December 3, 2007

14:38

Ð

Index

Α

Accounting treatment, excluded as valuation determinant, 49 Arnott, Robert, 159 Asset class covariances, derivation of, 262-265

В

Black, Fischer, 106 Black-Scholes-Merton option pricing model, 208 Bonds, equation for fixed-payment, 9-10 Book value per share: constant growth rate calculation, 219-221 growth rate calculation, 217-219 growth rate change calculation, 221-225 Buffett, Warren, 208 Buybacks: earnings growth calculation and, 225-228 Proctor & Gamble-Gillette example, 105-106

С

Capital reinvestment. in equity valuation formula, 46-51 known discount rate and, 59-60 Capital Structure Irrelevance Theorem, 46, 52, 56-57, 161-162, 212 recapitulated, 247-248 Case studies, 65-90 Coca-Cola, 66-73 Enron, 67, 85-90 Intel, 67, 73-79 market-implied, inflation-adjusted discount rates and, 82-85 Proctor & Gamble, 67, 79-82 Cash flows: 10-year market cycle and, 110-111 volatility and, 147-149

Cash-purchase merger, Proctor & Gamble-Gillette example, 95-97, 102-103 Coca-Cola, case study of, 66-73 market-implied, inflation-adjusted discount rates and, 82-85 Contrarianism, 206 Corporate income taxes, see Income taxes, corporate Cost of capital, Proctor & Gamble-Gillette merger and 95 Covariances: asset class derivation, 262-265 expected return and, 266-267

"Debt and Taxes" (Miller), 5, 55–56 Debt financing, see Leveraged equity securities Debt-to-capital ratio, highly leveraged companies, 63-64 Default-free debt securities, see Treasury Inflation Protected Securities (TIPS) Derivatives valuation, 2 Discount rate. See also Inflation-adjusted discount rate debt-to-capital ratio and highly leveraged companies, 63-64 in general investment theory, 3-5 leverage equity valuation when inferred, 61-63 leverage equity valuation when known, 58-61 P/E ratios and portfolio construction, 164-168 unleveraged equities and growth factor, 37-41 Dividend discount models (DDMs), 72, 208, 210

276

Dividend irrelevance theorem, 46, 49 Dividend rate, in general investment theory, 3–5 Dividends per share: constant growth rate calculation, 219–221 growth rate calculation, 217–219 growth rate change calculation, 221–225

Е

Earnings per share: constant growth rate calculation, 219-221 growth rate calculation, 217-219 growth rate change calculation, 221-225 Efficient portfolio construction, 156-181 adjusting for long-term expected returns on equity, 190-197 adjusting to changes in risk-adjusted expected return, 197-204 asset class covariance derivation, 262-265 for asset weights required to be nonnegative, 176-179 desirability and expected return, 182-186 desirability and feasibility, 186-190 effects of mean and volatility on return, 156-161 importance of portfolio rebalancing, 204-206 mathematical optimization subject to constraints, 259–261 P/E ratios and discount rate, 164-168 P/E ratios and financial conservation, 161-163 P/E ratios and growth 158-172 for unconstrained weights case, 172-176 variance/covariance matrix inputs, 179-181 Enron, case study of, 67, 85-90 "Equity Duration" formula, derivation of, 239-240 Equity securities, see Efficient portfolio construction; Leveraged equities; Unleveraged equities Exchange-of-shares transaction, Proctor &

F

97-102

Fama, Eugene, 241–243 Finance and investment theory, 2–5

Gamble-Gillette merger example,

Financial companies, 111, 113 First-order differential method, 136 Fisher, Irving, 8 Fixed-payment bond equation, 9–10 Franchise Value analysis, 5 10-year market cycle model test and, 109–110, 120

G

14:38

Gross domestic product (GDP): inflation, money growth, interest rates and, 229-238 volatility and, 147-154 Gillette Company: Proctor & Gamble cash-purchase example, 102-104 Proctor & Gamble exchange of shares example, 97–10 Proctor & Gamble merger valuations and, 91-97 Proctor & Gamble share repurchase and, 105-106 Graham, Benjamin, 5 Growth rates: Coca-Cola case study, 66–73 early theoretical models and, 210-211 Enron case study, 67, 85-90 in general investment theory, 3-5 inflation-adjusted discount rates and case studies, 82-85 Intel case study, 67, 73-79 organic versus "acquired," 77, 82 P/E ratios and portfolio construction, 168-172 Proctor & Gamble case study, 67, 79-82 10-year market cycle model test and, 115-121 unleveraged equities and discount rate, 37-41

Η

Highly leveraged companies, discount rate and debt-to-capital ratio, 63-64

I

Incentive stock options, 106–108 Income taxes, corporate: Coca-Cola case study, 67

Index

JWPR063-Stimes

Index

comparison of volatility of pretax and after-tax income, 255-256 Enron case study, 67, 88 Intel case study, 67, 76 leveraged equities and, 52-58 Proctor & Gamble case study, 67, 79 Proctor & Gamble-Gillette merger and, 94–95 10-year market cycle model test and, 119 Inflation-adjusted discount rate: case studies and, 82-85 10-year market cycle model test and, 121-127 time series charts of unleveraged, 249-254 volatility and, 149-154 Inflation rate: adjustments to preserve neutrality in valuation formula, 244-246 in fixed-rate rate valuation, 14-19 money growth, interest rate, GDP and, 229-238 in TIPS valuation, 9-14 unleveraged valuation formula's sensitivity to, 29-37 Intel, case study of, 67, 73–79 market-implied, inflation-adjusted discount rates and, 82-85 Interest rates: in fixed-rate rate valuation, 17-19 inflation, money growth, GDP and, 229-238 relationship of observed P/E ratio and, 257-258 Isoquant: expected return and, 182-186 feasibility and, 186-190

