
 - opportunity cost of capital, defining, 194
 - parameters, 176e
 - presentation, 65e
- Cost of debt (K_d), 222–226
 - components, 222–224
 - decomposition, 255
 - liabilities, inclusion, 222
 - questions, 222
 - sum, 223
- Costs
 - estimation, 145
 - partial recovery, 141
 - revenues, correlation, 91e
- Counterparty, negotiations, 41
- Coverage ratio, 224
- Credit (obtaining), capacity (differential effect), 366–367
- Critical analysis phase, development aspects, 50–51
- Crystal Ball, 458
 - assumptions
 - defining, 103e
 - entry, 104e
 - correlation analysis, 112e
 - main interface, 102e
 - selection, 92
 - simulation IV outcome, 110e–112e
 - trials
 - initiation, 108e
 - number, simulation outcome, 108e, 109e, 110e
 - running, 108e
 - usage, 81
 - usage, step-by-step guide, 100
- Cum-right-price, 433
- Current activities, monetary flow, 138
 - equation, 141
- Current multiples, 301–303
 - target bid formulation, 349
- Cyclical industries, 195
- Cyclicity, 247
- Cyclical sector, cash flow profiles, 234e
- D&A assumptions, 47
- Data providers, industry classifications
 - adoption, 333
- Days inventory, 93
 - outstanding, factors, 91
- Days payable, 93
 - outstanding, factors, 91
- DDM. *See* Dividend discount model
- Deal characteristics, premium size (relationship), 421
- Deal multiples
 - acquired capital, percentage, 345–346
 - acquirer, characteristics, 346
 - analysis, 344–348
 - factors, 346
 - earnouts, 347
 - payment methods, 347
 - stock market, relationship, 297–298, 297e
 - surplus assets: existence, 346–347
 - trends, 347
- Debt, 178c. *See also* Net financial debt
 - actual debt, 177e
 - benefits, alternative valuation techniques, 162–165
 - capacity, increase, 370
 - cost (K_d), 222–226
 - foreign currency debt, 225
 - level
 - assumption, 177
 - debt profile, equivalence, 241–242
 - example, 100
 - long-term cost, 225
 - long-term debt, 224
 - medium-term debt, 224
 - negotiations, 139
 - patterns, 240e
 - selection guidelines, 245–246
 - ratio, 250
 - trend, 143
 - repayment, expiration, 139
 - side effects, 162
 - tax advantages, 158–162
 - tax benefits, 162, 258
 - threshold, 175
 - types, cost, 224–227
 - unit, issuance (tax advantage), 182
 - value, 177e
 - relationship, 151–152
 - variable rate debt, 224
- Debt-holders, interests (payment), 137

- Debt profile, 374. *See also* Business plans
 alternatives, 262–263
 analysis, 237–239
 constant/decreasing repayment, inclusion,
 244e
 debt level, equivalence, 241–242
 example, 263e
- Debt-to-equity ratio, 224
- Decision trees, usage, 17
- Deductions, coherence, 412
- Defiscalization measures, 45
 effects, 47
- Delivery speed, importance, 28
- Delocalization process, initiation, 22
- Depreciation, equivalence, 261
- Determined threshold, return (probability),
 98e
- Development, investment niche, 15
- Diluted earnings per share, 338, 359
- Dilution, 443–446
- Direct costs, assumptions, 41–42
- Direct multiples, 301e
- Discounted cash flow (DCF)
 alternative methods, 282e
 approaches, selection, 454
 calculation, 63, 100–101
 example, 286e
 formula, usage, 243
 method, usage, 426
 multiples, relationship, 295–296
 results, trials dependence, 119e–121e
 scenario-based DCF, 454
 standard DCF, 454
 valuation, equation, 456–457
 stochastic simulation, DCF, 454
 two-stage DCF, usage, 63
 valuations, 168
 cash flow projection, 248e
 value, tracking, 69e
- Discounted future results, value function,
 249
- Discounting, logic, 5e
- Discount rate adjustment, 151–152
 approach, 256–258
 method, 162, 273–274
 shortcomings, 164–165
 usage, 163–165
- Discount rates, 164e
 adjusted discount rate process,
 262–263
 asset-side approach, 257
 equity-side approach, 256–257
 leverage, relationship, 153–154
- Discounts
 calculation, basis, 413–414
 company level, 414–415
 examination, 409–410
 gross discount, 433
 holding discounts, 414–415
 impact, 408–410
 liquidity, absence, 412
 liquidity discounts, 413
 shareholder level, 411–414
 types, 410–415
- Discount, usage, 220
- Disequilibrium situation, 144–145
- Distribution assumptions, cases, 105e,
 106e, 107e
- Distribution channel(s)
 management deficiencies, elimination,
 397
 targets, 19
 usage, 22
- Diversifiable risk, 205
- Diversification, opportunities, 219
- Disrestitute
 occurrence, 349, 357
 price, factors, 345
- Dividend discount model (DDM), 202, 211
 two-stage DDM, 203
- Dividend distribution, 139
- Dividend per share (DPS), 203
- Dividends
 personal tax rate, 180
 receiving, 213
- Divisible benefits (flow), 378
- Downside risk, 195
- Downsizing, 220
- DPS. *See* Dividend per share
- Dynamic standpoint
 assumption, 15–16
 static standpoint, contrast, 9–14
- Earnings before interest and taxes (EBIT),
 250
 growth, balance, 357
 multiples, 375
 reduction, 182
 rewriting, 311
- Earnings before interest, taxes, depreciation,
 and amortization (EBITDA), 137–138
 cash flow profiles, relationship, 231

