

Evaluating Farm Financial Performance Introduction



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In this section of our overall farm management educational series we focus on evaluating farm financial performance, or figuring out how we are doing financially. This is important because often indicators that at first glance one would think would be good indicators (such as how much money we have in the farm checking account at any point in time, for example), can turn out to be very misleading. We need a systematic mechanism for monitoring and keeping track of financial position and progress over time.

Financial Analysis

- Put Financial Statements “To Work”
 - Identify developing problems
 - Correct management errors, avoid mistakes
 - Limit losses due to problems
 - Identify strengths
 - See opportunities
 - “Run the farm” instead of “Farm running the farmer”



Financial analysis really is all about “putting those basic financial statements that we talked about in other sections of this educational series to work for us”, or using the information contained in those various statements to tell us things about our business. Sound financial analysis can help us to identify problems as they develop, so that we can get a handle on them before they get out of control. It helps us to correct management error and can help us to avoid mistakes, perhaps costly mistakes. When problems do develop, good financial analysis can help us to limit losses that result from those problems. Systematically monitoring financial performance can help us to identify things that we are really good at and opportunities that we may be able to capitalize on. I like to say that frequently monitoring financial performance helps the farmer maintain control, or “run the farm” instead of the farm running them.

Three Basic Methods

- Trend Analysis
- Compare Actual Performance To Benchmarks
- Financial Ratios



Three basic methods are routinely used for farm financial analysis. Monitoring trends in important measures over time, comparing your farm's actual performance to benchmarks, and evaluating performance using key financial ratios. These methods are not mutually exclusive. For example, a farm might look at trends in key financial ratios over time, or the benchmarks that a farm might be using for comparison could include financial ratios, for example.

Trend Analysis

Category					Trend Comment
	2012	2013	2014	2015	
Purchased Feed Expense	2,900	2,900	3,550	3,917	
Crop Revenue	22,440	23,760	21,410	20,354	



Trend analysis involves simply choosing a few economically important measures to track, monitor, and compare over time. In this example, we see purchased feed expenses appearing to increase considerably over the 4 year time span. Is this a signal of a developing problem? We have to put it in it's appropriate context in order to be able to make that determination. Is the livestock enterprise growing over time proportionally with the increase in feed expenses? If so, this may be an expected result. However, if not this could be a sign of a problem (feed waste, or inefficiency for example). The second example measure here is crop revenue. It appears to be trending downward. Is this a signal of a potential problem? Again, we need to put it in context to be able to tell. Have we reduced crop acres, are we in a period of lower prices that hopefully will correct over time, or are we in a period of unfavorable weather patters, again that we think will correct themselves over time? Even if the trend is caused by some force outside our control (an external factor) such as low prices, we still need to be aware of what is happening so that we can best position the business to respond to the trend.

Internal Benchmarking

- Internal Benchmarking: Historical Trends (previous example)
 - When using trend analysis, the manager records the various measures and ratios for the same farm for a number of years and observes any trends in the results.
 - The manager looks for improvement or deterioration in each measure over time.
 - Those areas showing a decline deserve further analysis to determine the causes.



The second analysis tool is known as benchmarking. Benchmarks (or comparison targets) can come from inside our own business or record keeping system, or they can come from sources outside our business. One common “internal” benchmark is your own history over time of some measurable outcome, such as feed costs or wheat sales revenue. Look at trends over time (like the previous example), and have a target, or “benchmark” of improving that particular measure by some amount that the manager determines.

Internal Benchmarking

■ Internal Benchmarking: Budgets

- In budget analysis, various measures or ratios are compared against budgeted goals or objectives identified during the planning process.
- When results in some area consistently fall short of the budgeted objectives, that area needs additional managerial effort or the budgets need to be more realistic.



Another common “internal” benchmark comes from a budget. It could be an enterprise budget where the manager would calculate a projected breakeven yield for a particular crop, for example, and then add a little cushion for profit to that number and use that as a benchmark to strive for. It could be a cash flow budget, where the manager projects an operating line balance at the end of June, for example, and the goal is to have financial performance during the first six months of the year such that that balance turns out to be at that budgeted level or below. If the manager discovers that certain cash outflow items are exceeding budgeted objectives early in the year, additional efforts can be directed to trying to keep those costs under control so the overall budget will be met for the time frame being examined. The bottom line, budgets of various types can serve as an excellent source of internal benchmarks or targets to strive for.

External Benchmarking

- External Benchmarking: Comparative Farms
 - A second source of useful standards for comparison is actual results from other farms of similar size and type, for the same year or years.
 - Comparative analysis helps indicate if the farm being analyzed was above or below average given the weather and price conditions that existed.
 - Kansas Farm Management Association program is an excellent source for Southern Plains farms



Another place to look for benchmarks or targets to strive for is from “external” sources. Results for key measures from comparable farms are an excellent source. Comparing your farm’s performance regarding key measures of financial performance with other farms that are experiencing similar weather and price conditions can prove to be a powerful management tool. Questions like how does my farms cost per bushel to produce wheat, or cost per pound of weaned calf compare with other farms can be answered by looking at such measures. While we do not have a broad based comprehensive farm benchmark data source specifically for Oklahoma farms, we do have some nearby sources of very relevant data. Kansas Farm Management Association is a good source for southern plains agriculture in general, and there are other data sets to look at as well, such as the cow-calf enterprise standardized performance analysis data, much of which comes from our neighbors in Texas.

