

# Striking a Balance

Using financial ratios to survive tough economic times.

By Dr. Robin G. Brumfield

**T**imes are uncertain. The financial markets worldwide are in crisis. Major industry sectors are in peril and are asking for government bailouts. Energy costs have dropped, but consumers are scared, and producers are hesitant to raise prices. With all of this uncertainty, now would be a good time to take a financial check-up.

If the weak economy has caused severe damage to your business, you need to quickly assess the current situation:

**Identify the financial leak.** Is the business still able to make money? Assess quickly where it is losing money.

**Plug the hole.** Preserve cash. In tough economic times, cash is king; a good practice is to have 25 percent of next year's expenses in working capital (Current Assets - Current Liabilities). Decrease capital expenditures. Do not purchase equipment from cash flow. Arrange for term financing. Reduce expenses, monitor expenditures and develop a budget. Arrange for emergency financing.

**Assess the future.** Make projections for next year. Discuss alternatives with your family, lender, and those involved in your business.

And, of course, find ways to reduce costs or increase income.

## Reduce Your Costs

Decrease overhead. Find ways to decrease depreciation, interest, taxes, insurance and possibly even your salary. Consider selling assets, which is hard to do but sometimes necessary to solve a serious financial problem. (If you can, sell nonproductive assets first.) If your market can support more sales, increase volume; this will spread overhead over more units. Consider mechanizing to reduce labor costs. Outsource inefficient activities, or buy in product if this is less costly than producing it yourself.

## Increase Your Income

Increase your marketing skills, and increase prices by differentiating products and ser-

vices. Increase inventory turnover by scheduling, changing the product mix to more profitable crops, and reducing the age of accounts receivable.

One method of assessment is financial analysis using financial ratios. Use numbers from your balance sheet and income statements to calculate the ratios. The ratios fall into four categories: profitability, financial efficiency, liquidity, and solvency. Let's look at some ratios based on 2003 averages from growers in the Northeast.

## Profitability Ratios

Profitability ratios measure ability of the business to earn a good profit and generate a satisfactory return on investment. These ratios are typically a good indicator of management's overall effectiveness.

The operating (gross) profit margin is a measure of the operating efficiency of the business. It measures how effectively the business is controlling expenses relative to its value of output. A high profit margin indicates good cost control.

$$\text{Gross Margin} = \frac{\text{Total Direct Costs}}{\text{Sales}} = \frac{\$758,609}{\$2,219,256} = 34.2\%$$

**Desirable range: 30-40%**

The net profit margin is the profit per dollar of sales after paying the owner's salary and accounting for opportunity cost of capital invested.

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Sales}} = \frac{\$211,152}{\$2,219,256} = 9.5\%$$

Common problems with profit margin:

- Wrong pricing system
- Prices have not been increased as costs have increased
- Costs are too high relative to size of business
- Not enough sales for the resources allocated
- High overhead costs
- Wasteful spending on inputs
- Poor production

If costs are too high:

- Are you over-mechanized?
- Is labor being used efficiently?
- Do you have too much labor?
- Do you have the right type of labor?
- Is there too much labor in slack periods?
- Is there a labor shortage in peak periods?
- What costs are the highest?
- Are these controllable?
- Are the costs necessary?
- Can the same function be done a better way?
- Would mechanization reduce costs?

Every dollar saved by cost control equals a dollar of profit!

## Return on Assets Ratio

The return on assets (ROA) ratio measures the profit-generating capacity of total assets of the business. It measures the firm's effectiveness in using all of the available total capital — both debt and equity. The ratio focuses on operations — the effectiveness of resources used in generating a profit and how well assets are being used to generate sales.

$$\text{Return on Assets (ROA)} = \frac{\text{Net Income}}{\text{Total Assets}} = \frac{\$211,152}{\$1,232,101} = 17.1\%$$

**Desirable ratio: >10%**

A useful way to use ROA is to break it into separate components of profit margin and asset turnover. The DuPont Company used this method to evaluate its divisions in the early 1900s. The DuPont analysis breaks ROA into profit margin multiplied by asset turnover.

$$\text{ROA} = (\text{Profit Margin}) \cdot (\text{Asset turnover}) = \left(\frac{\text{Net Income}}{\text{Sales}}\right) \cdot \left(\frac{\text{Sales}}{\text{Total Assets}}\right) = 9.5\% \cdot 1.8 = 17.1\%$$

