

Activity Ratios

Activity ratios measure how efficiently a company performs day-to-day tasks, such as the collection of receivables and management of inventory. The table below clarifies how to calculate most of the activity ratios.

Activity Ratios	Ratio calculation
Inventory turnover	$\frac{\text{Cost of goods sold}}{\text{Average inventory}}$
Days of inventory on hands (DOH)	$\frac{\text{Number of days in a period}}{\text{Inventory turnover}}$
Receivables turnover	$\frac{\text{Revenue or Revenue from credit sales}}{\text{Average receivables}}$
Days of sales outstanding (DSO)	$\frac{\text{Number of days}}{\text{Receivable turnover}}$
Payable Turnover	$\frac{\text{Purchases}}{\text{Average payables}}$
Number of days of payables	$\frac{\text{Number of days in a period}}{\text{Payable turnover}}$
Working capital turnover	$\frac{\text{Revenue}}{\text{Average working capital}}$
Fixed assets turnover	$\frac{\text{Revenue}}{\text{Average fixed assets}}$
Total assets turnover	$\frac{\text{Revenue}}{\text{Average total assets}}$

Liquidity Ratios

Liquidity ratios measure the company's ability to meet its short-term obligations and how quickly assets are converted into cash. The following table explains how to calculate the major liquidity ratios.

Liquidity ratios	Ratio calculation
Current	$\frac{\text{Current assets}}{\text{Current liabilities}}$
Quick	$\frac{\text{Cash} + \text{Short term marketable securities} + \text{Receivables}}{\text{Current liabilities}}$
Cash	$\frac{\text{Cash} + \text{Short term marketable securities}}{\text{Current liabilities}}$
Defensive interval	$\frac{\text{Cash} + \text{Short term marketable securities} + \text{Receivables}}{\text{Daily expenditures}}$
Cash conversion cycle	DOH + DSO - Number of days of payables

Solvency Ratios

Solvency ratios measure a company's ability to meet long-term obligations. Subsets of these ratios are also known as "leverage" and "long-term debt" ratios.

Solvency ratios	Ratio calculation
Debt-to-assets	$\frac{\text{Total debt}}{\text{Total assets}}$
Debt-to-capital	$\frac{\text{Total debt}}{\text{Total debt} + \text{Total shareholders' equity}}$
Debt-to-equity	$\frac{\text{Total debt}}{\text{Total shareholders' equity}}$
Financial leverage	$\frac{\text{Average total assets}}{\text{Total shareholders' equity}}$

Coverage Ratios	Ratio calculation
Interest coverage	$\frac{\text{EBIT}}{\text{Interest payments}}$
Fixed charge coverage	$\frac{\text{EBIT} + \text{Lease payments}}{\text{Interest payments} + \text{Lease payments}}$

Profitability Ratios

Profitability ratios measure the company's ability to generate profits from its resources (assets). The table below shows the calculations of these ratios.

Return on sales ratios	Ratio calculation
Gross profit margin	$\frac{\text{Gross profit}}{\text{Revenue}}$
Operating margin	$\frac{\text{Operating profit}}{\text{Revenue}}$
Pretax margin	$\frac{\text{EBT (Earnings Before Taxes)}}{\text{Revenue}}$
Net profit margin	$\frac{\text{Net income}}{\text{Revenue}}$

Return on investment ratios	Ratio calculation
Operating ROA	$\frac{\text{Operating income}}{\text{Average total assets}}$
ROA	$\frac{\text{Net income}}{\text{Average total assets}}$
Return on total capital	$\frac{\text{EBIT}}{\text{Debt} + \text{Equity}}$
ROE	$\frac{\text{Net income}}{\text{Average total equity}}$
Return on common equity	$\frac{\text{Net income} - \text{Preferred dividends}}{\text{Average common equity}}$

Valuation Ratios

Valuation ratios measure the quantity of an asset or flow (i.e., earnings) associated with ownership of a specified claim (i.e., a share or ownership of the enterprise). The following tables show the most of the common valuation ratios.

Valuation ratios	Ratio calculation
P/E	$\frac{\text{Price per share}}{\text{Earnings per share}}$
PC/F	$\frac{\text{Price per share}}{\text{Cash flow per share}}$
P/S	$\frac{\text{Price per share}}{\text{Sales per share}}$
P/BV	$\frac{\text{Price per share}}{\text{Book value per share}}$

Price per share	Ratio calculation
Basic EPS	$\frac{\text{Net income} - \text{Preferred dividends}}{\text{Weighted average number of ordinary shares outstanding}}$
Diluted EPS	$\frac{\text{Net income} - \text{Preferred dividends} + \text{Aftertax interest on ordinary shares outstanding}}{\text{Weighted average number of ordinary shares outstanding} + \text{Number of common shares that would have been issued at conversion}}$
Cash flow per share	$\frac{\text{CFO} - \text{Preferred dividends}}{\text{Weighted average number of ordinary shares outstanding}}$
EBITDA per share	$\frac{\text{EBITDA}}{\text{Average number of common stock}}$
Dividends per share	$\frac{\text{Dividends paid}}{\text{Number of shares outstanding}}$

Dividend - related ratios	Ratio calculation
Dividend payout ratio	$\frac{\text{Common share dividends}}{\text{Net income attributable to common shares}}$
Retention rate (b)	$\frac{\text{Net income attributable to common shares} - \text{Common share dividends}}{\text{Net income attributable to common shares}}$
Sustainable growth rate	b x ROE

Solvency Ratios

Solvency ratios measure a company's ability to meet long-term obligations. Subsets of these ratios are also known as "leverage" and "long-term debt" ratios.

