

Formula Sheet

$$[2.1] \quad TA = TL + TE$$

$$NWC = CA - CL$$

$$[2.2] \quad NI = Rev - Exp$$

$$EPS = NI / \#shares$$

$$DPS = Div / \#shares$$

$$[2.3] \quad CF \text{ From Assets} = CF \text{ to Creditors} + CF \text{ to Shareholders} = CFO - Net \text{ Invest} - \Delta NWC$$

$$CFO = EBIT + Dep'n - Taxes$$

$$EBIT = Rev - COGS - Dep'n - Other \text{ Exp not incl. Int}$$

$$Net \text{ Invest} = (End \text{ FA} - Beg \text{ FA}) + Dep'n$$

$$\Delta NWC = End \text{ NWC} - Beg \text{ NW}$$

$$[3.1] \quad CR = CA / CL$$

$$[3.2] \quad QR = (CA - Invent) / CL$$

$$[3.3] \quad CaR = (Cash + Equiv) / CL$$

$$[3.4] \quad NWC \text{ To } TA = NWC / TA = (CA - CL) / TA$$

$$[3.5] \quad IM = CA / Avg \text{ Daily Op Costs}$$

$$[3.6] \quad TD \text{ Ratio} = TD / TA = (TA - TE) / TA$$

$$[3.7] \quad D/E \text{ Ratio} = TD / TE = (TA - TE) / TE$$

$$[3.8] \quad EM = TA / TE = 1 + (TD / TE)$$

$$[3.9] \quad LTD \text{ Ratio} = LTD / Cap = LTD / (LTD + TE)$$

$$[3.10] \quad \text{TIE} = \text{EBIT} / \text{Int}$$

$$[3.11] \quad \text{CCR} = \text{EBITDA} / \text{Int} = (\text{EBIT} + \text{Dep'n}) / \text{Int}$$

$$[3.12] \quad \text{IT} = \text{COGS} / \text{Invent}$$

$$[3.13] \quad \text{DIH} = \text{\#Days} / \text{IT}$$

$$[3.14] \quad \text{RT} = \text{Sales} / \text{AR}$$

$$[3.15] \quad \text{DSO} = \text{\#Days} / \text{RT}$$

$$[3.16] \quad \text{NWC Turn} = \text{Sales} / \text{NWC}$$

$$[3.17] \quad \text{FAT} = \text{Sales} / \text{Net FA} = \text{Sales} / (\text{Gross FA} - \text{Dep'n})$$

$$[3.18] \quad \text{TAT} = \text{Sales} / \text{TA}$$

$$[3.19] \quad \text{PM} = \text{NI} / \text{Sales}$$

$$\text{Gross PM} = (\text{Sales} - \text{COGS}) / \text{Sales}$$

$$\text{Operating PM} = (\text{Sales} - \text{COGS} - \text{SGA}) / \text{Sales}$$

$$[3.20] \quad \text{ROA} = \text{NI} / \text{TA}$$

$$[3.21] \quad \text{ROE} = \text{NI} / \text{TE}$$

$$[3.22] \quad \text{P/E Ratio} = \text{PPS} / \text{EPS} = (\text{MV} / \text{\#shares}) / (\text{NI} / \text{\#shares})$$

$$[3.23] \quad \text{MV/BV Ratio} = \text{MVPS} / \text{BVPS} = (\text{MV} / \text{\#shares}) / (\text{TE} / \text{\#shares})$$

$$[5.1] \quad \text{FV}_t = \$1(1 + r)^t$$

$$\text{FV}_t = \text{C}_0(1 + r)^t = \text{PV}(1 + r)^t$$

$$[5.2] \quad \text{PV} = \$1 / (1 + r)^t$$

$$[5.3] \quad \text{PV} = \text{C}_t / (1 + r)^t = \text{FV}_t / (1 + r)^t$$

$$\Rightarrow \quad r = (\text{FV}_t / \text{PV})^{1/t} - 1$$

$$t = \ln(\text{FV}/\text{PV}) / \ln(1 + r)$$

$$[6.4] \quad PV(\text{Perpetuity}) = C / r$$

$$[6.6] \quad PV(\text{Growing Perpetuity}) = C_1 / (r - g) \quad \text{for } r > g$$

$$[6.1] \quad PVA = PV(\text{Annuity}) = C \left[\frac{1 - \frac{1}{(1+r)^t}}{r} \right] = C \left[\frac{1 - PVIF}{r} \right] = C[PVIFA]$$

$$\Rightarrow \quad t = \ln\{[1] / [1 - PVA(r)/C]\} / \ln(1+r)$$

$$[6.2] \quad FVA = FV(\text{Annuity}) = C \left[\frac{(1+r)^t - 1}{r} \right] = C \left[\frac{FVIF - 1}{r} \right] = C[FVIFA]$$

$$[6.3] \quad PV(\text{Annuity Due}) = PV(\text{Ordinary Annuity})(1 + r)$$

$$FV(\text{Annuity Due}) = FV(\text{Ordinary Annuity})(1 + r)$$

$$[6.7] \quad PVGA = PV(\text{Growing Annuity}) = \left(\frac{C}{r-g} \right) \left[1 - \left(\frac{1+g}{1+r} \right)^t \right] \quad \text{for } r \neq g$$

$$APR = (q)(m)$$

$$[6.8] \quad EAR = [1 + (APR/m)]^m - 1$$

$$\Rightarrow \quad APR = [(1 + EAR)^{1/m} - 1](m)$$

$$q = APR / m = [(1 + EAR)^{1/m} - 1]$$

$$[6.9] \quad EAR = e^q - 1$$

$$PV(\text{DiscBond}) = B_0 = F / (1 + r)^t$$

$$PV(\text{Consol}) = B_0 = C / r$$

$$[7.1] \quad PV(\text{Bond}) = B_0 = C \left[\frac{1 - \frac{1}{(1+r)^t}}{r} \right] + \frac{F}{(1+r)^t}$$

$$[8.2] \quad PV(\text{NoGrowth}) = P_0 = D / r$$

$$[8.3] \quad PV(\text{CstGrowth}) = P_0 = D_1 / (r - g) \quad \text{for } r > g$$

$$\Rightarrow \quad r = (D_1 / P_0) + g$$

$$\text{NPV} = \text{PV}(\text{FutureCF}) - C_0$$

$$\text{AAR} = \text{Avg NI} / \text{Avg NBV}$$

$$\text{PI} = \text{PV}(\text{FutureCF}) / C_0$$

$$C_1 = (S_1 - E)$$

$$P_1 = (E - S_1)$$