- FCFO, relationship, 232
- trends, 233
- Earnings per share (EPS)
 - adjustment, 360
 - dilution, 338, 359
- Earnouts, 347
- EBIT. *See* Earnings before interest and taxes
- Economic environment, assumptions, 143
- Economic profit approach, 3
- Economic theory, knowledge, 1
- Economic venture, business risk (amplification), 153
- Economies of scale, consequence, 373
- ECX. *See* European Climate Exchange
- Emission trading systems (ETS), 451
- Empirical valuation methods, development, 401
- Employees
 - labor costs, 47
 - number, 32
- Endemic synergies, 402–403
 - commercial network exploitation, 406–408
- Enterprises, uncertainty, 52
- Enterprise value/earnings before interest and taxes (EV/EBIT), 300e, 341
 - growth, absence, 307–308
 - multiples, 307–310
 - ratio
 - analysis, 309
 - benchmark, 357
 - leverage, theoretical relationship, 314, 314e
 - usage, 308–310
- Enterprise value/earnings before interest, taxes, depreciation, and amortization (EV/EBITDA), 300e, 341
 - multiples, 307–310
 - discussion, 310
- Enterprise value/sales (EV/Sales), 300e, 311–312, 341
- Entry barriers, 15
- Environmental factors, 420
- EPS. *See* Earnings per share
- Equity
 - capital, cost, 226
 - increase, 139
 - injection, time distribution, 45e
 - markets, historical/implied volatility, 436
 - repayment, 139
 - valuation
 - approaches, 166e
 - preference, 165
 - value, 368–369
- Equity risk premium (ERP), 208
- Equity-side perspective, 165e
 - asset-side perspective, contrast, 165–166
- Equity-side valuation, asset-side valuation (contrast), 374
- Equity value, 161, 167
 - distribution, 97e
 - forecast variable, 95
- ERP. *See* Equity risk premium; Ex-right price
- Estimated traffic volumes, 46
- Estimation methods, 400–401
- Estimation procedures, definitions, 431
- ETS. *See* Emission trading systems
- European Climate Exchange (ECX), 468
- European companies
 - adjusted multiples, 356e
 - multiples, 352e
- European ETS market, 466
- European public utilities, investments, 333
- European Union Emissions Trading Scheme (EU ETS), 467
- European utilities, carbon beta, 469e
- Evolutionary phenomena, generation, 6
- Ex-ante expected market return, 211
- Excel
 - assumptions, addition, 114e
 - correlation
 - acceptance, 113e
 - adjustment, selection, 117e
 - list, 116e
 - matrix, 118e
 - selection, 116e
 - correlation coefficients
 - setup, 115e
 - values, entry, 117e
 - discounted cash flow (DCF) results, trials dependence, 119e–121e
 - IV results, trials dependence, 121e–123e
 - scenario analysis, 62–71
 - screen, example, 64e
 - usage, 81, 461
 - step-by-step guide, 100
 - What-If button, 66e
- Excess profit, elimination, 395
- Exchange ratios (ERs), 386–389
 - benefits size, relationship, 387e
 - estimation, problem, 389

- Exchange ratios (ERs) (*Continued*)
 movement, 388e
 third-party protection, relationship, 389–390
 value, 387
- Exit multiples, estimation, 343–344, 355–357
- Expected carbon costs, 458
- Expected cash flows, 176e
 adjustment, 152
 discounting, 198–199
 uncertainty, 52
- Expected free cash flows (expected FCFs), forecast, 79
- Expected future results approach, 3
- Expected returns
 estimation, current stock prices (usage), 201–203
 extraction, 197
- Expected revenues, forecast, 29
- Expected risk premium (premia), 208, 211
- Expected R_p , 211
- Explicit cash flow projections, time horizon, 374
- Explicit forecast period, future expected cash flows, 96e
- Explicit projections, 280–281
- Ex post returns, 198
- Ex post total return, 209
- Ex-right date, 432
 investor share purchase, 439
- Ex-right price (ERP), 432, 441–442
- External carbon prices, internal carbon prices (contrast), 451–453
- External services, costs, 32
- External staff, labor costs, 42
- Extrapolation, basis, 343
- Fair market value, 363
 estimate, takeover premiums (usage), 422
 estimation, 401–408
 estimation methods, 400–401
 positioning, 400e
 pricing model, 399–401
- Fair value, 363–364
- Fake multiples, 353
- Fares, evolution, 143
- FCFE. *See* Free cash flow to equity
- FCFF. *See* Free cash flow to the firm
- FCFO. *See* Free cash flow operations
- Finance, theory/techniques (knowledge), 1
- Financial analysts, standard procedure (usage), 247–248
- Financial assets, risk level, 228
- Financial communities, practices, 3–4
- Financial companies, value maps (examples), 329e
- Financial economic environment, assumptions, 143
- Financial facilities, support, 224
- Financial investor, perspective, 218
- Financial leverage
 price/book value (P/BV) ratio, relationship, 314–315
 price/earnings, relationship, 312–314
- Financial methods, 3, 296
- Financial multiples, 298
- Financial principle, 126
- Financial resources (securing), failure (risk), 53
- Financial risk, 153
- Financials, 83e
 adjustment, 402, 402e
 revision, 403e
- Financial statement
 example, 261e
 outline, 140e
- Financial structure (differential), 371
 value, determination, 369
- Financial valuations, methods (usage), 151
- Financial value of time, 152, 206
- Financing
 activities, cash flow, 139
 collection/structuring, 20
 employee grant, 131
 issues, clarification, 132–133
 net financial position, 132
 pension liabilities, problems, 131
 profile, 86e–87e
 sources, 130–133
 structure, 130e
 tax liabilities/provisions, 131
- Firms
 affinities, benefits, 398
 assets, characteristics, 430
 equity, value, 161
 innovative strategy (development), uncertainty (impact), 6
 mergers, benefits, 398
 risk factors, 6
 size, 215, 224
 total value, 161

- Fiscal effects, estimates, 354e
- Fiscal incomes, consolidation opportunity (assessment), 20
- Fiscal policy, impact, 26
- Fiscal position, change, 140
- Fisher formula, 200
- Fisher, Irving, 4
- Fisher's equation, 170–171
- Fit distribution to data option, 459
- Fixed assets, 127–128
- investment/divestment, 137
- Fixed costs, impact, 31, 32
- Fixed income, NPV calculation, 281
- Flexibility
- limited flexibility, high uncertainty (relationship), 11–12
- managerial flexibility, 9–16
- uncertainty limitation, relationship, 10–11
- Flow. *See* Companies
- adjustment, 409
- classification, 378
- differential, equation, 370
- divisible flow, 378
- indivisible flow, 378
- net present value, 372
- present value, 364
- production, 378
- reinvestment rate, 269
- Forecast income statement, preparation, 19
- Forecasts
- set, 458
- setting, 462
- Forecast variables, defining, 95
- Foreign currency debt, 225
- Forward rates, 208
- Free cash flow operations (FCFO), 126, 153
- calculation, 142e
- cash flow profiles, relationship, 231
- decrease, tax impact, 253
- EBITDA, relationship, 232
- financial representation highlights, 233
- increase, 252–253
- normalization, 287
- present value, 151
- projection, example, 149e
- trends, 233
- Free cash flows (FCFs), forecast, 79
- Free cash flow to equity (FCFE), 126, 153
- calculation, 142e
- projection, example, 150e
- Free cash flow to the firm (FCFF), 126
- Functional principle, 126
- usage, example, 134e
- Funds
- usage, 127–130
- uses/sources, 139–141
- Future expected cash flows
- explicit forecast period, 96e
- forecast variable, 95
- Garbage in garbage out (GIGO), 61–62
- Gas Supply Co.
- asset/liability statement, 285e
- cash flow statement, 285c
- company strategy, 284
- debt, example, 291e
- discounted cash flows, example, 286e
- evaluation, 233–294
- unlevered perspective, 290
- first period (t_0 – t_{14}), 288–289, 291
- growth, estimation, 288
- growth, support (investment), 287
- income statement, 285e
- industry, assumptions, 283–284
- initial public offering (IPO), 293
- interest payments, example, 291e
- Italy, natural gas (expected consumption), 284e
- large customers, acquisition, 284
- overall terminal value, 289
- plan, cash flow (present value), 286
- plan horizon, cash flow (net present value), 286
- scenarios, 292–293
- second period, 289, 291–292
- selective growth, 284
- tax shields
- example, 291e
- present value, estimation, 290–293
- terminal value
- calculation, 288–289
- determination, assumptions, 287–288
- value, estimation, 294
- Geographical markets, 22
- Geometric mean, arithmetic mean (contrast), 198–199
- German Bunds, 223
- GHG. *See* Greenhouse gas

