Financial Ratios & Formulas

Contents

Liquidity Ratios

Liquidity ratios are financial metrics used to assess a company's ability to meet its short-term obligations with its most liquid assets. These ratios help determine whether a company has enough resources to pay its immediate liabilities and provide insight into its short-term financial health.

Current Ratio

This ratio measures a company's ability to pay off its short-term obligations with its short-term assets. A higher current ratio indicates better liquidity and financial health.

- Current Ratio = Current Assets / Current Liabilities

Quick Ratio (Acid-Test Ratio)

This ratio measures the ability of a company to meet its short-term obligations with its most liquid assets, excluding inventory. It provides a more stringent test of liquidity than the current ratio. A higher quick ratio indicates stronger liquidity and a better ability to cover short-term liabilities without relying on the sale of inventory.

- Quick Ratio = (Current Assets - Inventory) / Current Liabilities

Cash Ratio

This ratio measures a company's ability to pay off its short-term liabilities with its cash and cash equivalents alone. It is the most stringent measure of liquidity, as it only considers the most liquid assets. A higher cash ratio indicates better short-term financial health and a greater ability to cover immediate obligations without needing to liquidate other assets.

- Cash Ratio = Cash and Cash Equivalents / Current Liabilities

Operating Cash Flow Ratio

This ratio assesses the ability of a company to cover its short-term obligations with the cash flow generated from its core business operations. It indicates how well a company can sustain its operations and pay off short-term liabilities using cash flow from its regular business activities. A higher operating cash flow ratio suggests better liquidity and a stronger ability to meet immediate financial obligations through ongoing business activities.

- Operating Cash Flow Ratio = Operating Cash Flow / Current Liabilities

Efficiency Ratios:

Efficiency ratios, also known as activity ratios, measure how effectively a company utilizes its assets and manages its operations to generate sales and maximize productivity. These ratios provide insight into various aspects of operational efficiency, including asset turnover, inventory management, and receivables collection. By assessing these metrics, efficiency ratios help determine how well a company is using its resources to achieve its revenue goals and maintain smooth operations.

Asset Turnover Ratio

This ratio measures how efficiently a company utilizes its assets to generate sales. It indicates the amount of sales generated for each dollar invested in assets. A higher asset turnover ratio suggests that the company is effectively using its assets to generate revenue. It is a key indicator of operational efficiency and asset utilization in relation to revenue generation.

- Asset Turnover Ratio = Net Sales / Average Total Assets

Inventory Turnover Ratio

This ratio measures how many times a company's inventory is sold and replaced over a specific period, typically a year. It provides insights into how efficiently a company manages its inventory levels. A higher inventory turnover ratio indicates that inventory is being sold quickly, which can lead to lower storage costs, fewer obsolete items, and better cash flow. It is a critical metric for assessing inventory management efficiency and operational performance.

- Inventory Turnover Ratio = Cost of Goods Sold (COGS) / Average Inventory

Receivables Turnover Ratio

This ratio measures how effectively a company extends credit and collects payments from its customers. It indicates the number of times receivables (or accounts receivable) are collected and replaced over a specific period, typically a year. A higher receivables turnover ratio suggests that the company efficiently collects payments from customers, which improves cash flow and reduces the risk of bad debts. It is a key metric for evaluating how well a company manages its credit policies and collects on its credit sales.

- Receivables Turnover Ratio = Net Credit Sales / Average Accounts Receivable

Days Sales Outstanding (DSO)

This ratio measures the average number of days it takes for a company to collect payment after making a sale. It indicates the average collection period for accounts receivable. A lower DSO suggests that the company collects payments more quickly, which improves cash flow and liquidity. DSO is an important metric for assessing the efficiency of a company's accounts receivable management and its ability to convert credit sales into cash.

