

TABLE 4.1 Key Financial Ratios: How to Calculate Them and What They Mean

Ratio	How Calculated	What It Shows
Profitability ratios		
1. Gross profit margin	$\frac{\text{Sales revenues} - \text{Cost of goods sold}}{\text{Sales revenues}}$	Shows the percentage of revenues available to cover operating expenses and yield a profit.
2. Operating profit margin (or return on sales)	$\frac{\text{Sales revenues} - \text{Operating expenses}}{\text{Sales revenues}}$ or $\frac{\text{Operating Income}}{\text{Sales revenues}}$	Shows the profitability of current operations without regard to interest charges and income taxes. Earnings before interest and taxes is known as <i>EBIT</i> in financial and business accounting.
3. Net profit margin (or net return on sales)	$\frac{\text{Profits after taxes}}{\text{Sales revenues}}$	Shows after-tax profits per dollar of sales.
4. Total return on assets	$\frac{\text{Profits after taxes} + \text{Interest}}{\text{Total assets}}$	A measure of the return on total investment in the enterprise. Interest is added to after-tax profits to form the numerator, since total assets are financed by creditors as well as by stockholders.
5. Net return on total assets (ROA)	$\frac{\text{Profits after taxes}}{\text{Total assets}}$	A measure of the return earned by stockholders on the firm's total assets.
6. Return on stockholders' equity (ROE)	$\frac{\text{Profits after taxes}}{\text{Total stockholders' equity}}$	The return stockholders are earning on their capital investment in the enterprise. A return in the 12%–15% range is average.
7. Return on invested capital (ROIC)—sometimes referred to as return on capital employed (ROCE)	$\frac{\text{Profits after taxes}}{\text{Long-term debt} + \text{Total stockholders' equity}}$	A measure of the return that shareholders are earning on the monetary capital invested in the enterprise. A higher return reflects greater bottom-line effectiveness in the use of long-term capital.
Liquidity ratios		
1. Current ratio	$\frac{\text{Current assets}}{\text{Current liabilities}}$	Shows a firm's ability to pay current liabilities using assets that can be converted to cash in the near term. Ratio should be higher than 1.0.
Ratio		
How Calculated		
What It Shows		
2. Working capital	Current assets – Current liabilities	The cash available for a firm's day-to-day operations. Larger amounts mean the company has more internal funds to (1) pay its current liabilities on a timely basis and (2) finance inventory expansion, additional accounts receivable, and a larger base of operations without resorting to borrowing or raising more equity capital.
Leverage ratios		
1. Total debt-to-assets ratio	$\frac{\text{Total debt}}{\text{Total assets}}$	Measures the extent to which borrowed funds (both short-term loans and long-term debt) have been used to finance the firm's operations. A low ratio is better—a high fraction indicates overuse of

2. Long-term debt-to-capital ratio	$\frac{\text{Long-term debt}}{\text{Long-term debt} + \text{Total stockholders' equity}}$	debt and greater risk of bankruptcy. A measure of creditworthiness and balance sheet strength. It indicates the percentage of capital investment that has been financed by both long-term lenders and stockholders. A ratio below 0.25 is preferable since the lower the ratio, the greater the capacity to borrow additional funds. Debt-to-capital ratios above 0.50 indicate an excessive reliance on long-term borrowing, lower creditworthiness, and weak balance sheet strength.
3. Debt-to-equity ratio	$\frac{\text{Total debt}}{\text{Total stockholders' equity}}$	Shows the balance between debt (funds borrowed both short term and long term) and the amount that stockholders have invested in the enterprise. The further the ratio is below 1.0, the greater the firm's ability to borrow additional funds. Ratios above 1.0 put creditors at greater risk, signal weaker balance sheet strength, and often result in lower credit ratings.
4. Long-term debt-to-equity ratio	$\frac{\text{Long-term debt}}{\text{Total stockholders' equity}}$	Shows the balance between long-term debt and stockholders' equity in the firm's <i>long-term</i> capital structure. Low ratios indicate a greater capacity to borrow additional funds if needed.
5. Times-Interest-earned (or coverage) ratio	$\frac{\text{Operating Income}}{\text{Interest expenses}}$	Measures the ability to pay annual interest charges. Lenders usually insist on a minimum ratio of 2.0, but ratios above 3.0 signal progressively better creditworthiness.
Activity ratios		
1. Days of Inventory	$\frac{\text{Inventory}}{\text{Cost of goods sold} \div 365}$	Measures inventory management efficiency. Fewer days of inventory are better.
2. Inventory turnover	$\frac{\text{Cost of goods sold}}{\text{Inventory}}$	Measures the number of inventory turns per year. Higher is better.
3. Average collection period	$\frac{\text{Accounts receivable}}{\text{Total sales} \div 365}$ or $\frac{\text{Accounts receivable}}{\text{Average daily sales}}$	Indicates the average length of time the firm must wait after making a sale to receive cash payment. A shorter collection time is better.
Ratio	How Calculated	What It Shows
Other important measures of financial performance		
1. Dividend yield on common stock	$\frac{\text{Annual dividends per share}}{\text{Current market price per share}}$	A measure of the return that shareholders receive in the form of dividends. A "typical" dividend yield is 2%–3%. The dividend yield for fast-growth companies is often below 1%; the dividend yield for slow-growth companies can run 4%–5%.
2. Price-to-earnings (P/E) ratio	$\frac{\text{Current market price per share}}{\text{Earnings per share}}$	P/E ratios above 20 indicate strong investor confidence in a firm's outlook and earnings growth; firms whose future earnings are at risk or likely to grow slowly typically have ratios below 12.
3. Dividend payout ratio	$\frac{\text{Annual dividends per share}}{\text{Earnings per share}}$	Indicates the percentage of after-tax profits paid out as dividends.
4. Internal cash flow	After-tax profits + Depreciation	A rough estimate of the cash a company's business is generating after payment of operating

flow		business is generating after payment of operating expenses, interest, and taxes. Such amounts can be used for dividend payments or funding capital expenditures.
5. Free cash flow	After-tax profits + Depreciation – Capital expenditures – Dividends	A rough estimate of the cash a company's business is generating after payment of operating expenses, interest, taxes, dividends, and desirable reinvestments in the business. The larger a company's free cash flow, the greater its ability to internally fund new strategic initiatives, repay debt, make new acquisitions, repurchase shares of stock, or increase dividend payments.