- Gianfrate, Gianfranco, 448
- Goods, appraisal, 141
- Gordon model, 264
 - characteristics, 266–270
 - limitation, 320
 - usage, 270
- Gordon, Myron, 264
- Greenhouse gas (GHG) emissions, 452–453
- Gross discount, 433, 434
- Gross domestic product (GDP)
 - growth rate, 143, 231
 - trend, 6
- Group structures, 336–337
- Growth
 - absence, 303–304, 307–308
 - consideration, 179
 - constant growth, 241–242
 - context, K_{el} pattern, 190–193
 - duration, 326
 - uniformity, 325
 - leverage/capital cost, relationship, 191e
 - leverage/value, relationship, 168–169
 - limited growth, 242
 - multiples
 - map, 326e
 - relationship, 320–326
 - perpetual growth formula, 264–275
 - phases, analysis, 280
 - selective growth, 284
 - steady growth, 246
 - support (investment), 287
 - tax shields, relationship, 189–190
 - trend, constancy, 304
 - usage, 330–331
- Growth capex, impact, 39
- Growth rate
 - constancy, 299
 - examples, 100
 - nominal growth rate, 170
 - P/E trend, relationship, 321e, 324e
- Growth scenarios, 184–186, 188–189, 318
 - company, unlevered value, 271
 - cost of capital formulas, 173–178
 - example, 175–178
 - EV/EBIT ratio, 308–310
 - leverage/value, usage, 168
- High-growth scenario, variables, 67e
- High uncertainty, high flexibility (relationship), 13
- High uncertainty scenario, 12e
- Historical financial information, 82
- Historical premia, 211
- Historical records, use, 197
- Historical returns, 209, 213
 - approach, 197–198
- Historical risk premium, 208
 - meaning/calculation, 209–211
- Historical volatility, 436, 437
- Holding companies, 19
 - capitalization, 337
- Holding, creation, 20
- Holding discounts, 414–415
- Hybrid securities, 167
- Hydroelectric company, valuation
 - adjusted discount rate process, 263–264
 - debt profiles
 - alternative, 262–263
 - example, 263e
 - example, 260–264
 - neutral information scenario, 262
 - steady-state information scenario, 262
- Idiosyncratic risk factors, detection, 221
- Implicit warrant, 226
- Implied volatility, 436, 437
- Income
 - approach, 3
 - derivation, 139
 - growth, NPV calculation, 281
 - NPV calculation, 281
 - return, 209
- Income statement
 - balance sheet, relationship, 134–136
 - example, 149e, 285e
 - forecasting, preparation, 19
 - forecasts, development, 27, 28
 - impacts, 24
 - quantitative hypotheses, impact, 51
 - reorganization, 136
 - examples, 134e, 136e
 - results, 271
 - synthetic income statement reorganization model, 135e
- Incremental cash flow
 - generation, 362
 - impact, 365–366
 - quantitative differential effect, 365
- Incremental flow
 - value (determination), synergies (impact), 369

- Incremental flow, impact, 366
- Incremental net income, 266
- Indirect costs, assumptions, 43
- Indirect multiples, 301e
- Indivisible benefits (flow), 378
 - exchange ratio movement, 388e
- Industrial activity, variable costs (relationship), 31
- Industrial companies, standardized products manufacture, 34
- Industrial costs, assumptions, 31–32
- Industrial economics, knowledge, 1
- Industries, performance (characterization), 5–6
- Industry
 - multiples, 344
 - estimation, 343
 - normative actions, impact, 143
 - returns, 3
- Industry-level beta, 214–218
 - calculation, 215
- Industry/market assumptions, company-specific assumptions (consistency), 145–146
- Industry-wide conditions (scenario categorization), 55
- Inflation
 - impact, 233
 - jump, effects, 252–253
 - scenario, cash flow dynamic, 253–254
- Inflationary effects, full recovery, 246
- Inflation rate, 45
 - expectation, 143
- Information technology (IT) management, 38
- Infrastructure development, assumptions, 45
- In-house activities, outsourcing, 23
- Initial cash flow, example, 100
- Initial public offering (IPO), 293, 391
 - discount, inclusion, 357
 - usage, 346
- Innovative initiatives, 196
- Insolvency, risk, 223
 - spread, function, 224
- Intangible asset base control, residual life (basis), 50
- Intangible elements, incremental flow (impact), 366
- Interdependency, importance, 79
- Interest
 - components, 253
 - expenses, defining, 169
 - increase, 252
- Interest rates, 143
 - behavior, implications, 208
 - current level, 222
 - term structure, 207–208
- Interest receivable, personal tax rate, 180
- Internal carbon fee, 452
- Internal carbon prices
 - external carbon prices, contrast, 451–453
 - frequency distribution, 452e
- Internal rate of return (IRR), increase, 357
- Internal staff, labor costs, 41
- Internal variables, impact, 295
- Internet users (behavior), uncertainty (impact), 15
- Intrinsic value, 363–364
 - tracking, 69e
- Inventory
 - hypotheses, 33e
 - management, 32
- Inventory stock, quantification, 32
- Investment cash flow profile, 5e
- Investment funds, active/entrepreneurial approach (impact), 346
- Investment rate of return, 271
- Investments
 - assessment, 178
 - NPV distribution, 97e
 - opportunity, return, 299
 - scenario analysis, 57
 - value, 362–363
- Investments/divestments, differences, 139
- Investors, shareholding (SH), 445–446
- Iron, prices, 94e
- IRR. *See* Internal rate of return
- Italy, natural gas (expected consumption), 284e
- IV results, trials dependence, 121e–123e
- K_d . *See* Cost of debt
- K_d
 - constancy, 156
 - usage, 183–186
- K_d , assumption, 190–191
- K_{el} , 156
 - growth scenarios, 186, 189
 - increase, 192
 - K_{eu} , relationship, 174e

