

## Tools for Surviving a Downturn: Simple Financial Ratios to Check Your Business' Vital Signs

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Below are some fairly simple ratios that you can use to periodically check your business's vital signs.

### LIQUIDITY RATIOS

Liquidity ratios measure a firm's ability to meet its current financial obligations. You will need your Balance Sheet to perform these calculations.

Current Assets are the assets that are the most "liquid", and can be used to pay bills in the near future. They include:

- Cash
- Marketable Securities
- Accounts Receivable
- Inventories

Current Liabilities are the bills that are due in the near future. They include:

- Accounts Payable
- Short Term Notes Payable
- Current Portion of Long Term Deb  
(that which is due within one year)
- Accrued Income Taxes
- Other Accrued Expenses (usually wages and taxes)

$$\text{CURRENT RATIO} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

If your current ratio is greater than 1.0, you have at least enough cash, or assets that can quickly be converted to cash, to pay your bills. However, if your current ratio is less than 1.0, you have more bills than money. Let's take a look at the following example.

Current Assets = \$20,000

Current Liabilities = \$40,000

CURRENT RATIO = .5

Put simply, this means you have twice as many bills as you have money to pay them!

$$\text{QUICK RATIO (ACID TEST)} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$$

Many financial analysts prefer the quick ratio (sometimes called the acid test) as a better means to determine a firm's liquidity. The quick ratio subtracts inventory from current assets, as inventory is almost always the least "liquid" current asset. Inventory represents the asset where losses are

most likely to occur in the event of liquidation. In many cases, the most desirable inventory items have already been sold, leaving only slow selling or discontinued items that have been in stock for a long time. Therefore, they may have less worth and cannot be converted to cash easily.

As in the case of the current ratio, the quick ratio needs to be greater than 1 in order for the firm to be deemed solvent. Most healthy companies have a current ratio of at least 3. As healthy companies typically turn inventory quickly, and carry as little inventory as necessary, the corresponding quick ratio will hopefully be greater than 2.5. Of course, these numbers vary by industry.

When a business gets into financial difficulty, it begins to pay its bills more slowly, dips into its line of credit, etc. If current liabilities rise faster than current assets, the current ratio will fall, and this could serve as a significant warning sign. Can the business meet its obligations? Will it have the resources to replenish inventory? What strategies can be implemented to increase current assets before the business runs out of resources to implement any new strategies?

## ASSET MANAGEMENT RATIOS

Asset management ratios measure how effectively a business is managing its assets. You will need your Balance Sheet to find the inventory and receivables levels, as well as your Income Statement (also called a Profit and Loss) for the sales information.

$$\text{INVENTORY TURNOVER RATIO} = \frac{\text{Sales}}{\text{Inventories}}$$

The inventory turnover ratio approximates how many times a business sells out and restocks its inventory during the course of the year. If sales show signs of weakening, the ratio will go down. While this is a good ratio to monitor, it does have some potential inaccuracies built in.

First, sales are stated at market price; inventories are stated at cost. Therefore, if sale prices drop, the ratio might be understated. Let's take a look at the following example:

$$\begin{aligned} \text{Sales} &= \$60,000 \\ \text{Inventories} &= \$20,000 \\ \text{INVENTORY TURNOVER RATIO} &= 3 \end{aligned}$$

Now, what if we had to reduce the sale price to move the same level of inventory?

$$\begin{aligned} \text{Sales} &= \$50,000 \\ \text{Inventories} &= \$20,000 \\ \text{INVENTORY TURNOVER RATIO} &= 2.5 \end{aligned}$$

Second, sales occur over the entire year, while the inventory figure is generally for one point in time. Therefore, some prefer to use an average inventory measure. If a business is seasonal, or there has been a strong upwards or downwards tick in sales, the ratio will be affected.

If you would like to calculate an average inventory figure, sum up the monthly inventory figures and divide by 12, or add the beginning and ending inventory figures and divide by 2 (beginning and ending inventory can also be found on your tax return).