- Days Sales Outstanding (DSO) = (Average Accounts Receivable / Net Credit Sales) × Number of Days

Days Inventory Outstanding (DIO)

This ratio measures the average number of days it takes for a company to sell its inventory. It indicates how efficiently a company manages its inventory levels and turnover. A lower DIO suggests that the company sells its inventory more quickly, which can reduce carrying costs and minimize the risk of inventory obsolescence. DIO is an important metric for evaluating inventory management efficiency and operational performance.

- Days Inventory Outstanding (DIO) = (Average Inventory / Cost of Goods Sold) × Number of Days

Days Payable Outstanding (DPO)

This ratio measures the average number of days a company takes to pay its suppliers. It indicates the average payment period for accounts payable. A higher DPO suggests that the company takes longer to pay its suppliers, which can improve cash flow and liquidity. DPO is an important metric for assessing how well a company manages its trade credit terms and its ability to effectively use supplier financing.

- Days Payable Outstanding (DPO) = (Average Accounts Payable / Cost of Goods Sold) × Number of Days

Cash Conversion Cycle (CCC)

This ratio measures the time it takes for a company to convert its investments in inventory and other resources into cash flows from sales. It combines the Days Sales Outstanding (DSO), Days Inventory Outstanding (DIO), and Days Payable Outstanding (DPO) to provide a comprehensive view of the cash flow cycle:

Days Sales Outstanding (DSO): Measures how long it takes to collect payments from customers after making a sale.

Days Inventory Outstanding (DIO): Measures how long it takes to sell inventory.

Days Payable Outstanding (DPO): Measures how long it takes to pay suppliers for purchases.

A shorter CCC indicates that a company is efficiently managing its working capital, converting inventory and receivables into cash quickly, and delaying payments to suppliers. This can improve liquidity and operational efficiency. CCC is a critical metric for assessing the effectiveness of cash management and working capital optimization within a company.

- Cash Conversion Cycle (CCC) = DSO + DIO - DPO

Fixed Asset Turnover Ratio

This ratio measures how efficiently a company generates sales revenue from its fixed assets, such as property, plant, and equipment (PP&E). It indicates the amount of sales generated for each dollar invested in fixed assets. A higher fixed asset turnover ratio suggests that the company is effectively utilizing its fixed assets to generate sales. It is a key indicator of operational efficiency and asset utilization in relation to revenue generation.

- Fixed Asset Turnover Ratio = Net Sales / Average Net Fixed Assets

Market Valuation Ratios:

Market valuation ratios are financial metrics used to evaluate the market value of a company's stock relative to specific financial metrics, such as earnings, book value, sales, and cash flow. These ratios help investors determine whether a stock is overvalued, undervalued, or fairly valued in the market. Market valuation ratios provide insights into how the market perceives a company's future growth potential, profitability, and overall financial health.

Price to Earnings (P/E) Ratio

This ratio compares the market price of a company's stock to its earnings per share (EPS). It indicates how much investors are willing to pay per dollar of earnings. A higher P/E ratio typically suggests that investors expect higher earnings growth in the future, while a lower P/E ratio may indicate that the stock is undervalued or that the company is facing challenges. The P/E ratio is a widely used metric for valuing stocks and assessing their investment attractiveness relative to earnings.

- Price to Earnings (P/E) Ratio = Market Price per Share / Earnings per Share (EPS)

Price to Book (P/B) Ratio

This ratio compares the market price of a company's stock to its book value per share. The book value per share is calculated as total shareholders' equity divided by the number of outstanding shares. The P/B ratio indicates how much investors are willing to pay for each dollar of book value. A higher P/B ratio may suggest that the stock is overvalued, while a lower P/B ratio may indicate that it is undervalued relative to its book value. The P/B ratio is commonly used by investors to assess the value of a company's assets relative to its market price.