- K_{el} (Continued)
 leverage, relationship, 157e
 no-growth scenarios, 184, 187–188
 pattern
 assumptions, 191e
 growth context, 190–193
- K_{eu}
 estimation, approaches, 197
- K_{eu} , usage, 187–190
- Labor costs
 cutting, 23
 employee engagement, 47
 external staff, 42
 internal staff, 41
- Law of conservation of value, 155–158,
 313–314
 basis, 317–318
 proof, 157, 158e
 truth, 157–158
- Leading multiples, 301–303
- Leasing, 225
- Legal entity, embedding, 20
- Legal subsidiaries, financial autonomy, 20
- Leverage, 164e
 actual leverage, 177e
 assumption, 245
 change, 179
 decrease, 242–244
 degree, differences, 340
 determination, market values (usage),
 178
 discount rates
 adjustment, usage, 163–165
 relationship, 153–154
 effect, 200–201, 420
 EV/EBIT, theoretical relationship, 314,
 314e
 growth/capital cost, relationship, 191e
 growth/value, relationship, 168–169
 increase, 160, 175
 levels, 315e
 multiples, relationship, 312–315
 positive effect, 314
 price/book value (P/BV) ratio, theoretical
 relationship, 315e
 price/earnings, relationship, 313e
 ratio, usage, 164
 usage, 168
 value, relationship, 152–162
- Levered beta (β_L), 213, 216
- Levered company
 constant growth model, APV approach,
 271–273
 debt, 178e
 value, 178e, 272
- Levered cost of capital, 202
- Levered enterprise value, 254
- Levered firm, value, 162
- Levered P/E, adjustment (application),
 316
- Levered value, determination, 256
- Licensee, example, 219e
- Licenses, probability, 219
- Limited flexibility, high uncertainty
 (relationship), 11–12
- Limited growth, 242
 formulas, 275–278
 valuation formulas, 276e
- Liquidation value, 247, 392
- Liquidity
 absence, 412
 discounts, 413
 lower level, 414
- Logistics management cost, 40
 assumptions, 38
- London Business School, 212
- Long-term cash flow profile, 237
- Long-term debt/bonds, 224
- Long-term equilibrium, 210–211
- Long-term GDP growth rate, 325
- Long-term horizon, 209
- Long-term risk-free investments, current
 return, 223
- Long-term risk investments, yield to
 maturity, 224
- Loss-making enterprise, stand-alone value
 (assignment), 362
- Macroeconomic assumptions, formulation,
 26
- Macroeconomic conditions (scenario
 categorization), 55
- Macroeconomic factors, 195–196
- Macroeconomic outlook, 210
- Macro-financial outlook, 210
- Maintenance costs, 32, 46–47
- Majority premium, 410, 411
- Managed commercial surface, evolution,
 35e
- Managed surface, revenue per square meter
 (evolution), 35e

- Managerial flexibility, 14–15
defining, 9
uncertainty, relationship, 9–16
valuation framework, function, 10e
- Mandatory tender offer, acquisition value, 384–385
- Manufacturing plants/production sites, development, 22
- Market
analysis, 8
approach, 3
attractiveness, 344
beta, 214
capitalization, 217, 317
level, 359
offering, relative size (contrast), 436
total sector capitalization, ratio, 214
values, 351–353
contribution, 393
cycle, bearish phases, 417
efficiency, 227
environment, 436–437
factors, 345
index, 213
min./max. values, assumption, 93e
multiples, analysis, 401
organizations/individuals, competition, 6
return, stock sensitivity, 467
size, distribution (usage), 92e
tax shields, usage, 318
understanding/analysis, 19
values, usage, 178
- Marketability (absence), discount (usage), 429–430
- Marketable minority shareholding value, 415
- Market for corporate control, term (usage), 361
- Market prices, 344, 363, 417
average, 384
calculation, reference period (definition), 341
comparison, 418
premium embedding, 208
stand-alone value expression, 422
value notion, expression, 416–417
- Market risk premium (MRP), 208
- Market share, 92–93
cross-sectional correlation, 95
examination, 91
impact, 29
- Medium-term debt/bonds, 224
- Medium-term deviations, 207
- Mergers
benefits, 397, 398
value, 386
maximum/minimum exchange ratios, 386–389
ratios, structuring, 388–389
transactions, 366
value, estimation, 389
- Mergers and acquisitions (M&A)
transactions, 179
- Merger synergies, 346
size, impact, 348
value, 362, 363
- Merrill Lynch Beta Book, 212
- Methodological issues, 49–53
- Microeconomics theory, principles, 394
- Midterm horizon, 209
- Miller, Merton, 132, 158
- Minority discount, 427–429
empirical studies, 428
- Minority shareholders
equity, book value (addition), 337
vote, requirement, 412
- Minority shareholding value, 415–416
- Moderate uncertainty scenario, 11e
- Modified cash flow, examples, 406e, 408e
- Modigliani, Franco, 152, 158
- Monetary benefits, 418
present value, 383
- Money, time value, 4–5
- Monte Carlo analysis, running, 100
- Monte Carlo method, corporate valuation (relationship), 74–76
- Monte Carlo procedure, 80
correlations, defining, 94–95
- Monte Carlo simulation, 16
initiation, 463
running, 465
- Monte Carlo techniques, 72–74
- Monte Carlo valuation, 72
procedure, acquisition analysis, 82–83
process, value drivers, 85, 91
step-by-step procedure, 76–80
- Morgan Stanley Beta Book, 212
- Morgan Stanley Capital Index, 213
- MRP. *See* Market risk premium
- Multi-business company valuation, 231e
- Multifactor asset-pricing model, 467

- Multiples, 295, 311–312
 - accounting principles, 339
 - adjusted multiples, 356e
 - adjustment, 327
 - analysis, 299, 400–401
 - average, computation, 342
 - basis, 355
 - business multiples, 298
 - example, 298e
 - choice, 340–343
 - comparability, 339–340
 - analyses, 334
 - consistency, cross-checking, 332
 - current multiples, 301–303
 - target bid formulation, 349
 - deal multiples
 - analysis, 344–348
 - stock market, relationship, 297–298, 297e
 - differentiation level, 344
 - direct multiples, 301e
 - discounted cash flow, relationship, 295–296
 - estimation, 359e
 - European companies, multiples, 352e
 - exit multiples, estimation, 343–344
 - extraordinary items, 335
 - fake multiples, 353
 - financial multiples, 298
 - formulas, 300e
 - group structures, 336–337
 - growth
 - impact, 320
 - relationship, 320–326
 - indirect multiples, 301e
 - leading multiples, 301–303
 - leverage
 - degree, differences, 340
 - relationship, 312–315
 - long-term evolution, 344
 - map, 326e
 - median, computation, 342
 - method, estimations (avoidance), 296
 - P/E multiple, factors, 307e
 - positive net financial position, 335–336
 - practice, 332
 - procedures, extrapolation basis, 343
 - public utilities multiples, 321–323
 - relationships, search, 340
 - sample, segmentation (homogeneous subcategories), 343
 - selection, 341–342
 - share prices, 338
 - significance, 335–339
 - structuring scheme, 302
 - synthetic values, 342–343
 - tax credits, 335
 - tax rate adjustments, 353–355
 - tax systems, differences, 339
 - theory, elements, 299–303
 - time horizon, 341
 - trailing multiples, 301–303
 - trend, example, 358e
 - types, 299–301
 - unlevered multiples, 316–318
 - usage, 300e, 323–325
 - validity
 - checking, 334
 - in-depth analysis, 334
 - value
 - estimation, 349
 - no-growth context, 309
- Multi-scenario analysis, 59–60
- Multi-stage growth, formulas, 275–278
- Multi-stage valuation model, 249
- Multi-utility companies, evaluation, 230
- Natural gas, expected consumption, 284e
- Natural resources, investment niche, 15
- Net assets (NA), 129–130
 - approach, 3
- Net cash flow, availability, 265
- Net financial debt, 271
 - absolute value, 239
 - amount, real term constancy, 240
 - pattern model, identification, 237
- Net financial position, 132
- Net income (NI), 250
 - payout ratio, multiplication, 305
- Net invested capital (NIC), 129–130
 - example, 135e
- Net liquidity, 217–218
- Net operating capital invested, 201
- Net operating cash flow, increase, 251
- Net operating invested capital, 129–130
- Net present value (NPV), 57
 - calculation, 12, 281
 - constant rate growth, 268
 - distribution, 97e
 - forecast variable, 95
 - principle, 4

