

- Assets – Liabilities = Equity
- Assets = (Contributed Capital + Beginning Earnings + Revenue) + Liabilities – Expenses – Dividends

Sales

- COGS

Gross Margin

- Operating expense

Operating Profit

- Interest Expense

Income before Taxes

- Provision for Taxes

Income from Continuing Operations

- Provision for Taxes

Income from Discontinued Operations (Net of Taxes)

Net Income

- Basic EPS =
$$\frac{NetIncome - Pfd.Dividends}{TotalShares}$$

- Diluted EPS =

$$\frac{(NetIncome - Pfd.Dividends) + (Conv.PfdDividend) + Conv.DebtInterest)(1 - t)}{TotalShares + Conv.prf.Shares + Conv.DebtShares + SharesfromOptions}$$

- Profit Margin = Net Income / Sales
- Current ratio = Current Assets / Current liabilities
- Quick ration = (Current assets – Inventory) / Current Liabilities
- Cash ratio = (Cash + Cash Equivalentents) / Current liabilities

Debt (Solvency) Ratios:

- Long Term debt to Equity = Long Term Debt / Total Equity
- Debt Ratio to Equity = Total Debt / Total Equity
- Total Debt Ratio = Total Debt / Total Assets
- Financial Leverage = Assets / Equity

Inventory:

- $\text{Begin Inventory} + \text{Purchases} - \text{COGS} = \text{End Inventory}$.
- $\text{FIFO Inventory} - \text{LIFO Inventory} = \text{LIFO reserve}$
- $\text{COGS}_{FIFO} = \text{COGS}_{LIFO} - \text{Change in LIFO Reserve}$
- $\text{COGS}_{FIFO} = \text{COGS}_{LIFO} - (\text{LIFO Res}_{End} - \text{LIFO Res}_{Beg})$
- $\text{COGS}_{LIFO} = \text{COGS}_{FIFO} + (\text{BEG INV}_{FIFO} * \text{Inflation})$

Depreciation:

- $\text{Straight line depreciation} = (\text{Actual Cost} - \text{Salvage}) / \text{Depreciable Life}$
- Sum of the year Depreciation: Add all years (for Four years $1+2+3+4= 10$), then the first year depreciation is $4/10$, followed by $3/10$, $2/10$, $1/10$.
- $\text{Double-Declining Depreciation} = (2/\text{Depreciable life}) * \text{Value at Begin of the Year}$

Activity Ratios:

- $\text{Receivable Turnover} = (\text{Annual Sales} / \text{Average Receivables})$
- $\text{Days of sales Outstanding (Avg. Collection Period)} = 365 / \text{Receivable turnover}$
- $\text{Inventory Turnover} = (\text{Cost of Goods Sold} / \text{Avg. Inventory})$
- $\text{Days of On hand Inventory} = 365 / \text{Inventory Turnover}$
- $\text{Payable Turnover} = \text{Purchases} / \text{Avg. Payables}$
- $\text{Days of Payable} = 365 / \text{Payable turnover}$
- $\text{Asset Turnover} = \text{Sales} / \text{Average Assets}$
- $\text{Fixed Asset Turnover} = \text{Sales} / \text{Average Fixed Assets}$
- $\text{Cash Conversion Cycle} = \text{Days of sales Outstanding} + \text{Days of Inventory} - \text{Days of Payable}$

Profitability Ratios:

- $\text{Profit Margin} = \text{Net Income} / \text{Sales}$
- $\text{Gross margin} = \text{Gross Profit} / \text{Sales}$
- $\text{Operating Margin} = \text{Operating Profit} / \text{Sales}$ (EBIT / Sales)
- $\text{Pretax Margin} = (\text{EBT} / \text{Sales})$
- $\text{Return on Assets ROA} = \text{Net Income} / \text{Total Assets}$

- Return on Capital (ROTC) = Net Income / Total Capital
- Total capital = add short term debt, Long term debt, Preferred Equity and Common Equity
- Return on Equity (ROE) = Net Income / Total Equity
- Return on Common Equity = (Net Income – Preferred Dividend) / Common Equity

DuPont Equation for ROE

- $ROE = (\text{Net Income}/\text{Sales}) * (\text{Sales}/\text{Equity})$
= *Profit Margin * Equity Turn Over*
- $ROE = (\text{Net Income}/\text{Sales}) * (\text{Sales}/\text{Assets}) * (\text{Assets}/\text{Equity})$
= *Profit Margin * Asset Turn Over * Leverage*
= Return on Assets * Leverage
(ROA = NI/Assets or Profit Margin* Asset Turnover)

DuPont Equation - 5 Part Equation:

$$ROE = (NI/EBT) * (EBT/EBIT) * (EBIT/Sales) * (Sales/Assets) * (Assets/Equity)$$

Tax Burden Equals to (1-T) *
Interest Burden *
Operating Margin *
Asset Turn Over *
Leverage

Growth Rate (g) = ROE * Plough back ratio (or Retention Ratio)

Retention ratio = 1-dividend ratio