Ratio analysis formula reference

Definitions, conventions and interpretation

Use the same definition in the question, calculation and interpretation. Flow-to-stock ratios normally use an average balance-sheet denominator. A simple average uses opening and closing balances; seasonality can require a more representative average.

Liquidity and profitability

Current ratio	Current assets / current liabilities Short-term balance-sheet coverage; assess asset quality and payment timing.
Quick ratio	(Cash + short-term marketable investments + receivables) / current liabilities Exclude inventory, prepaid expenses and other non-quick assets.
Cash ratio	(Cash and cash equivalents + short-term marketable investments) / current liabilities State a narrower cash-only convention if you use it.
Working capital	Current assets - current liabilities An amount in currency, not a ratio.
Gross profit margin	Gross profit / revenue Multiply by 100 to express a percentage.
Operating profit margin	Operating income / revenue Use a consistent definition of operating income.
Net profit margin	Net income / revenue Keep the numerator and denominator for the same period.
Return on assets (ROA)	Net income / average total assets Operating ROA uses operating income instead; label it separately.
Return on equity (ROE)	Relevant net income / average relevant equity For common ROE, use income attributable to common shareholders and average common equity.
Return on capital employed	EBIT / capital employed State the capital-employed definition and whether an average balance is used.
EBITDA margin	EBITDA / revenue EBITDA: earnings before interest, taxes, depreciation and amortisation.

Leverage, coverage and operating efficiency

Debt-to-equity	Interest-bearing debt / equity Define debt consistently, including treatment of leases.
Debt-to-assets	Interest-bearing debt / total assets Do not silently replace debt with total liabilities.
Financial leverage	Average total assets / average equity The equity multiplier used in this reference.
Interest coverage	EBIT / interest expense Earnings coverage does not establish cash or principal repayment capacity.
Inventory turnover	COGS / average inventory Use cost, not sales revenue, with inventory carried at cost.
Receivables turnover	Net credit sales / average trade receivables If credit sales are unavailable and revenue is used, label that proxy.
Payables turnover	Credit purchases / average trade payables COGS may be an approximation only when purchases are unavailable; disclose it.
Total asset turnover	Revenue / average total assets Use net fixed assets for fixed-asset turnover and label that measure.
DSO / DIO / DPO	Days in period / corresponding turnover Use the same day count and matching credit-sales, COGS or purchases convention.
Operating cycle	DIO + DSO Time from inventory investment to customer collection.
Cash conversion cycle	DIO + DSO - DPO Subtracts supplier-financing time. It can be negative.

Market and cash-flow measures

Basic earnings per share	Income available to common shareholders / weighted-average common shares Account for preferred dividends and share changes when applicable.
Price-to-earnings (P/E)	Market price per common share / EPS Use consistent trailing or forward earnings. Non-positive EPS needs separate interpretation.
Price-to-book (P/B)	Market price per share / book value per share Use the relevant common-equity basis.
Dividend yield	Annual dividend per share / market price per share A yield is not the total investment return.
Enterprise value (simplified)	Common equity market value + debt + preferred equity + non-controlling interest - cash Other adjustments can apply. Keep EV and operating metric definitions consistent.
EV/EBITDA	Enterprise value / EBITDA Use comparable periods and accounting conventions.
Debt service coverage ratio	Defined cash flow available for debt service / defined debt service Definitions vary by lender and context; specify interest and principal treatment.
Free cash flow (simple CFO form)	Cash flow from operations - capital expenditure An amount, not a ratio. This is not automatically FCFF or FCFE in every convention.
PEG ratio	P/E / earnings growth rate expressed in percentage points For P/E 20 and growth 10%, use 20 / 10 = 2. It is not a stand-alone fair-value test.

Reference conventions: CFA Institute Financial Ratio List. This teaching sheet states simplified conventions where multiple definitions exist.
https://www.cfainstitute.org/sites/default/files/-/media/documents/support/programs/cfa/cfa_program_level_ii_financial_ratio_list.pdf