- Net present value of growth opportunities (NPVGO), 267–268, 270
 unlevered NPVGO, 272
- Net profit (E), expression, 312
- Net working capital, investment/divestment, 137
- Net worth (NW), 442–443
- Neutral inflation assumption, example, 251–256
- Neutral inflation hypothesis, acceptance (problem), 258
- Neutral inflation scenario, 252e, 259e
 requirements, 250–251
 valuation formulas, summary, 259–260
- New economy-related ventures, origination, 15–16
- New orders, usage, 41
- New shares (NS), 444
- NI. *See* Net income
- NIC. *See* Net invested capital
- No-growth scenarios, 183–184, 187–188
- No-inflation scenario, 251
- Nominal business plans, real business plans (contrast), 50
- Nominal discounting, 169–172
- Nominal growth, consideration, 179
- Nominal growth rate, 170
- Nominal rates, real rates (relationship), 170
- Nominal returns, 199–200
- Nominal risk-free rate, real risk-free rate (contrast), 207
- Nominal terms, real terms (contrast), 171–172
- Noncore businesses, 140
 income derivation, 139
- Noncore corporate activities, management, 26
- Nonmarketable minority shareholdings, value, 415–416
- Non-ordinary managerial decision, minority shareholders (vote requirement), 412
- Normalized monetary flow, capitalization, 250–264
- Normalized results, capitalization formula, 249
- NPVGO. *See* Net present value of growth opportunities
- Objective probability, 194
- Observed transactions, motivation, 422
- OPCF. *See* Operating free cash flow
- Offering, 437
 relative size
 average daily volumes traded (ADTV), relationship, 436
 market cap, contrast, 436
 size, 436
- OLS. *See* Ordinary least squares
- One-man companies, 196
- Operating activities
 cash flow, 137–138
 investing activities, 138–139
 funds, usage, 127–130
- Operating after taxes, 201
- Operating assets, needs (relationship), 127
- Operating cash flow reinvestment rate, 271
- Operating costs
 reduction, interventions, 373
 representation, 33
- Operating free cash flow (OPCF), 126
- Operating income, 252
- Operating manufacturing plants/production sites, shutdown, 22
- Operations efficiency (improvements), incremental flow (impact), 366
- Operators, expectations, 15
- Opportunity cost, 194
- Opportunity cost of capital
 derivation, 204
 estimation, 221
 approaches/methods, 197e
- Opportunity cost of capital, defining, 194
- Ordinary least squares (OLS) regression, usage, 467
- Organizational structure, 215
 deficiencies, 414
- Outstanding shares, number, 380
- Package warrant, mean cost (calculation), 226–227
- Paper profit, absence, 251
- Passive interest payment, 139
- Payout ratio
 constancy, 322
 net income, multiplication, 305
- Peers, valuation (contrast), 437
- PE/g (PEG) ratio, 326–327
- Pension liabilities, problems, 131
- Percentage contribution margin, evolution, 36e
- Performance dynamics, description, 280
- Perpetual cash flows, constancy, 239

- Perpetual growth formula, 264–275
valuation formulas, 275e
- Perpetuity, discount, 254
- Personal taxes, 180–182
cash flow, relationship, 181e
equations, adjustment, 182
rates, 180
- Personnel
cost, quantification, 32
total cost, 131
utilization, management deficiencies
(elimination), 397
- Plan horizon, 231, 237
business limitation, 235
FCFO, normalization, 287
- Planning activity, forecasts (preparation), 27
- Planning process, initiation, 33
- Points of sale
activity, coordination, 40
closure/opening, 35
location costs, assumptions, 37
number, evolution, 35e
revenues per square meter, 36
start-up phase, 36
- Portfolio concentration, 414
- Positive net financial position, 335–336
- Post-acquisition actions, benefits, 144
- Post-acquisition interventions, 374
- Powering interventions, 45
- Preemptive rights, value, 437–446
- Premiums
acquisition premium, 410
embedding, 208
examination, 409–410
impact, 408–410
majority premium, 410
payments, change, 421
role, 419–420
size, deal characteristics (relationship),
421
takeover premiums, calculation, 416
types, 410–415
- Present value, 181
calculations, 354e
- Price/book value (P/BV), 311–312
leverage, theoretical relationship, 315e
multiple
company valuation, 329
multiple, trend
example, 348e
leverage levels, 315e
ratio, financial leverage (relationship),
314–315
- Price/earnings (P/E)
adjustment, 317e
analysis, impact, 305–307
financial leverage, relationship, 312–314
growth
context, 304–305
presence, 330–331
leverage, relationship, 313e
model, 203
multiple
factors, 307e
theoretical trend, 321, 321e
ratio, 203, 303–307
capital, increases (relationship),
358–360
growth, absence, 303–304
interpretation, 306
trend, growth rate (relationship), 321e,
324e
trend, growth rate (relationship), 321e
- Prices
analysis, 429
benefit elements, impact, 398–399
changes, correlation, 95
formation
logic, 408
mechanism, 394–396
- Pricing policies, definition, 20
- Prime rate, 223
- Private benefits
control, relationship, 383e
derivation, control (impact), 390–391
industry-specific characteristics, 420
presence, 428
rebate, 422
- Private benefits, present value, 416–417
- Private equity transactions, acquisitions, 175
- Probabilities, 430
estimation, 195
- Probability distributions, 77
- Probability-zero event, 58
- Production factor, unitary cost (evolution),
31e
- Production process, reengineering, 23
- Production volumes
basis, 31
key performance indicator, 51
- Production volumes per product category,
33

- Productive processes (organization), management deficiencies (elimination), 397
- Products
 - offer, restructuring, 393
 - uniform price, increase, 250
- Projected cash flows, 146–150
- Project financing operations, 224
- Projections, making (timing), 144–145
- Project manager, responsibility, 25
- Project valuation, 143
- Promotional activity costs, 40
 - assumptions, 37
 - significance, 33
- Proportional value, 427
- Proprietary PPE, time horizon, 50
- Provisional balance sheet, example, 148e
- Provisional income statement, example, 149e
- Psychological factors, impact, 391
- Public offers price, 391–392
- Public utility
 - cash flow examples, 232e
 - companies, 231
 - European public utilities, investments, 333
 - multiples, 321–323
- Purchase agreement, 38
- Purchases, cost, 93
- Pure beta, calculation, 215
- Pure bond, 225
- Pyramidal control structure, presence, 419–420
- Pyramidal structure, leverage (effect), 420