- Price to Book (P/B) Ratio = Market Price per Share / Book Value per Share

Price to Sales (P/S) Ratio

This ratio compares the market capitalization of a company (market price per share multiplied by the number of shares outstanding) to its total revenue. It indicates how much investors are willing to pay for each dollar of sales generated by the company. A lower P/S ratio may suggest that the stock is undervalued relative to its revenue, while a higher P/S ratio may indicate that it is overvalued. The P/S ratio is used by investors to assess the company's valuation relative to its sales performance.

- Price to Sales (P/S) Ratio = Market Capitalization / Total Revenue

Price to Cash Flow (P/CF) Ratio

This ratio compares the market price of a company's stock to its cash flow per share. Cash flow per share is typically calculated as cash flow from operations divided by the number of shares outstanding. The P/CF ratio indicates how much investors are willing to pay for each dollar of cash flow generated by the company.

Similar to other valuation ratios, a lower P/CF ratio may suggest that the stock is undervalued relative to its cash flow, while a higher P/CF ratio may indicate that it is overvalued. The P/CF ratio is useful for investors as it provides insight into how the market values a company's ability to generate cash flow from its operations.

- Price to Cash Flow (P/CF) Ratio = Market Price per Share / Cash Flow per Share

Dividend Yield

This ratio measures the dividend income generated by a stock relative to its market price. It is calculated by dividing the annual dividends per share by the market price per share and then expressing the result as a percentage.

A higher dividend yield indicates that the stock provides a higher dividend income relative to its price, making it attractive for income-seeking investors. Conversely, a lower dividend yield may suggest that the stock pays lower dividends relative to its price. The dividend yield is an important metric for investors who prioritize income from their investments.

- Dividend Yield = (Annual Dividends per Share / Market Price per Share) × 100%

Enterprise Value to EBITDA (EV/EBITDA) Ratio

This ratio compares the enterprise value (EV) of a company to its Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA). Enterprise value is the market value of a company's equity plus its debt, minority interest, and preferred shares, minus cash and cash equivalents. EBITDA represents the company's earnings before non-operating expenses are accounted for.

The EV/EBITDA ratio is used to assess a company's valuation, taking into account its debt and cash levels, and comparing it to its operating profitability. A lower EV/EBITDA ratio may suggest that the company is undervalued relative to its earnings potential, while a higher ratio may indicate that it is overvalued. This ratio is commonly used in financial analysis to compare companies within the same industry or sector.

- Enterprise Value to EBITDA (EV/EBITDA) Ratio = Enterprise Value / EBITDA

Enterprise Value to Sales (EV/Sales) Ratio

This ratio compares the enterprise value (EV) of a company to its total revenue (sales). Enterprise value includes the market value of equity, debt, minority interest, and preferred shares, minus cash and cash equivalents. Total revenue represents the total amount of sales generated by the company over a specific period.

The EV/Sales ratio is used to assess the valuation of a company relative to its revenue generation. It provides insight into how much investors are willing to pay for each dollar of sales generated by the company. A lower EV/Sales ratio may indicate that the company is undervalued relative to its revenue, while a higher ratio may suggest that it is overvalued. This ratio is commonly used in financial analysis to compare companies within the same industry or sector based on their revenue performance.

- Enterprise Value to Sales (EV/Sales) Ratio = Enterprise Value / Total Revenue

PEG Ratio (Price/Earnings to Growth Ratio)

This ratio adjusts the Price to Earnings (P/E) ratio by taking into account the company's earnings growth rate. The P/E ratio compares the market price of a company's stock to its earnings per share (EPS). The PEG ratio divides the P/E ratio by the annual EPS growth rate to provide a more comprehensive assessment of the stock's valuation relative to its growth prospects.

A PEG ratio of 1 typically indicates that the stock is fairly valued, as the P/E ratio is in line with the company's expected earnings growth rate. A PEG ratio below 1 may suggest that the stock is undervalued relative to its growth potential, while a PEG ratio above 1 may indicate that it is overvalued.

The PEG ratio is useful for investors seeking to evaluate stocks based on both their current earnings multiple and their expected growth rate. It helps in comparing stocks across different industries and assessing their relative valuations considering growth prospects.

