A: Assets, D: Debt, E: Equity, NWC: Net Working Capital, R: Revenue

Basics

Assets = Debt(Liabilities) + Equity : A = D + E

Income = Revenue - Expenses

Net Working Capital = (Current Assets) - (Current Liabilities) : NWC = CA - CL

CashFlow(Assets) = CashFlow(Creditors) + CashFlow(Stockholders) : CF(A) = CF(B) + CF(S)

Operating Cashflow = (Net Income) + Depreciation + Amortization + (ΔNet Working Capital) : OCF = EBIT + Depreciation - Taxes

Liquidity Ratios

Current Ratio = (Current Assets)/(Current Liabilities) : CR = CA/CL

Quick Ratio = (Current Assets - Inventory)/(Current Liabilities) : CR = (CA - Inv)/CL

Cash Ratio = Cash/(Current Liabilities) : Cash/CL

Leverage Ratios

Total Debt Ratio = (Assets - Equity)/Assets : TDR = (A - E)/A

Debt/Equity Ratio = Debt/Equity : D/E

Equity Mulitplier = Assets/Equity $\iff$ 1 + Debt/Equity : EM = A/E $\iff$ 1 + D/E

Coverage Ratios

Times Interest Earned = (Earnings Before Interest and Taxes)/Interst : TIE = EBIT/Interest

Cash Coverage = (EBIT + Depreciation + Amortization)/Interest

Ratio Analysis

Inventory Turnover = Cost of Goods Sold/Inventory : IT = COGS/Inventory

Days' Sales in Inventory = 365/(Inventory Turnover) : DSI = 365/IT

Receivables Ratios

Receivables Turnover = Sales/(Accounts Receivable) : RT = S/AR

Days' Sales in Receivables = 365/(Receivables Turnover) : DSR = 365/RT

Total Asset Turnover = Sales/(Total Assets) : TAT = S/A

Profitability Ratios

Profit Margin = (Net Income)/Sales : PM = NI/S

Return on Assets = (Net Income)/(Total Assets) : ROA = NI/A

Return on Equity = (Net Income)/(Total Equity) : ROE = NI/E

Market Value Measures

Earnings Per Share = (Net Income)/(Shares Outstanding) : EPS = NI/SO

Price-to-Earnings Ratio = (Price per Share)/(Earnings per Share) : PE Ratio = PPS/EPS

Market Capitalization = PPS·(Shares Outstanding)

Dividend Ratios

Dividend Payout Ratio = (Dividends Paid)/Net Income = d

Retention Ratio = 1 - (Dividends Paid)/Net Income : $b = 1 - d$

Du-Pont Identity

ROE = $\frac{NI}{S} \cdot \frac{S}{A} \cdot \frac{A}{E}$ PM·TAT·EM

Pro Forma Income Statement for year n

(Projected) Sales_n = Sales_{n-1}·(1 + Growth Rate)

(Projected) $(\text{Cost of Goods Sold})_n$ = $(\text{Cost of Goods Sold})_{n-1}$·(1 + Growth Rate)

(Projected) $(\text{Taxable Income})_n$ = Sales_n - Costs_n - Interest_n

(Projected) Interest_n = Interest_{n-1} + (Interest Rate)·D

(Projected) Taxes_n = (Tax Rate)·$(\text{Taxable Income})_n$

(Projected) $(\text{Net Income})_n$ = $(\text{Taxable Income}_n)$ - Taxes_n

(Projected) Dividends_n = $(\text{Net Income})_n$·(Dividend Payout Ratio)

(Projected) $(\text{Addition to Retained Earnings})_n$ = (Net Income_n) - Dividends_n = (ΔRetained Earnings)

Pro Forma Balance Sheet for year n

(Projected) Cash_n = Cash_{n-1}·(1 + Growth Rate)

(Projected) $(\text{Accounts Receivable})_n$ = $(\text{Accounts Receivable})_{n-1}$·(1 + Growth Rate)

(Projected) Inventory_n = Inventory_{n-1}·(1 + Growth Rate)

(Projected) $(\text{Net Fixed Assets})_n$ = $(\text{Net Fixed Assets})_{n-1}$·(1 + Growth Rate)

(Projected) $(\text{Accounts Payable})_n$ = $(\text{Accounts Payable})_{n-1}$·(1 + Growth Rate)

(Projected) $(\text{Notes Payable})_n$ = $(\text{Notes Payable})_{n-1}$ + D

(Projected) $(\text{Long Term Debt})_n$ = $(\text{Long Term Debt})_{n-1}$ + D

(Projected) $(\text{Stock})_n$ = $(\text{Stock})_{n-1}$ - (Buy Backs)

(Projected) $(\text{Retained Earnings})_n$ = $(\text{Retained Earnings})_{n-1}$ + ΔRetained Earnings

Solve for D *by setting Total Assets = Total Liabilities*

External Financing Needed (EFN)

EFN = (Projected Total Assets) - (Spontaneous ΔLiabilities) - (ΔRetained Earnings)

EFN > 0 ? "External financing needed" : "Company has excess funds"

Growth Rate

Internal Groth Rate = (ROA·b)/(1 - ROA·b) = IGR

Sustainable Groth Rate = (ROE·b)/(1 - ROE·b) = SGR