



Economic Toolbox

Divide (or Multiply by the Inverse) and Conquer With Ratios

In 1990, the American Bankers Association's Farm Financial Standards Task Force recommended sixteen financial measures by which all farm businesses could gauge their financial well being. Thirteen of these measures are ratios covering five areas including: Liquidity, Solvency, Profitability, Financial Efficiency and Repayment Capacity. For those inclined to push the pencil further than is required for Schedule F, I recommend my favorite five ratio tools.

Why Ratios?

Financial ratios are powerful tools for understanding a business. Since ratios relate two or more financial measures, they often reveal more than a single gross measure alone. For example, suppose your net farm income for 1993 was \$50,000 before draws of \$30,000. Great!? If this profit was generated on a net worth of \$1,000,000, your return-on-equity ratio would be 2 percent. Now how do you feel about that \$50,000 profit? Personally, I would feel like earning twice that much in a savings account while enjoying the beach on a tropical island.

Examining financial ratios over time makes them more valuable when used to evaluate progress in reaching goals. And, by comparing your financial ratios to similar farms or industries, strengths and weaknesses can be easily pinpointed. Financial ratios should always be prepared from accrual-basis income statements.

Liquidity: The Current Ratio

Liquidity refers to the ability of the business to meet its short term debt obligations. These *current liabilities* include total principal and interest payments for the coming year, the operating line of credit, and accounts payable. *Current assets* meet these

obligations and can include cash on hand, inventory to sell or produce income with (eg. feed used to produce milk), and accounts receivable. Most properly completed balance sheets will subtotal current assets and current liabilities. The current ratio is current assets divided by current liabilities.

What it means:

A current ratio of 1.1 or less suggests that a business is probably suffering from poor cash flow. The most common cause of a low current ratio is poor profitability. Other causes could include using too much cash for capital purchases, or having poorly structured debt. Weak current ratios are 1.1 or lower while strong current ratios are 1.5 or greater.

Solvency: The Equity-to-Asset Ratio

Solvency refers to the general capital position of a business. A business is said to be solvent if it can sell all of its assets and meet all existing liabilities. Farmers in the Northeast use the equity-to-asset ratio as a common measurement of the owner's portion of total assets. To compute your equity-to-asset ratio, divide equity by total assets.

What it means:

Most farms lie somewhere between 20 percent and 80 percent equity, depending on their stage of development. Farms undergoing aggressive expansion are likely to have lower equity-to-asset ratios. Farms with a high ratio have relied little on debt capital for expansion purposes, or have paid down debt faster than they have borrowed new debt. Lenders like to see steady improvements in percent equity over time because it is an indicator of good management and profitability.

Profitability: The Rate of Return on Farm Assets (ROA)

The formula for ROA starts by taking net farm income, adding farm interest expense and subtracting the operator's labor and management fee. This "return" is divided by total assets excluding the value of personal items. The result is expressed as a percent.

What it means:

The rate of return on farm assets tells how efficiently assets are being used by relating net farm income to the market value of total assets. When considering new investments such as orchards or dairy expansions, always make sure that you intend to improve ROA before proceeding or you may be defeating your purpose. Comparing your ROA to a weighted cost of capital will let you find out if you are making profitable use of the assets under your control. If capital is costing you more than it is returning to you, you have a problem that needs fixing. Dr. David Kohl of Virginia Polytechnic Institute notes that a ROA below the weighted cost of capital can precede cash flow problems by as much as two to five years. This makes the return-on-asset ratio one of the strongest indicators of long-term profitability available.

Financial Efficiency: The Operating Expense Ratio

Golfers have their favorite club while economists like me have their favorite ratio. I cherish the operating expense ratio and you should too because it is simple to compute and tells a lot about your farm business. To get your operating expense ratio, divide total expenses excluding interest and depreciation by total revenue. For example, your 1994 expenses totalled \$375,000, excluding interest and depreciation. Your total income for 1994 was \$450,000. $\$375,000$ divided by $\$450,000$ equals .83. Therefore, 83 percent of your 1994 income was used to cover operating expenses.

What it means:

Simply put, the operating expense ratio tells you how much it costs to produce one dollar's worth of revenue on your farm. If you are very efficient, you can expect to see operating expense ratios between 60 percent and 70 percent. Expense ratios above 80 percent could indicate that there may not be enough cash left over to meet all family living and debt service obligations. When expense ratios reach 90 percent or higher, expect little pleasure from your farming experience.

To reduce expense ratios, look to find ways to cut costs or increase revenue, or both.

Start cutting costs by identifying your top 4 or 5 expense categories. I continually see farmers trying to save on expenses by cutting in areas that amount to less than 2% of total costs. Cutting costs by reducing management information sources such as soil sampling, livestock records, insect scouts, financial analyses or computerized accounting systems is reckless. These are the sources of information that allow managers to make sound decisions on the largest operating expenses such as labor, feed, fertilizer, chemicals and repairs. The operating expense ratio can also be reduced by improving the marketing of your products and receiving the best possible price.

Repayment Capacity: The Term Debt and Capital Lease Coverage Ratio

Commonly referred to as the cashflow coverage ratio, this indicator refers to the ability of a business to meet its debt service obligations. The cashflow coverage ratio = (net farm income + off-farm income + depreciation + interest expense - family living expense) / scheduled annual debt service (principal + interest) and capital lease payments. Net farm income excludes capital leases and annual debt service excludes the principal portion of operating loan payments.

What it means:

A cash flow ratio of 1.0 means that funds available for debt service are just equal to annual debt service payments. A ratio of less than 1.0 indicates a cash shortage and financial problems. Farm businesses with cash flow ratios of between 1.0 and 1.1 are subject to insufficient cash flow with normal price and yield swings. Strong term debt and capital lease coverage ratios are between 1.1 and 1.5.

Each of these five financial ratios are a piece of the puzzle which is the financial condition of your farm business. Individually, they provide important clues about your farm's financial strengths and weaknesses. Together, they interlock for an even clearer picture.