- PEG Ratio = (P/E Ratio) / Annual EPS Growth Rate

Solvency Ratios:

Solvency ratios, also known as leverage ratios, measure a company's ability to meet its long-term debt obligations and ensure long-term financial stability. These ratios assess the extent of a company's leverage and its capacity to cover long-term liabilities with its assets and earnings. By evaluating solvency ratios, investors, creditors, and analysts can determine the financial soundness and risk profile of a company in terms of its ability to sustain operations and fulfill debt commitments over the long term.

Debt to Equity Ratio

This ratio measures the proportion of a company's debt to its equity. A higher ratio indicates higher financial risk due to more debt financing, while a lower ratio suggests lower financial risk and greater reliance on equity. It helps assess a company's leverage and financial stability.

- Debt to Equity Ratio = Total Debt / Total Equity

Debt Ratio

This ratio measures the proportion of a company's assets that are financed by debt. A higher ratio indicates more financial leverage and potential risk, while a lower ratio suggests less reliance on debt financing. It provides insight into a company's financial structure and ability to meet its debt obligations.

- Debt Ratio = Total Debt / Total Assets

Equity Ratio

This ratio measures the proportion of a company's assets that are financed by shareholders' equity. A higher ratio indicates greater reliance on equity financing, which typically implies lower financial risk compared to debt financing. It provides insight into the financial stability and capital structure of a company.

- Equity Ratio = Total Equity / Total Assets

Interest Coverage Ratio

This ratio measures a company's ability to pay interest expenses on its outstanding debt. A higher ratio indicates that the company is more capable of meeting its interest obligations from

its earnings before deducting interest and taxes. It is used to assess the company's financial health and ability to manage its debt obligations.

- Interest Coverage Ratio = Earnings Before Interest and Taxes (EBIT) / Interest Expenses

Debt to Capital Ratio

This ratio measures the proportion of a company's capital structure that is financed by debt. It indicates the extent to which debt is used to fund the company's operations and investments relative to equity. A higher ratio suggests higher financial leverage and potential risk, while a lower ratio indicates lower reliance on debt financing and generally lower financial risk.

- Debt to Capital Ratio = Total Debt / (Total Debt + Total Equity)

Long-Term Debt to Equity Ratio

This ratio specifically measures the proportion of a company's long-term debt to its total equity. It helps assess the extent to which a company relies on long-term debt financing compared to equity. A higher ratio indicates higher financial leverage and potential risk associated with long-term debt, while a lower ratio suggests lower reliance on long-term debt financing and potentially lower financial risk. It provides insight into the company's long-term financial structure and risk management.

- Long-Term Debt to Equity Ratio = Long-Term Debt / Total Equity

Fixed Charge Coverage Ratio

This ratio measures a company's ability to cover its fixed charges, which include interest expenses and lease payments, from its earnings before interest and taxes (EBIT). It provides insight into whether a company generates enough operating income to cover its fixed financial obligations. A higher ratio indicates stronger financial health and a better ability to meet its fixed financial obligations, while a lower ratio may suggest potential financial strain and difficulty in meeting fixed obligations.

- Fixed Charge Coverage Ratio = (EBIT + Lease Payments) / (Interest Expenses + Lease Payments)

Profitability Ratios:

Profitability ratios measure a company's ability to generate profit relative to its revenue, assets, equity, and other financial metrics. These ratios provide insights into various aspects of a company's financial performance, including its ability to generate earnings, manage expenses, and utilize assets efficiently. By analyzing profitability ratios, investors, analysts, and management can assess a company's overall financial health, operational efficiency, and potential for growth and profitability.

Gross Profit Margin

This ratio measures the percentage of revenue that exceeds the cost of goods sold, after deducting direct production costs. It indicates how efficiently a company produces its goods or services before considering other expenses. A higher gross profit margin indicates better efficiency in production and pricing strategies, whereas a lower margin may suggest higher production costs or pricing pressures. It is a key indicator of a company's profitability at the gross profit level.