The profit margin is an income-statement ratio, and asset turnover is a balance-sheet ratio. Improving profitability and/or asset turnover increases return on assets. ▶

## management

### Efficiency Ratios

Financial efficiency ratios help you understand why your business is making or losing money. While financial efficiency is related to profitability, it is quite different. The profit margin shows the

return or loss for a given year, but financial efficiency seeks to understand the components of sales and determine whether an operation is spending excessive amounts on factors such as operating expenses, interest and depreciation. There-

fore, it is not only important to understand the components that come together to determine profitability, but also to understand why your business is or is not profitable. Financial ratios tell you how well you employ your assets.

### Just a Few Simple Rules

When working with ratios, here are some important things to consider:

- Ratio trends calculated consistently over time will provide better information.

- Differing accounting policies, overall business size and maturity of the business impact ratios.

- Ratios supplement but do not replace sound business judgment. Ratios can be useful in identifying strengths and weaknesses, but because they are summary level in nature, many facts can be buried if you don't take the analysis further.

- Individual business ratios can be compared to industry statistics and trends.

The asset turnover ratio (net income/sales) is one measure of financial efficiency. A high asset turnover ratio demonstrates efficient use of the assets on the balance sheet. Consider selling low return assets or improve their productivity.

Two other efficiency ratios to look at are operating expense ratio and interest expense ratio.

$$\begin{aligned} \text{Operating Expense Ratio} &= \\ &= \frac{(\text{Operating Expense} - \text{Depreciation})}{\text{Sales}} = \\ &= \frac{(\$393,091 - \$92,642)}{\$2,219,256} = \\ &= 13.5\% \\ \text{Desired ratio: } &< 65\% \end{aligned}$$

The operating expense ratio tells you how much you spent for every dollar of sales. Low efficiency can be a result of low prices, high operating expenses, production problems or a combination of the three. The best major enterprises have consistently high efficiency over time. To improve the operating expense ratio, increase prices through more effective marketing and/or better control of expenses. It is important to closely monitor major expenses, concentrating on the top four or five expenses.

$$\begin{aligned} \text{Interest Expense Ratio} &= \\ &= \frac{\text{Interest Expense}}{\text{Sales}} = \\ &= \frac{\$8,080}{\$2,219,256} = 0.4\% \\ \text{Desired ratio: } &< 15\% \end{aligned}$$

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The interest expense ratio show the percent of sales devoted to interest. Reducing debt and/or negotiating a lower interest rate can improve the interest expense ratio.

**Liquidity Ratios**

Liquidity ratios measure the capacity of the business to meet its short-term liabilities, either by using cash or by converting current assets into cash. Creditors and other lenders favor liquidity ratios that tend to reveal financial strength or weakness.

**The Current Ratio =**  
**Current Assets/Current Liabilities**  
 = \$449,802/\$242,640 = 1.9  
**Desired ratio: > 1.5**

The current ratio has long been the primary test for credit worthiness. It measures the ability to satisfy current debts with current assets. The larger the ratio, the greater the protection for short-term creditors. A ratio of less than 1 or a declining trend can signal problems in liquidity.

**Solvency Ratios**

Solvency ratios measure the extent to which a business is financed by debt and its ability to meet loan payments. Long-term funds lenders and equity investors have an interest in solvency ratios.

**Debt-to-Asset Ratio =**  
**Total Liabilities/Total Assets =**  
 \$473,946/\$1,232,101 = 38.5%  
**Desired ratio: < 30%**

The debt-to-asset ratio is a way of evaluating the degree of asset financing creditors provide. It measures the percentage of the your total assets to which credi-

tors have claims. A higher ratio indicates greater financial risk and lower borrowing capacity. A ratio of less than 30 percent is considered strong. **GPN**

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*and specialist in farm management at Rutgers University in New Jersey. She can be reached at [brumfield@aesop.rutgers.edu](mailto:brumfield@aesop.rutgers.edu). The Rutgers Greenhouse Cost Accounting Program includes 17 ratios, an explanation of each, and a recommended*

*level for each ratio. Contact Brumfield to obtain a copy.*

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