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Financial modeling and valuation, one-page reference · academy.colossusfirm.com

## CORE IDENTITIES · M1 TO M3

| | |
|---|---|
| Balance sheet | $\text{Assets} = \text{Liabilities} + \text{Equity}$ |
| Free cash flow | $\text{CFO} - \text{Capex}$ |
| Retained earnings | $\text{Beg.} + \text{Net income} - \text{Dividends}$ |

Net income ends the income statement, starts operating cash flow, and adds to retained earnings. Profit is an opinion, cash is a fact.

## INCOME STATEMENT · M2, M5

| | |
|---|---|
| Gross profit | $\text{Revenue} - \text{COGS}$ |
| Operating income (EBIT) | $\text{Gross profit} - \text{Opex}$ |
| Net income | $\text{Pretax income} - \text{Tax}$ |
| EBITDA | $\text{EBIT} + \text{D\&A}$ |
| Diluted EPS | $\frac{\text{Net income}}{\text{Diluted shares}}$ |

## PROFITABILITY · M7

| | |
|---|---|
| Gross margin | $\frac{\text{Gross profit}}{\text{Revenue}}$ |
| Operating margin | $\frac{\text{EBIT}}{\text{Revenue}}$ |
| Net margin | $\frac{\text{Net income}}{\text{Revenue}}$ |
| Return on equity | $\frac{\text{Net income}}{\text{Equity}}$ |
| Return on assets | $\frac{\text{Net income}}{\text{Assets}}$ |
| Return on capital | $\frac{\text{NOPAT}}{\text{Invested capital}}$ |

A good ratio is always relative to the industry and the company's own history.

## LIQUIDITY & LEVERAGE · M7

| | |
|---|---|
| Current ratio | $\frac{\text{Current assets}}{\text{Current liabilities}}$ |
| Quick ratio | $\frac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}}$ |
| Debt to equity | $\frac{\text{Total debt}}{\text{Equity}}$ |
| Interest coverage | $\frac{\text{EBIT}}{\text{Interest expense}}$ |
| Net debt | $\text{Total debt} - \text{Cash}$ |

## WORKING CAPITAL · M8

| | |
|---|---|
| Working capital | $\text{Curr. assets} - \text{Curr. liabilities}$ |
| Days sales outstanding | $\frac{\text{AR}}{\text{Revenue}} \times 365$ |
| Days inventory | $\frac{\text{Inventory}}{\text{COGS}} \times 365$ |
| Days payable | $\frac{\text{AP}}{\text{COGS}} \times 365$ |
| Cash conversion cycle | $\text{DSO} + \text{DIO} - \text{DPO}$ |

Rising working capital uses cash; a negative cycle is free funding from suppliers.

## COST OF CAPITAL · M11

| | |
|---|---|
| Cost of equity (CAPM) | $R_f + \beta\,(\text{ERP})$ |
| After-tax cost of debt | $R_d\,(1 - t)$ |
| WACC | $\frac{E}{V} R_e + \frac{D}{V} R_d (1 - t)$ |

Weights use market values, not book. A higher beta means a higher required return.

## DISCOUNTED CASH FLOW · M12

| | |
|---|---|
| Present value | $\frac{\mathrm{FCF}_t}{(1+\mathrm{WACC})^t}$ |
| Terminal value | $\frac{\mathrm{FCF}_N(1+g)}{\mathrm{WACC}-g}$ |
| Enterprise value | $\sum \mathrm{PV(FCF)} + \mathrm{PV(TV)}$ |
| Equity value | $\mathrm{EV} - \text{Net debt}$ |
| Value per share | $\frac{\text{Equity value}}{\text{Diluted shares}}$ |

The terminal value usually dominates, so guard $g$ and WACC closely; keep $g < \mathrm{WACC}$.

## MARKET MULTIPLES · M7, M13

| | |
|---|---|
| Enterprise value | $\text{Market cap} + \text{Net debt}$ |
| Price to earnings | $\frac{\text{Price}}{\text{EPS}}$ |
| EV / EBITDA | $\frac{\text{EV}}{\text{EBITDA}}$ |
| EV / Sales | $\frac{\text{EV}}{\text{Revenue}}$ |
| Implied value | $\text{Peer multiple} \times \text{metric}$ |

A multiple only transfers between genuinely similar businesses. Use the median peer.

## QUALITY & JUDGMENT · M6, M14, M15, M16

| | |
|---|---|
| Accruals | $\text{Net income} - \mathrm{CFO}$ |
| Cash conversion | $\frac{\mathrm{CFO}}{\text{Net income}}$ |

Want cash conversion at or above one; profit rising while cash falls is a red flag. EBITDA ignores reinvestment, so it is never free cash flow. A DCF gives a range, not a point; stress WACC and terminal growth. Health and price are separate questions. State every assumption out loud.