Financial Ratio Analysis

- Farmers use ratios all the time
 - Bushels per acre
 - Feed per pound of gain, etc.
- Financial ratios focus on key relationships between the various financial statements
- Ratio analysis helps to identify strengths, weaknesses, and direction



The third common financial analysis tool is financial ratio analysis. Farmers are very familiar with the concept of ratios, we uses them all the time to talk about production aspects of our businesses. Terms like bushels per acre, or feed per pound of gain are routine topics of conversation around the farm. Financial ratios focus on key financial performance information drawn from the financial statements talked about in earlier sessions. The whole purpose is identify areas of financial performance that the business is strong in, versus areas of financial performance that need improvement. Knowledge of our business financial strengths and weaknesses helps provide direction and focus for management efforts.

Key Position and Performance Criteria

■ Liquidity

- Ability to meet financial obligations, ability to pay bills when due, avoid short run financial disruptions

■ Solvency

- Degree to which the market value of all the assets exceeds debt obligations. True “wealth” of the business



Here, we will talk about “ratio” analysis in the context of broad categories of financial position and performance.

There are five broad categories of financial position and performance. Each category tells us something different about our farm, and therefore it is critical that at least one if not more performance measure be tracked that documents performance in each of the five categories. I will briefly discuss specific measures for each category in just a moment, but first a brief introduction to the five categories.

The first category is “liquidity”. Liquidity is defined as the ability to meet short-term financial obligations, or to keep bills paid when due. Financial disruptions can occur when liquidity is short.

The second category is “solvency”. Solvency is simply the degree to which the value of the assets exceeds the value of all the debt obligations. This is a measure of how “wealthy” the business is.

Key Position and Performance Criteria

■ Profitability

- Returns over costs, ability to grow, replace machinery, maintain standard of living, afford a new pickup once in a while

■ Financial Efficiency

- Ability to use assets and resources to produce income, the overall relationship between inputs and output

■ Repayment Capacity

- Ability to meet principle and interest obligations from all income sources

It Is Absolutely Essential That Every Farm Business Find And Use At Least One Indicator In *Each* Of These Criteria Categories To Monitor Financial Position And Performance



The third broad category is profitability. The term “profit” may well be one of the most mis-used and mis-understood terms in all of agriculture. True profitability is a measure of returns or revenue over and above all costs or expenses. Profitable businesses generate enough revenue to not only pay expenses, but to grow over time, replace machinery on a timely schedule, and contribute financially to the living standards of the business owners, managers, and workers.

Financial efficiency (the fourth category) in a general term used to represent how well the assets of the business are being utilized to produce income. Are capital inputs, and operating inputs being used to generate the value of production that is needed. Obviously, financial efficiency is one component that contributes to the profitability of the business.

Finally, repayment capacity is the fifth broad category of financial position and performance. Repayment capacity represents the ability of the business to meet principle and interest obligations. Lenders are very interested in repayment capacity, as they want assurance that there will be money available from somewhere to make the principle and interest payments. While there are some similarities between repayment capacity and liquidity, there are also some differences. Liquidity is a measure of the ability of the business to meet all short-term financial obligations, whereas repayment capacity is specifically concerned with the ability to make debt payments.

Financial Ratios For Farm Businesses

- Farm Financial Standards Council (FFSC) has endorsed a set of standardized measures for monitoring financial position and performance in agricultural businesses
- In many cases the measures are the same as Generally Accepted Accounting Practices (GAAP), but there is a recognition of the need to address the uniqueness of ag



A group of agricultural lenders, accountants, and farm financial analysts known as the farm financial standards council has endorsed a set of measures, and standardized methods for calculating those measures to address the five categories of financial position and performance just discussed.

The FFSG is sort of the GAAP for farmers, and in many cases the measures endorsed are the same as those utilized by the broader business community. There are, however, in some instances some unique features to address the fact that agriculture is in many ways a unique industry.

Example FFSC Liquidity Measure

■ Current Ratio

□ (current farm assets) / (current farm liabilities)

- The needed information comes from the Balance Sheet
- Most people use the “ending” balance sheet values, but some analysts use the average of beginning and ending values. Be consistent in how you do it for your own farm

■ Another common liquidity measure is absolute level of Working Capital (current farm assets minus current farm liabilities)



So, let's talk about a few of the most common measures endorsed by the FFSC for each of the five categories.

By far and away the most common liquidity measure is the current ratio. It is simply the value of the current assets divided by the value of the current liabilities. Both of these measures come from the balance sheet, and were discussed in the balance sheet segment. Most people use end of year values, some analysts recommend using the average of the beginning and ending. The important thing is to be consistent in your method for your farm.

Another commonly used liquidity measure that is not a ratio, but an absolute dollar value, is simply the value of current assets minus the value of current liabilities. This measure is simply referred to as the absolute level of working capital.