- Qualitative differential effect, 365
- Quantitative assumptions
 - definition, 19, 27e
 - formulation, 25–27
 - necessity, 28
- Quantitative differential effect, 365
- Quantitative hypotheses, impact, 51

- Random risk variables, recognition, 91
- Rate differentiation, 208
- Raw beta, 214
- Raw material, price changes (correlation), 95
- Real business plans, nominal business plans (contrast), 50
- Real discounting, 169–172
- Real GDP growth rate, 458
- Realization timing, 25

- Real option valuation (ROV), 14
- Real rates
 - nominal rates, relationship, 170
 - usage, 254–255
- Real returns, 199–200
- Real risk-free rate, nominal risk-free rate (contrast), 207
- Real terms
 - growth, absence, 250
 - nominal terms, contrast, 171–172
- Reference competitive setting, 51
- Reference macroeconomic setting, 51
- Reference period, 199
 - definition, 341
- Regression
 - equation, quadratic curve, expression, 328–329
 - parameters, 212
 - R^2 , 212
- Regulated sectors, company operation, 44–49
 - capital expenditure (capex), time distribution, 45e
 - D&A assumptions, 47
 - equity injection, time distribution, 45e
 - infrastructure development, assumptions, 45
 - revenues, assumptions, 46
 - taxes, assumptions, 47
 - toll per kilometer evolution, 46e
 - toll road infrastructure management costs, hypotheses, 46–47
 - traffic volume evolution, 46e
 - working capital, assumptions, 48
- Reinvested flow, 266
- Renewal investment, amount (estimation), 145
- Rental costs, 40
- Reorganizations, execution, 373
- R_{equity} , 227–228
- Research and development (R&D)
 - costs, relevance, 33
 - investment niche, 15
- Restructuring
 - actions, planning, 143
 - cash flow models, 237
- Return on average equity (ROAE), 329–330
- Return on earnings (ROE), 268
 - equation, 153–154
- Return on equity (ROE), equity (product), 312

- Return on invested capital, 224
- Return on investment (ROI), 51
 - ratios, 145
- Return on sales (ROS), 51
 - impact, 311
 - ratios, 145
- Return, probability, 98e
- Returns
 - approximation, 198
 - sensitivity, basis, 204–205
 - strategies/objectives, 326
 - type/interval, 213
- Revenues
 - already-earned orders, relationship, 41
 - assumptions, 29, 34–36, 41, 46
 - client-by-client basis definition, 29
 - commercial activities, impact, 29
 - contrast, 29e
 - costs, correlation, 91e
 - evolution, 30e
 - forecast, 29
 - growth, example, 84e
 - new orders, usage, 41
 - orders, impact, 41
 - streams, 33
- Revenues per square meter, 36
- $R_{f,debt}$, 228
- $R_{f,equity}$, 228
- Rights
 - separation, 440e
 - negative share price reaction, 442e
 - positive share price reaction, 441e
 - shareholder exercise, precommitments, 436
- Rights issues, 432–433
 - capitalization level, 436
 - capital structure, 436
 - market cap percentage, 437
 - time frame, 436
 - valuation considerations, 432
- Rights, theoretical value (VR), 439, 443
 - calculation, 440e
 - subscription period, 441–442
 - terms announcement, impact, 438–439
- Risk, 194–197
 - adjustment, coefficient, 381
 - business risk profile, constancy, 198
 - characters, impact, 12
 - differential
 - equation, 371
 - value, determination, 369
 - double counting, 62
 - downside risk, 195
 - elements, presence, 414
 - factors
 - attenuation, 370
 - returns sensitivity, models basis, 204–205
 - level
 - constancy, 295
 - uniformity, 325
 - measure, 248
 - premium, 215
 - presence, 196–197
 - pricing models, application, 197
 - situations, 195
 - systematic risk, 195
 - term, interchangeability, 194–195
 - upside risk, 195
 - usage, 218–221
- Risk-free government bond, investment, 59
- Risk-free interest rate (R_f), calculation, 206–208
- Risk-free rate (R_f), 206
 - increase, 210–211
 - long-term equilibrium level, 211
 - usage, 211
- Risk-free returns, 209
 - stock returns, differences, 210
- Risk Measurement Service (London Business School), 212
- Risk profile
 - analysis, 8–9
 - company differentiation, 325
 - differential effects, 366
 - features, 173e
 - highlighting, 12
 - qualitative differential effect, 365
- Risk-return models, 197
- Risk variables, 77
 - correlations, defining, 94–95
 - probability distributions, 77–78
- ROAE. *See* Return on average equity
- ROE. *See* Return on earnings; Return on equity
- ROV. *See* Real option valuation
- R_p
 - expected R_p , 211
- R_p , calculation, 208–211
- Rump placement, 432

- Sales credits, 141
- Sales force employees costs, assumptions, 37
- Sales volumes, evolution, 30e
- Sample, cleaning. *See* Comparables
- Savings and loans, cash flow profiles, 235e, 236e
- Scenario analysis, 54
 - alternatives, 66e
 - best case analysis, 58–59
 - comprehension, ease, 61
 - consideration, 62
 - cost of capital presentation, 65
 - decision making, 61
 - defining, 56
 - factors, 59–60
 - garbage in garbage out (GIGO), 61–62
 - high-growth scenario, variables, 67e
 - interrelated variables, 61
 - multi-scenario analysis, 59–60
 - performing
 - Excel, usage, 62–71
 - timing, 57–58
 - pros/cons, 61–62
 - risk, double counting, 62
 - risk measure, 61
 - scenarios
 - number determination, 60
 - results, 68e
 - sensitivity analysis, contrast, 56–57
 - summaries, 66e
 - creation, 70e
 - usage, 455
 - ease, 61
 - values, 65e
 - windows, appearance, 68e
 - worst case analysis, 58–59
- Scenario-based DCF, 454
- Scenario-based valuation
 - carbon, relationship, 454–458
 - usage, 455–456
- Scenario probability, 458e
- Scenarios
 - assumptions, 172e
 - categorization, 55
 - delineation, 12
 - high uncertainty scenario, 12e
 - macroeconomic factors, 195–196
 - moderate uncertainty scenario, 11e
 - net present value, calculation, 12
- Sector, market sentiment, 437
- Selective growth, 284
- Sellers
 - private benefits, rebate, 422
 - value, 390–391
- Sensitivity analysis, 52–53
 - scenario analysis, contrast, 56–57
- Sensitivity index (beta), 205
- Services costs, 42, 47
- Services, uniform price (increase), 250
- SH. *See* Investors
- Shadow price, 452
- Shareholders
 - benefits, 377–378
 - cash flow, availability, 250
 - dividends, 137
 - net cash flow, availability, 265
 - net worth, 442–443
 - impact, 444e
 - precommitments, 436
 - pricing, impact, 442–446
 - private benefits, 377–378
 - protection level, 419
 - ROE, 154
 - value creation, 161–162
 - wealth changes, 161
- Share prices, 338
- Shares
 - blocks
 - acquirer payment, price limit, 379
 - trading difficulty, 411
 - market prices, 416–417
 - unit acquisition value, 380
 - trend, 381e, 382e
 - voting rights, differences (price comparisons), 418
- Shares outstanding, example, 100
- Shares, purchase, 161
- Short-term deviations, 207
- Short-term funds, usage, 222
- Short-term horizon, 209
- Simulation techniques, 16
- Single business activity level, competitive strategy, 23e, 24e
- Single business unit level, competitive strategies, 22
- Social costs, CO₂ estimates, 453e
- SOP. *See* Sum-of-parts
- Spearman rank correlation method, 80
- Spot rates, 207