If sales slow down or inventories rise (or both), the inventory turnover ratio will decrease. This sends up a potential red flag. Having an idea of what your inventory turnover ratio is during good times will help you pick up on economic slowdowns more quickly, so you can make adjustments accordingly.

$$\text{DAYS SALES OUTSTANDING} = \frac{\text{Receivables}}{\text{Average Sales Per Day}} \\ \text{(Annual Sales/360)}$$

Days Sales Outstanding (DSO) is also called the average collection period. It measures the number of days that sales are tied up in receivables. In other words, it shows how long after the sale a business has to wait before it receives the actual cash. This is a very important tool! Money tied up in receivables is money that cannot immediately be used to pay bills or replenish inventory. While many firms extend credit in order to maintain good customers and remain competitive, they need to understand that reserve funds are necessary. These funds can come in the form of cash savings or a business line of credit.

Offering small discounts (2%) for payment within 10 days is a commonly used tool to entice customers to pay quickly. Would you rather give up 2% of the sale price or spend a much higher percentage in interest (usually 8% or 9%) by using your line of credit?

## DEBT MANAGEMENT RATIOS

Debt management ratios measure an organizations degree of debt, or “leverage”. These ratios can then be used to analyze the risk/return relationship each business faces. You will need your Balance Sheet and your Income Statement to perform these calculations.

- Total Debt and Total Assets can be found on the Balance Sheet
- Earnings before Interest and Taxes (EBIT) and Interest Charges can be found on Income Statement.

$$\text{DEBT RATIO} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

Quite simply, the debt ratio measures the percentage of financing supplied by creditors. For example, a debt ratio of 58.7% means that banks (or other creditors) have contributed almost 60%

of the firm's financing. The higher the debt ratio, the less inclined a bank will be to consider lending more money, and the higher the potential risk of insolvency. Compare your debt ratio to the average in your particular industry.

If you are a business in distress with a high debt ratio, you may consider seeking restructuring your existing debt to lower your payments as opposed to securing new debt.

$$\text{TIMES INTEREST EARNED RATIO} = \frac{\text{Earnings Before Interest and Taxes (EBIT)}}{\text{Interest Expense}}$$

Times Interest Earned (TIE) measures how far income can fall before an organization can no longer meet its interest costs. While this calculation is generally performed with annual numbers, it can just as easily be calculated with monthly figures.

If a firm's TIE is 4.5, then the firm generates \$4.50 in operating income per dollar of interest expense. Because more debt will raise the denominator in the calculation (thus lowering the ratio), a bank is much more likely to approve new debt IF the new debt will generate enough income to increase the ratio.

## PROFITABILITY RATIOS

While the previous three sets of ratios offer information regarding how a business is operating, profitability ratios show the combined effects of liquidity, asset management, and debt management on operating results.

$$\text{PROFIT MARGIN ON SALES} = \frac{\text{Net Income}}{\text{Sales}}$$

Profit Margin on Sales measures the profit per dollar of sales. For example, a profit margin on sales level of 4% means that for every \$1 of revenue, \$0.04 remains as profit after all the expenses and taxes are paid.

This DOES NOT mean that the owner will have \$0.04 to put in his or her pocket for each dollar of sales. Net Income is reported on the Income Statement, whose purpose is to determine the taxable obligation of a business. Hence, tax deductible expenses are reported.

- As the principal portion of debt is not tax deductible, it is not included on the Income Statement. The Statement of Cash Flow will include both interest and principal.

- Depreciation is a non-cash charge. It represents the assets being written down over the course of their useful lives. The IRS allows depreciation to be recorded as an expense, thus lowering the taxable obligation.

$$\text{RETURN ON TOTAL ASSETS (ROA)} = \frac{\text{Net Income Available To Stockholders (Owners)}}{\text{Total Assets}}$$

Return on Assets measures an organization's earning power derived from assets. Large corporations will have a Net Income Available to Stock holders. you can use Net Income on your Income Statement. Here is some food for thought...

**QUESTION:** Why is a highly leveraged firm (a firm with a lot of debt) likely to have a lower ratio than a similar company with less debt and more equity?

**ANSWER:** At first glance of the formula, you might think that the proceeds of a loan are used to purchase assets, thus raising both the numerator (Interest Expense) and the denominator. While this is correct, debt is not always used to purchase assets. Moreover, not all assets will generate income. For example, purchasing a building for \$200,000 might facilitate a boost in sales, but will it be a large enough boost to increase the ratio?