

### Introduction

Financial ratios vary across different industries and sectors and comparisons between completely different types of companies are often not valid. In addition, it is important to analyze trends in company ratios instead of solely emphasizing a single period's figures.

What is a ratio? It's a mathematical expression relating one number to another, often providing a relative comparison. Financial ratios are no different—they form a basis of comparison between figures found on financial statements. As with all types of fundamental analysis, it is often most useful to compare the financial ratios of a firm to those of other companies.

Financial ratios fall into several categories. For the purpose of this analysis, the commonly used ratios are grouped into **four categories: activity, liquidity, solvency and profitability**. Also, for the sake of consistency, the data in the financial statements created for the prior installments of the Financial Statement Analysis series will be used to illustrate the ratios. Table 1 shows the formulas with examples for each of the ratios discussed.

Source: <http://www.aaii.com/journal/article/16-financial-ratios-for-analyzing-a-companys-strengths-and-weaknesses.touch>

### Activity Ratios

Inventory turnover	$\text{cost of goods sold} \div \text{average inventory}$
Receivables turnover	$\text{net revenue} \div \text{average receivables}$
Payables turnover	$\text{purchases}^* \div \text{average payables}$
Asset turnover	$\text{net revenues} \div \text{average total assets}$

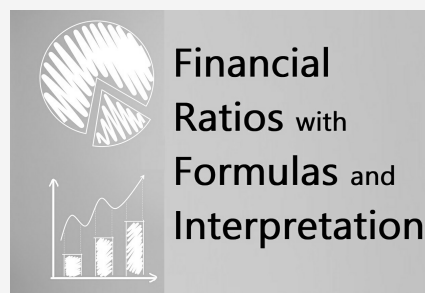
### Liquidity Ratios

Current ratio	$\text{current assets} \div \text{current liabilities}$
Quick ratio	$(\text{cash} + \text{short-term marketable securities} + \text{accounts receivable}) \div \text{current liabilities}$
Cash ratio	$(\text{cash} + \text{short-term marketable securities}) \div \text{current liabilities}$

### Solvency Ratios

Debt-to-assets ratio	$\text{total liabilities} \div \text{total assets}$
Debt-to-capital ratio	$\text{total debt} \div (\text{total debt} + \text{total shareholder's equity})$
Debt-to-equity ratio	$\text{total debt}^* \div \text{total shareholder's equity}$
Interest coverage ratio	$\text{earnings before interest and taxes}^* \div \text{interest payments}$

### Financial Ratio Formulas



### Profitability Ratios

Gross profit margin	$\text{gross income} \div \text{net revenue}$
Operating profit margin	$\text{operating income} \div \text{net revenue}$
Net profit margin	$\text{net income} \div \text{net revenue}$
Return on assets (ROA)	$\text{net income} \div \text{total assets}$
Return on equity (ROE)	$\text{net income} \div \text{total stockholder's equity}$

### Calculated terms:

Purchases	$\text{cost of goods sold} + \text{ending inventory} - \text{beginning inventory}$
Total debt	$\text{notes payable} + \text{current portion of long-term debt} + \text{long-term debt}$
Earnings before interest and taxes	$\text{net income} + \text{income taxes} + \text{interest expense}$