- Spread, 223–224
 - analysis, 429
 - function, 224
 - increase, 223
- Stand-alone cash flow, 376e
 - adjustment, 401–408
 - function, 417
- Stand-alone investments, 205
- Stand-alone scenario, 179, 373
- Stand-alone valuation, 407e
 - performing, DCF method (usage), 409
- Stand-alone value, 362, 379, 405e
 - calculation, DCF method (usage), 426
 - determination, 368–369
 - estimation, assumptions, 375
 - example, 405e
 - expression, 422
- Standard DCF, 454
- Standard & Poor's, 212
- Standard procedure, 247–248
- Start-ups
 - cash flow generation, assumption, 175–176
 - valuation, 12, 320
- Static standpoint, dynamic standpoint (contrast), 9–14
- Steady growth, 246
- Steady state, 246
- Steady-state assumption
 - consequence, 314
 - neutral inflation scenario, combination, 251
- Steady-state business
 - inflationary conditions, 250–251
 - value, 222
- Steady-state cash flow
 - discounting, 270
 - model, 249
- Steady-state inflation
 - assumption, example, 251–256
 - scenario, 252e
 - valuation formulas, summary, 259–260, 259e
- Steady-state scenario, 250, 274–275
 - depreciation, 265
 - FCFE, discounting, 267
- Stochastic simulation DCF, 454
- Stochastic simulation valuation, carbon (relationship), 458–465
- Stock market
 - deal multiples, relationship, 297–298, 297e
 - multiples, usage (framework), 332–334
 - prices, 416
- Stock prices
 - usage, 201–203
 - value expression, 415–417
- Stock returns
 - analysis, 198–201
 - geometric mean, 198
 - risk-free returns, difference, 210
- Stocks
 - beta, 213, 330
 - historical/implied volatility, 437
 - investment, return (components), 198
 - options, 338–339
 - original investment, transformation right, 226
- Storyboards, development, 40
- Strategic buyers, impact, 346
- Strategic directives, deciding (impossibility), 411
- Strategic fair market value, 427
- Strategic investor, perspective, 218
- Strategic value, 415
 - basis, 426
- Strength Weakness Opportunity Threat (SWOT) analysis, 8
- Subscription period, 432
 - rights, theoretical value, 441–442
- Subscription price, setting, 433–437
- Subscription ratio, 438
- Summaries, 66e
 - creation, 70e
- Sum-of-parts (SOP) approach, 230
- Supply chain integration, 22
- Surplus assets, 126–127, 129
 - cash flow, 139
 - disposal, 137
 - existence, 346–347
 - management, 26
- Survivorship bias, 210
- SWOT. *See* Strength Weakness Opportunity Threat
- Synergies
 - classification, 398–399
 - endemic synergies, 402–403
 - value, estimation, 375
- Synthetic approach, application, 263

- Synthetic income statement reorganization
 - model, 135e
- Synthetic procedure (valuation), 246
- Systematic risk, 195

- Tail swallowing, 445
- Takeover premiums
 - adjustment, 427
 - calculation, 416
 - size, cyclical pattern, 421
 - usage, 422
- Tangible asset base control, residual life (basis), 50
- Target capital structure, effective setting, 178
- Target company
 - acquisition value, representation, 365
 - base value, 372
 - flow, production, 378
 - stand-alone value, 362
- Target firms, estimated values, 395
- Tariff-related assumptions, 48
- Tax benefits, 164e, 171
 - absence, 216
 - discount, problems, 172–173
 - discount rate, 183–186
 - present value, 181
 - calculation, 354e
 - real dimension, 180–183
 - usage, 216–217
 - valuation, 244e
 - scenarios, 238
- Taxes
 - advantages, valuation (alternatives), 239
 - assumptions, 47
 - calculation, 47
 - credits, 335
 - relevance, 336e
 - first-year tax shield, discounting, 174–175
 - personal taxes, 180–182
 - rates, adjustments, 353–355
 - systems, differences, 339
- Tax savings
 - present value, 160
 - usage, 160e
- Tax shields, 254
 - application, 175
 - discounting, 273
 - actual debt, relationship, 189–190
 - discount rate, 187–189
 - K_d assumption, 190–191
 - equation, 271, 272
 - growth, relationship, 189–190
 - present value, 181–182
 - estimation, 290–293
 - usage, 318
 - valuation, 237, 245e
 - usage, 255–256
 - value, 177e, 179, 255
 - equation, 272, 273
- Tax strategy, corporate level, 20
- Technological evolution, uncertainty (impact), 15
- Technological model affinity, benefits, 397
- Technology
 - sector, multiples (usage), 323–325
 - synergies, 373
- Tender offer, acquisition value, 384–385
- Terminal value (TV), 247
 - calculation, 288–289, 404, 407
 - determination, assumptions, 287–288
 - discounting, 280
 - estimate, company value (equivalence), 343
 - estimation, 281–282
 - methods, 280
 - obtaining, 281
 - overall terminal value, 289
- TERP. *See* Theoretical Ex-Rights Price
- Theoretical Ex-Rights Price (TERP), 338
 - calculation, 435e
 - discount, 433–435
 - setting, 435–437
 - discount level, 447
 - factors, 438e
 - discount level, impact, 444e
 - equation, 433–434, 439
 - offering size, 436
- Theoretical value of rights, 438–439
- Third-party protection, exchange ratio (relationship), 389–390
- Three-stage formula, 277
- Time, financial value, 152, 206
- Time horizon
 - assumption, 192
 - coverage, 49–50
 - identification, 280
 - importance, 28
 - length, 179
 - determination, 222
 - multiples, 341
- Time value of money, 4–5
- Toll per kilometer evolution, 46e