- Gross Profit Margin = (Gross Profit / Net Sales) × 100%

Operating Profit Margin

This ratio measures the percentage of revenue that remains after deducting operating expenses such as wages, depreciation, and overhead costs. It reflects how efficiently a company manages its operating costs in relation to its sales revenue. A higher operating margin indicates that the company has better control over its operating expenses and is generating more profit per dollar of sales. Conversely, a lower operating margin may suggest higher operating costs relative to sales revenue. Operating margin is a key indicator of a company's profitability from its core operations.

- Operating Margin = (Operating Income / Net Sales) × 100%

Net Profit Margin

This ratio measures the percentage of revenue that remains as net income after deducting all expenses, including operating expenses, interest, taxes, and other costs. It reflects the overall profitability of a company's operations, accounting for all expenses and taxes. A higher net profit margin indicates that the company is more efficient in generating profit from its revenue, whereas a lower margin may indicate higher expenses or lower revenue relative to sales. Net

profit margin is a key indicator of a company's profitability at the bottom line after all expenses have been deducted.

- Net Profit Margin = (Net Income / Net Sales) × 100%

Return on Assets (ROA)

This ratio measures the profitability of a company relative to its total assets. It indicates how effectively a company uses its assets to generate profit. A higher ROA indicates that the company is more efficient in utilizing its assets to generate earnings, whereas a lower ROA suggests less efficient asset utilization. ROA is a key metric for evaluating management's effectiveness in generating profits from the company's asset base.

- Return on Assets (ROA) = (Net Income / Average Total Assets) × 100%

Return on Equity (ROE)

This ratio measures the profitability of a company relative to its shareholders' equity. It indicates how effectively a company generates profit from the equity invested by shareholders. A higher ROE indicates that the company is generating more profit per unit of shareholders' equity, which is favorable for investors. Conversely, a lower ROE may suggest inefficiency in generating returns on shareholders' equity. ROE is a key metric for evaluating the profitability and performance of a company from the perspective of its shareholders.

- Return on Equity (ROE) = (Net Income / Average Shareholders' Equity) × 100%

Return on Investment (ROI)

ROI is a versatile metric used by investors and businesses to assess the success of investments and compare different investment opportunities based on their returns relative to their costs.

- Return on Investment (ROI) = (Net Profit / Cost of Investment) × 100%

Return on Capital Employed (ROCE)

Return on Capital Employed (ROCE) measures how effectively a company generates profits from its total capital, including both equity and debt. It assesses the efficiency of capital utilization in generating operating profits.

- Return on Capital Employed (ROCE) = (Operating Profit / Capital Employed) × 100%

Earnings Per Share (EPS)

EPS is calculated by dividing the net income attributable to common shareholders by the average number of outstanding shares during a specific period. It provides insight into how much profit each shareholder would receive if the company distributed all of its earnings.

EPS is a fundamental metric used by investors to evaluate a company's profitability and to compare it with other companies in the same industry or sector. It helps assess the company's ability to generate earnings for its shareholders.

- EPS = (Net Income attributable to common shareholders) / (Average Number of Outstanding Shares)

Dividend Payout Ratio

The Dividend Payout Ratio measures the proportion of a company's earnings that are distributed to shareholders as dividends. It indicates how much of the company's net income is paid out to shareholders rather than retained for reinvestment.

- Dividend Payout Ratio = (Total Dividends Paid) / (Net Income)

Operating Expense Ratio (OER)

The Operating Expense Ratio (OER) measures the efficiency of a company's operations by comparing operating expenses to net sales. It indicates the percentage of sales revenue that is used to cover operating expenses, such as salaries, rent, utilities, and other day-to-day expenses.

- OER = (Operating Expenses / Net Sales) × 100%