Formulas

Financial Statement Analysis

Current Ratio = Current Assets / Current Liabilities Quick Ratio = (Current Assets – Inventory) / Current Liabilities Cash Ratio = Cash / Current Liabilities Debt Ratio = Total Liabilities / Total Assets Debt-Equity Ratio = Total Liabilities / Total Equity Equity Multiplier = Total Assets / Total Equity Times Interest Earned Ratio = EBIT / Interest Cash Coverage = (EBIT + Depreciation & Amort.) / Interest Inventory Turnover = COGS / Inventory Days' Sales in Inventory = 365 Days / Inventory Turnover Receivables Turnover = Sales / Accounts Receivable Days' Sales in Receivables = 365 Days / Receivables Turnover Total Asset Turnover = Sales / Total Assets Net Profit Margin = Net Income / Sales EBITDA Margin = EBITDA / Sales Return on Assets (ROA) = Net Income / Total Assets Return on Equity (ROE) = Net Income / Total Equity Earnings per Share = Net Income / Shares Outstanding Price / Earnings (PE) Ratio = Price per Share / Earnings per Share Market-to-Book (M / B) Ratio = Market Value per Share / Book Value per Share Market Capitalization = Price per Share x Shares Outstanding Enterprise Value = Market Cap. + Market Value of Interest-bearing Debt - Cash Enterprise Value Multiple = EV / EBITDA DuPont Identity: ROE = Profit Margin x Total Asset Turnover x Equity Multiplier

Forecasting

External Financing Needed = (Assets/Sales) x ΔSales – (Spontaneous Liabilities/Sales) x ΔSales – (Net Income/Sales) x Projected Sales x (1 – Dividends/Net Income)

Internal Growth Rate = $\frac{\text{ROA x} \left(1 - \frac{\text{Dividends}}{\text{Net Income}}\right)}{1 - \left[\text{ROA x} \left(1 - \frac{\text{Dividends}}{\text{Net Income}}\right)\right]}$

Sustainable Growth Rate = $\frac{\text{ROE x} \left(1 - \frac{\text{Dividends}}{\text{Net Income}}\right)}{1 - \left[\text{ROE x} \left(1 - \frac{\text{Dividends}}{\text{Net Income}}\right)\right]}$

Present Value and Future Value of a Single Cash Flow

$$FV_t = PV_0 \times (1+r)^t$$

 $PV_0 = \frac{FV_t}{\left(1+r\right)^t}$

Where: PV = present value FV = future value

Present Value of Perpetuities

Perpetuity:
$$PV_0 = \frac{CF_1}{r}$$

Growing Perpetuity :
$$PV_0 = \frac{CF_1}{r-g}$$

Present Value and Future Value of Ordinary Annuities

$$PV_0 = \frac{CF_1}{r} \times \left[1 - \frac{1}{(1+r)^t}\right] \qquad FV_t = \frac{CF}{r} \times \left[(1+r)^t - 1\right]$$

Effective Annual Rate

$$EAR = \left[1 + \left(\frac{APR}{m}\right)\right]^m - 1$$

Where: m = number of compounding periods per year. APR = Annual Percentage Rate.