Price per share	Ratio calculation
EBIT interest coverage	$\frac{\text{EBIT}}{\text{Gross interest (prior to deductions for capitalized interest or interest income)}}$
EBITDA interest coverage	$\frac{\text{EBITDA}}{\text{Gross interest (prior to deductions for capitalized interest or interest income)}}$

Price per share	Ratio calculation
FFO (funds from operations) interest coverage	$\frac{\text{FFO} + \text{Interest paid} - \text{Operatinf lease adjustments}}{\text{Gross interest (prior to deductions for capitalized interest or interest income)}}$
Return on capital	$\frac{\text{EBIT}}{\text{Average capital}}$ <small>where Capital = Equity + Non-current deferred taxes + Debt</small>
FFO (Funds from operations) to debt	$\frac{\text{FFO}}{\text{Total debt}}$
Free operating cash flow-to-debt	$\frac{\text{CFO (adjusted)} - \text{Capital expenditures}}{\text{Total debt}}$
Discretionary cash flow-to-debt	$\frac{\text{CFO} - \text{Capital expenditures} - \text{Dividend paid}}{\text{Total debt}}$
Net cash flow-to-capital expenditures	$\frac{\text{FFO} - \text{Dividends}}{\text{Capital expenditures}}$

Leverage Ratios

Leverage ratios measure the extent to which a company uses liabilities rather than equity to finance its assets

Leverage Ratios	
Debt-to-assets ratio	$\frac{\text{Total debt}^{\Delta}}{\text{Total assets}}$
Debt-to-capital ratio	$\frac{\text{Total debt}^{\Delta}}{\text{Total debt} + \text{Total equity}}$
Debt-to-equity ratio	$\frac{\text{Total debt}^{\Delta}}{\text{Total equity}}$
Financial leverage ratio	$\frac{\text{Average total assets}}{\text{Average equity}}$

^Δ Debt is defined as the sum of interest-bearing short-term and long-term debt.

Segment Ratios

Segment ratios are important for segment reporting. Remember that a company doesn't have to disclose information about all of its segments; they only need to be disclosed if that segment constitutes 10 percent or more of the combined operating segments' revenue, assets, or profit. If the revenue of the reported segments is less than 75% of the revenue of the entire company, more segments must be reported until the 75% level is reached.

Segment ratio	Numerator	Denominator	Indication
Segment margin	Segment profit (loss)	Segment revenue	Measures a segment's profitability relative to its revenues
Segment turnover	Segment revenue	Segment assets	Measures a segment's ability to generate revenue using assets
Segment ROA	Segment profit (loss)	Segment assets	Measures a segment's operating profitability relative to its assets
Segment debt ratio	Segment liabilities	Segment assets	Measures a segment solvency

Performance Ratios

Performance ratios are based on CFO. CFO is operating cash flow under US GAAP or under IFRS, conditional to the fact that the company includes interest paid in operating activities.

Leverage Ratios	Calculation	Indication
Cash flow to revenue	$\frac{\text{CFO}}{\text{Net revenue}}$	Operating cash generated per dollar of revenue
Cash return on assets	$\frac{\text{CFO}}{\text{Average total assets}}$	Operating cash generated per dollar of asset investment
Cash return on equity	$\frac{\text{CFO}}{\text{Average shareholders' equity}}$	Operating cash generated per dollar of owner investment
Cash to income	$\frac{\text{CFO}}{\text{Operating income}}$	Cash generated from operations
Cash flow per share	$\frac{\text{CFO} - \text{Pref. dividends}}{\text{Number of common shares outstanding}}$	Operating cash flow on a per share basis
Debt payment	$\frac{\text{CFO}}{\text{Cash paid for long term debt repayment}}$	Ability to pay debts with operating cash flows
Dividend payment	$\frac{\text{CFO}}{\text{Dividends paid}}$	Ability to pay dividends with operating cash flows
Investing and Financing	$\frac{\text{CFO}}{\text{Cash outflows for investing and financing activities}}$	Ability to acquire assets, pay debts, and make distributions to owners
Debt Coverage	$\frac{\text{CFO}}{\text{Total debt}}$	Financial risk and financial leverage
Interest Coverage	$\frac{\text{CFO} + \text{Interest paid} + \text{Taxes paid}}{\text{Interest paid}}$	Ability to meet interest obligations
Reinvestment	$\frac{\text{CFO}}{\text{Cash paid for long term assets}}$	Ability to acquire assets with operating cash flows