Example FFSC Solvency Measure

- Debt-to-Asset Ratio

- $(\text{total farm liabilities}) / (\text{total farm assets})$

- Needed information comes from the Balance Sheet

- Other common solvency measures include Equity-to-Asset Ratio, Debt-to-Equity Ratio, and absolute level of Net-Worth or Wealth



The most common solvency measure that I see utilized is the Debt to Asset ratio, calculated just like it sounds by taking the total value of farm liabilities and dividing by the total value of farm assets. Both of these values come from the balance sheet as discussed in earlier segments.

Other ratios that are in use include equity to asset, and debt to equity, which are of course both directly related to the debt to asset ratio, so it is just a matter of interpreting the numbers in context. Finally, a commonly used absolute measure of solvency is simply level of wealth, or level of net worth. Absolute measures like this are not really very useful for comparing across farms or individuals, but they are useful for measuring ones own progress over time.

Example FFSC Profitability Measure

■ Rate of Return on Farm Assets

$$\square \frac{\{(\text{net farm income from operations}) + (\text{interest expense}) - (\text{opportunity cost for unpaid labor})\}}{\{\text{total farm assets}\}}$$

- Total farm assets comes from the Balance Sheet, net farm income and interest expense come from the Accrual Income Statement, and unpaid labor is an opportunity cost that can be estimated a number of different ways

- ### ■ Other common profitability measures include simply the absolute level of Net Farm Income, and Rate of Return on Farm Equity



A widely used measure of profitability is return on assets, or ROA. This is a measure that can be compared to other “rates” of return to capital and could also be referred to as return on investment. It is calculated by taking net farm income from operations, adding back in the interest expense, subtracting of a opportunity cost for any unpaid labor, and dividing that total by the value of the farm asset base being managed. Net income and interest expense are numbers that come straight from the accrual income statement for the time period being evaluated. The value of unpaid labor should represent what the operators time could be sold to someone else for, or some estimate of the going market wage or salary for those individuals who have worked on the farm but not been directly paid.

The absolute level of net farm income is another common profitability measure, but again it cannot be compared across farms or to other investment alternatives. It is, however, a good measure to look at for an individual farm over time.

Finally, rate of return on equity is a profitability ratio that measures whether, and how quickly, the ownership interest in the business is growing or shrinking.

Example FFSC Financial Efficiency Measure

■ Asset Turnover Ratio

□ $\{\text{gross farm revenue}\} / \{\text{total farm assets}\}$

- Gross revenue comes from the Accrual Income Statement, and farm asset value comes from the Balance Sheet

■ Other common financial efficiency measures include Operating Expense Ratio, Interest Expense Ratio, Depreciation Expense Ratio, and the Net Farm Income from Operations Ratio



Several ratios are commonly used to look at individual aspects of financial efficiency. One of the most common, and most comprehensive, is the asset turnover ratio. Gross farm revenue (before subtracting off any expenses) from the accrual income statement is divided by the total value of farm assets managed from the balance sheet to arrive at a measure that basically reveals how well the assets on the farm are being utilized and converted to income or revenue.

Other financial efficiency measures zero in on specific financial areas. Examples include the operating expense ratio, the interest expense ratio, and the depreciation expense ratio. These specific measures reveal if expenses in certain areas are in line with expectations or industry norms. Similarly the net farm income from operations ratio reveals in percentage terms how much is left over after paying all expenses.

Details regarding how to calculate these additional measures can be found in the resources associated with this educational program such as the “Evaluating farm financial performance” publication, and “benchmarks” regarding when calculated measures are considered good, or are a sign of caution that area of financial performance need to be monitored can be found from several sources included the Farm and Ranch Stress Test publication included with in the resources. We will provide additional clarification in the other recordings associated with this section of this educational series as well.

Example FFSC Repayment Capacity Measure

- Term Debt (and Capital Lease) Coverage Ratio
 - $(\text{Net Farm Income from Operations} + \text{Non-farm Income} + \text{Depreciation Expense} + \text{Interest on Term Debt (and Capital Leases)} - \text{Taxes Paid} - \text{Family Withdrawals}) / (\text{Principle and Interest Payments to Be made on All Term Debt Next Year})$
 - Information comes from the Accrual Income Statement, and the Cash Flow Projection
- Other similar measures are endorsed by the FFSC, and are commonly used



Finally, with regard to the last category of financial position and performance, the term debt coverage ratio is one of the most commonly used indicators of repayment capacity. Basically, the sum of all the funds that could be used to make debt payments is divided by the principle and interest payment obligations for the upcoming year. Funds that could be used to make debt payments includes the net income from farming plus non farm income, plus depreciation expense (remember, that is a non-cash expense that was subtracted out in the calculation of net farm income, so we add it back in as cash available here), plus interest on term debt minus taxes minus family living withdrawals from the farm.

Information to calculate the term debt coverage ratio comes form the accrual income statement, and the cash flow.

Thank you for listening to this basic background regarding farm financial evaluation. The next few video's go into a bit more detail using the example case farm numbers.