- Toll road infrastructure management costs, hypotheses, 46–47
- Toll road tariffs, application, 45
- Tolls, estimation, 46
- Total betas, 220–221
- Total duration, 45
- Total equity capital, fractional share, 380
- Total managed surface, evolution, 35
- Trade credits, 48
 - basis, 43
 - hypotheses, 33e
 - quantification, 32
 - zero level, 38
- Trade debts, 48
 - basis, 43
 - estimation, 38
 - hypotheses, 33e
 - quantification, 32
- Traffic volumes
 - estimation, 46
 - evolution, 46e
- Trailing multiples, 301–303
- Transaction factors, impact, 345
- Transaction logic, 349
- Transactions, price/book value multiple (trend example), 348e
- Transfer control benefit, 393
- Transfer pricing policies, definition, 20
- Transparency, high levels, 394
- Transportation cost, 93
- TV. *See* Terminal value
- Two-stage DCF model, usage, 63
- Two-stage DDM, 203
- Two-stage growth models, 324–325
- Uncertainty, 4, 14–15
 - alternative tax shields, relationship, 182–183
 - analysis, 7e
 - average uncertainty, average flexibility (relationship), 13–14
 - high level, limited flexibility (relationship), 11–12
 - high uncertainty, high flexibility (relationship), 13
 - high uncertainty scenario, 12e
 - impact, 5–9
 - level, defining, 9
 - limitation, flexibility (relationship), 10–11
 - managerial flexibility, relationship, 9–16
 - moderate uncertainty scenario, 11e
 - situations, 195
 - term, interchangeability, 194–195
 - valuation framework, function, 10e
 - value, relationship, 16–18
- Undistributed profits, company usage, 325
- Uniqueness, characteristics, 396
- Unit acquisition, trend, 381e, 382e
- Unitary cost, evolution, 31e
- Unitary cost per production factor, 33
- Unitary prices, evolution, 30e
- Unlevered beta (β_U), 216, 217
 - calculation, 215
- Unlevered company
 - perpetual growth model, 264–270
- Unlevered company value, 165
- Unlevered enterprise value, 254
- Unlevered firm, value, 162, 200
- Unlevered K_e : K_{em} , 155
- Unlevered multiples, 316–318
 - method, limitations, 318–319
 - procedure, transparency, 319
- Unlevered NPVGO, 272
- Unlevered perspective, 290
- Unlevered value
 - adjustment, 151–152
 - adjusted present value (APV), 162
 - estimation, 254
 - Unlevered value, obtaining, 181
- Upside risk, 195
- US real GDP growth rate, 460
- U.S. real GDP growth rate, distribution, 461
- U.S. Treasury bonds, 223
- Valuation
 - alternatives, 220
 - analytical procedures, 246–247
 - asset-side valuation, equity-side valuation (contrast), 374
 - assumptions, 89e–90e
 - business forecasting, usage, 19
 - determination, debt pattern selection guidelines, 245–246
 - discounts, impact, 408–410
 - formulas
 - limited growth, 276e
 - summary, 259–260
 - variable-growth scenario, 278e
 - framework (uncertainty/managerial flexibility function), 10e

- information, relevance, 349–350
- methodologies/approaches, 2e
- methods, 2–4
- models, 141–142
- multi-business company valuation, 231e
- multiples basis, 355
- peers, contrast, 437
- premiums
 - impact, 408–410
 - role, 419–420
- procedures, 229
 - development, perspective, 152
 - selection, 230e
- processes, multiples choice, 340–343
- risk characters, impact, 12
- scenario analysis, 57–58
- standpoint
 - adoption, 9–14
 - selection, 151
- static standpoint, dynamic standpoint (contrast), 9–14
- synthetic procedures, 246–247
- target firm, characteristics, 408
- techniques, alternative, 162–165
- values, distribution, 465
- Valuation, case study, 80–99
 - assumptions, 89e–90e
 - financials, 83e
 - financing profile, 86e–87e
 - historical financial information, 82
 - random risk variables, recognition, 91
 - revenues, costs (correlation), 91e
 - working capital evolution, 88e
- Value, 178e
 - acquisition model, application, 379–382
 - assessment, methodology (driver), 3
 - computation, Gordon model (usage), 270
 - conservation, law, 155–158, 313–314
 - basis, 317–318
 - proof, 157, 158e
 - truth, 157–158
 - creation, 161–162
 - acquisition, usage, 364–367
 - benefits, 367
 - differential approach, 364–367
 - role, 245
 - debt, relationship, 151–152
 - definitions, 361–364, 390–392, 431
 - determination, 369
 - drivers, 332
 - recursive simulation, 81
 - relationships, 340
 - estimation (Gas Supply Co.), 294
 - fair market value, 363
 - fair value, 363–364
 - function, 249
 - growth/leverage, relationship, 168–169
 - increase, tax savings (usage), 160e
 - intrinsic value, 363–364
 - levels, 430e
 - stock price expression, 415–417
 - leverage, relationship, 152–162
 - liquidation value, 247, 392
 - maps, 327–330
 - examples, 329e
 - usefulness, 328
 - multiples, analysis, 351–353
 - notions, differences (reconciliation), 409
 - stand-alone value, 362
 - stratification, analysis model, 367–368
 - terminal value (TV), 247
 - uncertainty, relationship, 16–18
 - usage, 168
- Value at risk, measure, 455
- Value-components model, 367–372
 - application, 370–372
 - flowchart, 368e
 - simplification, 372
- Variable costs
 - components, 32
 - industrial activity, relationship, 31
- Variable growth, formulas, 275–278
 - usefulness, 277
- Variable growth scenario, valuation formulas, 278e
- Variable rate debt, 224
- Variables, impact, 99e
- Venture
 - innovative strategy development,
 - uncertainty (impact), 6
 - new economy-related ventures,
 - origination, 15–16
 - risk profile, highlighting, 12
 - valuation, 12
- Venture capital
 - funds, 220
 - premiums, 220
- Vincenzi, Roberto, 72
- Voting rights, price comparison, 418
- Voting shares, market prices, 417

- Warrants, 338–339
 package warrant, mean cost (calculation),
 226–227
 return, 226
- W_{assets} , 167e
- Waste management
 company, cash flow profile example, 234e
 costs, growth assumption, 323
- Weighted average cost of capital (WACC),
 85, 153
 equation, 163
 examination, 178–180
 FCFO, relationship, 155
 formula, 175
 growth scenarios, 184–186, 188
 K_{eu} , relationship, 174e
 leverage ratio dependence, 164
 method, usage, 179
 no-growth scenarios, 183–184, 187–188
- Weights, determination, 156
- W_{equity} , 167e, 355
- Whole entity, cash flow profiles (contrast),
 230–231
- Working capital (WC), 128
 assumptions, 32–33, 38, 43, 48
 availability, 40
 dynamics, modeling, 95e
 evolution, 88e
 needs, 127
 increases, absence, 251
 net working capital,
 investment/divestment, 137
 nonmonetary costs, 140–141
 trend, 143
- Worst case analysis, 58–59
- Worst-case scenario, 65e
- $W_{\text{stand alone}}$, 423
- W_{TS} (evaluation), forecasts (usage), 238e
- $W_{\text{unlevered}}$, 402–403
- Yield to maturity (YTM), 223, 226