

FORMULAE Part I FÓRMULAS Parte I

(following Berk DeMarzo & Harford's "Fundamentals of Corporate Finance" sequence)

GESTÃO FINANCEIRA I / GESTÃO FINANCEIRA / CORPORATE FINANCE / CORPORATE FINANCE I

$$PV(\text{growing perpetuity}) = \frac{C}{r - g} = VA(\text{renda perpétua}) \quad (4.7)$$

$$PV(\text{annuity of } C \text{ for } N \text{ periods with interest rate } r, \text{ growing at rate } g) = C \times \frac{1}{r - g} \left(1 - \left(\frac{1 + g}{1 + r} \right)^N \right) =$$

$$= VA(\text{renda termo inicial } C, \text{ crescente a taxa } g, \text{ durante } N \text{ períodos, atualizada a taxa } r) \quad (4.8)$$

$$1 + EAR = \left(1 + \frac{APR}{k} \right)^k \quad ; \quad 1 + TAE = \left(1 + \frac{TAN}{k} \right)^k \quad (5.3)$$

$$YTM_n = \left(\frac{\text{Face Value}}{P} \right)^{\frac{1}{n}} - 1 \quad (6.2)$$

$$P = CPN \times \frac{1}{y} \left(1 - \frac{1}{(1 + y)^n} \right) + \frac{FV}{(1 + y)^n} \quad (6.3)$$

$$P = PV(\text{Bond/Obrigaç o cash Flows}) = \frac{CPN}{1 + YTM_1} + \frac{CPN}{(1 + YTM_2)^2} + \dots + \frac{CPN + FV}{(1 + YTM_N)^N} \quad (6.4)$$

$$r_E = \frac{Div_1}{P_0} + \frac{P_1 - P_0}{P_0} \quad (7.2)$$

$$P_0 = \frac{Div_1}{1 + r_E} + \frac{Div_2}{(1 + r_E)^2} + \dots + \frac{Div_N}{(1 + r_E)^N} + \frac{P_N}{(1 + r_E)^N} \quad (7.4)$$

$$P_0 = \frac{Div_1}{r_E - g} \quad (7.6)$$

$$Div_t = EPS_t \times \text{Dividend Payout Rate}_t \quad (7.8)$$

$$g = \text{Retention rate} \times \text{Return on New Investment} \quad (7.11)$$

$$P_0 = \frac{PV(\text{Future Total Dividends and Repurchases})}{\text{Shares Outstanding}_0} \quad (7.15)$$

RATIOS RACIOS

$$\text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Sales}} = \frac{\text{Margem Bruta}}{\text{Vendas}} = \text{Margem Bruta das Vendas}$$

$$\text{EBIT Margin} = \frac{\text{EBIT}}{\text{Sales}} = \frac{\text{EBIT}}{\text{Vendas}} = \text{Margem do EBIT}$$

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Sales}} = \frac{\text{Resultado Liquido}}{\text{Vendas}} = \text{Rendibilidade Liquida das Vendas}$$

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{\text{Ativo Corrente}}{\text{Passivo Corrente}} = \text{Liquidez Geral}$$

$$\text{Quick Ratio} = \frac{\text{Cash\&ShorttermInvestments} + \text{Accounts Receivable}}{\text{Current Liabilities}} = \frac{\text{Caixa\&Investimentos de curto prazo} + \text{Contas a Receber}}{\text{Passivo Corrente}} = \text{Liquidez Reduzida}$$

$$\text{Cash Ratio} = \frac{\text{Cash or Cash\&Equivalents}}{\text{Current Liabilities}} = \frac{\text{Caixa ou Caixa\&Equivalentes}}{\text{Passivo Corrente}} = \text{Liquidez Imediata}$$

$$\text{AccountsReceivableDays} = \frac{\text{Accounts Receivable}}{\text{Average Daily Sales}} = \frac{\text{Contas a Receber}}{\text{Vendas Diárias (média)}} = \text{PrazoMédioRecebimentos}$$

$$\text{Accounts Payable Days} = \frac{\text{Accounts Payable}}{\text{Average Daily Cost of Sales}} = \frac{\text{Contas a Pagar}}{\text{CMVMC Diário (médio)}} = \text{PrazoMédioPagamentos}$$

$$\text{InventoryDays} = \frac{\text{Inventory}}{\text{Average Daily Cost of Sales}} = \frac{\text{Inventários}}{\text{CMVMC Diário (médio)}} = \text{PrazoMédioPermanênciaInventários}$$

$$\text{Inventory Turnover} = \frac{\text{Annual Cost of Sales}}{\text{Inventory}} = \frac{\text{CMVMC Anual}}{\text{Inventários}} = \text{Rotação de Inventários}$$

$$\text{Interest Coverage Ratio} = \frac{\text{EBIT or EBITDA}}{\text{Interest Expense}} = \frac{\text{EBIT ou EBITDA}}{\text{Encargos Financeiros com a dívida}} = \text{CoberturaEncargosFinanceirosDívida}$$

$$\text{Debt – to – Equity Ratio} = \frac{\text{Total Debt}}{\text{Total Equity}} = \frac{\text{Dívida Total}}{\text{Capital Próprio}} = \text{Rácio Dívida/CapitalPróprio}$$

$$\text{Debt – to – Capital Ratio} = \frac{\text{Total Debt}}{\text{Total Equity} + \text{Total Debt}} = \frac{\text{Dívida Total}}{\text{Capital Próprio} + \text{Dívida Total}} = \text{Grau de Endividamento Total}$$

$$\text{Equity Multiplier (at book values)} = \frac{\text{Total Assets}}{\text{Equity}} = \frac{\text{Total do Ativo}}{\text{Capital Próprio}} = \text{Multiplicador do CapitalPróprio (a valores contabilísticos)}$$

$$\text{Market – to – Book Ratio} = \frac{\text{Market Value of Equity}}{\text{Book Value of Equity}} = \frac{\text{Valor de Mercado do Capital Próprio}}{\text{Valor Contabilístico do Capital Próprio}}$$

$$\text{Price – Earnings Ratio} = \frac{\text{Share Price}}{\text{Earnings per Share}} = \frac{\text{Cotação da Ação}}{\text{Resultado por Ação}} = \text{PER}$$

$$\text{Asset Turnover} = \frac{\text{Sales}}{\text{Total Assets}} = \frac{\text{Vendas}}{\text{Total do Ativo}} = \text{Rotação do Ativo}$$

$$\text{ROE} = \frac{\text{Net Income}}{\text{Book Value of Equity}} = \frac{\text{Resultado Líquido}}{\text{Valor Contabilístico Capital Próprio}}$$

$$\text{ROA} = \frac{\text{Net Income} + \text{Interest Expense}}{\text{Book Value of Assets}} = \frac{\text{Resultado Líquido} + \text{Encargos Financeiros com Dívida}}{\text{Valor Contabilístico do Ativo}}$$

$$\text{ROIC} = \frac{\text{EBIT}(1 - \text{Tax Rate})}{\text{Book Value of Equity} + \text{Net Debt}} = \frac{\text{EBIT}(1 - \text{Taxa de Imposto})}{\text{Valor Contabilístico Capital Próprio} + \text{Net Debt}}$$