Summary of Financial Ratios

1. **Liquidity**

Measures a company's capacity to pay its debts as they come due. There are two ratios for evaluation liquidity.

Current Ratio - Gauges how able a business is to pay current liabilities by using current assets only. Also called the ***working capital ratio.*** A general rule of thumb for the current ratio is 2 to 1 (or 2:1, or 2/1). However, an industry average may be a better standard than this rule of thumb. The actual quality and management of assets must also be considered.

The formula is:

$$\frac{\textbf{Total Current Assets}}{\textbf{Total Current Liabilities}}$$

Quick Ratio - Focuses on immediate liquidity (i.e., cash, accounts receivable, etc.) but specifically ignores inventory. Also called the ***acid test ratio,*** it indicates the extent to which you could pay current liabilities without relying on the sale of inventory. *Quick assets*, are highly liquid--those immediately convertible to cash. A rule of thumb states that, generally, your ratio should be 1 to 1 (or 1:1, or 1/1). The formula is:

$$\frac{\textbf{Cash + Accounts Receivable (+ any other quick assets)}}{\textbf{Current Liabilities}}$$

2. Safety

Indicates a company's vulnerability to risk--that is, the degree of protection provided for the business' debt. **Three** ratios help you evaluate safety:

Debt to Worth - Also called ***debt to net worth.*** Quantifies the relationship between the capital invested by owners and investors and the funds provided by creditors.

The higher the ratio, the greater the risk to a current or future creditor. A lower ratio means your company is more financially stable and is probably in a better position to borrow now and in the future. However, an extremely low ratio may indicate that you are too conservative and are not letting the business realize its potential.

The formula is:

$$\frac{\textbf{Total Liabilities (or Debt)}}{\textbf{Net Worth (or Total Equity)}}$$

Times Interest Earned – Assesses the company's ability to meet interest

payments. It also evaluates the capacity to take on more debt. The higher the ratio, the greater the company' s ability to make its interest payments or perhaps take on more debt.

The formula is:

Earnings Before Interest & Taxes

Interest Charges

Cash Flow to Current Maturity of Long-Term Debt - Indicates how well traditional cash flow (net profit plus depreciation) covers the company's debt principal payments due in the next 12 months. It also indicates if the company's cash flow can support additional debt.

The formula is:

$$\frac{\text{Net Profit + Non-Cash Expenses*}}{\text{Current Portion of Long-Term Debt}}$$

*Such as depreciation, amortization, and depletion.

3. Profitability

Measures the company's ability to generate a return on its resources. Use the following four ratios to help you answer the question, "Is my company as profitable as it should be?" An increase in the ratios is viewed as a positive trend.

Gross Profit Margin - Indicates how well the company can generate a return at the gross profit level. It addresses three areas: inventory control, pricing, and production efficiency.

The formula is:

$$\frac{\text{Gross Profit}}{\text{Total Sales}}$$

Net Profit Margin - Shows how much net profit is derived from every dollar of total sales. It indicates how well the business has managed its operating expenses. It also can indicate whether the business is generating enough sales volume to cover minimum fixed costs and still leave an acceptable profit.

The formula is:

$$\frac{\text{Net Profit}}{\text{Total Sales}}$$

Return on Assets - Evaluates how effectively the company employs its assets to generate a return. It measures efficiency.

The formula is:

$$\frac{\textbf{Net Profit}}{\textbf{Total Assets}}$$

Return on Net Worth - Also called ***return on investment (ROI)***. Determines the rate of return on the invested capital. It is used to compare investment in the company against other investment opportunities, such as stocks, real estate, savings, etc.

There should be a direct relationship between ROI and risk (i.e., the greater the risk, the higher the return).

The formula is:

Net

Profit

Net

Worth

4. **Efficiency**

Evaluates how well the company manages its assets. Besides determining the value of the company' s assets, you should also analyze how effectively the company employs its assets. You can use the following ratios:

Accounts Receivable Turnover - Shows the number of times accounts receivable are paid and reestablished during the accounting period. The higher the turnover, the faster the business is collecting its receivables and the more cash the company generally has on hand.

The formula is:

Total Net Sales

Average Accounts Receivable

Accounts Receivable Collection Period - Reveals how many days it takes to collect all accounts receivable. As with accounts receivable turnover (above), fewer days means the company is collecting more quickly on its accounts.

The formula is:

365 Days

Accounts Receivable Turnover

Accounts Payable Turnover - Shows how many times in one accounting period the company turns over (repays) its accounts payable to creditors. A higher number indicates either that the business has decided to hold on to its money longer, or that it is having greater difficulty paying creditors.