K

Kahneman, Daniel, 3 Kuhn-Tucker (KT) conditions, 177

L

LaGrange multipliers, 259–261 Leibowitz, Martin, 5, 212 Leveraged equity securities, 46–64 corporate finance and basic valuation formulas, 46–51 corporate income taxes and, 52–58 discount rate and debt-to-capital ratio, 63–64 inferred discount rates and, 61–63 known discount rates and, 58–61 volatility and, 140–147 Leveraged recapitalization, Proctor & Gamble–Gillette example, 102–104

М

14:38

Market cycles, see 10-year market cycle test of model Market prices: impact of GDP shocks on, 234-237 impact of monetary policy and interest rates on, 229-234 inferring discount rate from, 61-63 Market-to-book relationship: constant growth rate calculation, 219-221 growth rate change colculation, 221-225 share buybacks and 225-228 Markowitz, Harry, 208 Mergers and acquisitions: P&G-Gillette and share repurchase, 105-106 P&G-Gillette cash-purchase example, 102-104 P&G–Gillette exchange of shares example, 97-101 P&G-Gillette valuation, 91-97 Merton, Robert, 106 Miller, Merton: Capital Structure Irrelevance Theorem, 46, 52, 56-57, 161-162, 212, 247-248 "Debt and Taxes," 5, 55–56 dividend irrelevance theorem, 46, 49 valuation model, 241-243 Modigliani, Franco: Capital Structure Irrelevance Theorem, 46, 52, 56-57 dividend irrelevance theorem, 46, 49 Money growth, GDP and, 229-238

N

```
Nonnegative asset weights, efficient portfolio construction and, 176–179
```

0

Option strategies, 154–155 Black-Scholes-Merton option pricing model, 208

277

December 3, 2007

278

Index

Р Pretax profits: comparison of volatility of after-tax income and, 255-256 P&G-Gillette merger and, 94 10-year market cycle model test and, 124-127 Price/earnings (P/E) ratios, 20 in 1974 bear market, 208 1980's interest rates and, 208-209 efficient portfolio construction and discount rate, 164-168 efficient portfolio construction and financial conservation, 161-163 efficient portfolio construction and growth, 168-172 historical inflation rates and, 33-37 relationship of observed and interest rates, 257-258 10-year market cycle model test and, 129-130 Price volatility, see Volatility Proctor & Gamble: cash-purchase merger structure and, 102 - 104exchange of shares merger and, 97-101 Gillette merger and, 91-97 valuation case study, 67, 79-85 Purchasing power protection, see Treasury Inflation Protected Securities (TIPS)

R

Real unleveraged return on equity (ROE): Enron case study, \$5,50
10-year market cycle and, 111
Rebalancing of portfolios, importance of, 204–206
Reduced-form ranking method, 182–186
Return on equity (ROE): constant growth rate calculation, 219–221 early theoretical models and, 211 growth rate calculation, 217–219 growth rate change calculation, 221–225 real unleveraged, and 10-year market cycle and, 111 real unleveraged, and Enron case study, 85–90 "Reverse engineering," 61–63 Risk-adjusted expected returns, portfolio construction and, 197–204 Risk premium, see Volatility

5

14:38

Scholes, Myron, 106
Security Analysis (Graham), 5
Share exchange, see Exchange-of-shares transaction
Share repurchase program: earnings growth calculation and, 225–228
Proctor & Gamble–Gillette example, 105–106
Sharpe, Bill, 208
Smith, Vernon, 3
State-space approach, 132
Stock option grants, 106–108
Survivorship bias, 10-year market cycle model test and 119–120

Т

Tangible value, 10-year market cycle model est and, 110–111, 119 Tech stock bubble, 212 10-year market cycle test of model, 106–131 methodology, 109-113 model's predictive strength for subperiods, 128-131 model's predictive strength for whole period, 124-127 sample descriptive data, 113-121 valuation results, 121-124 Theory of Finance, The (Fama and Miller), 241 TIPS, see Treasury Inflation Protected Securities (TIPS) **Treasury Inflation Protected Securities** (TIPS), 8-21 efficient portfolio construction and, 191-204 fixed-rate bonds contrasted, 14-19 formulas for real cash flow rate valuation, 9-14 implications, 19-21 theoretical models and, 212 Tversky, Amos, 3

Index

U

Unconstrained asset weights case, efficient portfolio construction and, 172-176 Unleveraged equities, 22-45 discount rates and growth factors, 37-41 inflation sensitivity and, 29-37 Proctor & Gamble-Gillette merger example, 95-97 traditional valuations and, 41-45 valuation formula, mathematical development of, 24-28 volatility and, 136-140

V

Valuation formula, traditional, 241-243 JE .19 Constant State adjustments to preserve inflation neutrality, 244-246

Valuation model formula, 22-24 Valuation models, 239-240 current theories, 211-213 future steps, 213–215 historical context of, 207-211 Value at Risk (VAR), 21 Volatility, 132-155 comparison of pretax and after-tax income, 255-256 leverage's impact on, 140-147 methodology, 132-136 price change formula and estimates of, 139–140 price change formula derivation, 136-138 underlying variables and 147-155 Volcker, Paul, 209

279

http://www.poolshop.com