The formula is:

Cost of Goods Sold

Average Accounts

Payable

Payable Period - Shows how many days it takes to pay accounts payable. This ratio is similar to accounts payable turnover (above.) The business may be losing valuable creditor discounts by not paying promptly.
The formula is:

$$\frac{\textbf{365 Days}}{\textbf{Accounts Payable Turnover}}$$

Inventory Turnover - Shows how many times in one accounting period the company turns over (sells) its inventory. This ratio is valuable for spotting understocking, overstocking, obsolescence, and the need for merchandising improvement. Faster turnovers are generally viewed as a positive trend; they increase cash flow and reduce warehousing and other related costs. Average inventory can be calculated by averaging the inventory figure from the monthly Balance Sheets. In a cyclical business,

this is especially important since there can be wide swings in asset levels during the year. For example, many retailers might have extra stock in October and November in preparation for the Thanksgiving and winter holiday sales.
The formula is:

$$\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

Inventory Turnover in Days - Identifies the average length of time in days it takes the inventory to turn over. As with inventory turnover (above), fewer days mean that inventory is being sold more quickly.
The formula is:

$$\frac{\text{365 Days}}{\text{Inventory Turnover}}$$

Sales to Net Worth - Indicates how many sales dollars are generated with each dollar of investment (net worth). This is a volume ratio.
The formula is:

$$\frac{\text{Total Sales}}{\text{Average Net Worth}}$$

Sales to Total Assets - Indicates how efficiently the company generates sales on each dollar of assets. A volume indicator, this ratio measures the ability of the company's assets to generate sales.
The formula is:

$$\frac{\text{Total Sales}}{\text{Average Total Assets}}$$

Debt Coverage Ratio - An indication of the company's ability to satisfy its debt obligations, and its capacity to take on additional debt without impairing its survival. The formula is:

$$\frac{\text{Net Profit + Any Non-Cash Expenses}}{\text{Principal on Debt}}$$

Ratio	Formula	What it measures	What it tells you
Owners:			
Return on Investment (ROI)	Net Income / Average Owners' Equity	Return on owners' capitalWhen compared with return on assets, it measures the extent to which financial leverage is being used for or against the owner.	How well is this company doing asan investment?
Return on Assets(ROA)	Net Income / Average Total Assets	How well assets havebeen employed by management.	How well has management employed companyassets? Does it pay to borrow?
Managers:			
Net Profit Margin	Net Income / Sales	Operating efficiency.The ability to create sufficient profits fromoperating activities.	Are profits high enough, given thelevel of sales?
Asset Turnover	Sales / Average Total Assets	Relative efficiency in using total resources toproduct output.	margin .
Return on Assets	Net Income / Sales x Sales / Total Assets	Earning power on all assets; ROA ratio brokeninto its logical parts: turnover and	

How well are assetsbeing used to generate sales revenue?		How well has management	employed companyassets?
Average CollectionPeriod	Average A/R x 365 / Annual Credit Sales	Liquidity of receivables interms of average numberof days receivables are outstanding.	Are receivables coming in too slowly?
Inventory Turnover	Cost of Goods Sold Expense / Average Inventory	Liquidity of inventory; thenumber of times it turns over per year.	Is too much cash tied up in inventories?
Average Age of Payables	Average A/P x 365 / Net Purchases	Approximate length of time a firm takes to payits bills for trade purchases.	How quickly does a prospective customer pay itsbills?

Short-Term Creditors Working Capital	Current Assets – Current Liabilities	Short-term debt-payingability.	Does this customer have sufficient cash or other liquid assetsto cover its short-term obligations?
Current Ratio	Current Assets / Current Liabilities	Short-term debt-payingability without regard tothe liquidity of current assets.	Does this customer have sufficient cash or other liquid assetsto cover its short-term obligations?
Quick Ratio	Cash+ Mktble Sec. +A/R / Current Liabilities	Short-term debt-paying ability without having to rely on sale of inventory.	Does this customer have sufficient cash or other liquid assetsto cover its short-term obligations?
Long-Term Creditors: Debt-to-EquityRatio	Total Debt / Total Equity	Amount of assets provided by creditors foreach dollar of assets provided by owner(s)	Is the company's debt load excessive?
Times Interest Earned	Net Income+(Interest Expense +Taxes)Interest		

Ability to pay fixed charges for	interest fromoperating profits.	Are earnings and cash flows sufficient to cover interest	payments and someprincipal repayments?
Cash Flow to Liabilities	Operating Cash FlowTotal Liabilities	Total debt coverage. General debt-paying ability.	Are earnings and cash flows sufficient to cover interest payments and someprincipal repayments