

# Financial Benchmarking to Assess a Farm’s Financial Position in a Struggling Agricultural Economy

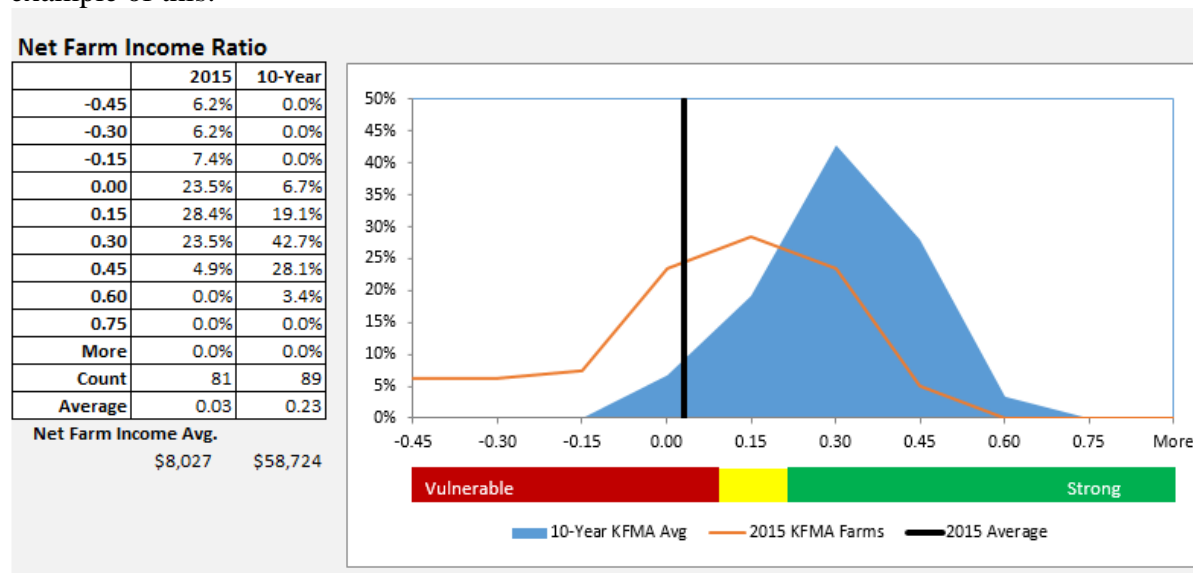
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Returns to farming tend to be cyclical in nature so it’s no surprise that a run-up in commodity prices and land values in 2008 to 2013 would be followed by a period of depressed profitability. At the present, the question is how long will commodity prices remain at the current levels and how will farmers adjust their operations to manage these tight margins? Kansas Farm Management Association (KFMA) summary statements from 2015 already show a dramatic drop in Net Farm Income (NFI) and eroding capacity to meet debt obligations. For example, the statewide average NFI went from \$122,190 in 2014 to just \$4,568 in 2015, a 96.3% decrease. Average debt increased by \$30,550, of which most was in current obligations indicating many farmers increased balances on their operation loans and accounts with input suppliers. Economists agree the outlook for commodity prices remains pessimistic in the short-run, so farmers will be facing financial challenges for a period of time.

A new tool developed by the K-State Agricultural Economics Department offers farmers and ranchers, bankers, consultants, and others in the ag. industry an opportunity to benchmark their financial ratios with cohorts of KFMA farms. This can be found at <http://www.agmanager.info/decision-tools> and is titled “KSU-Farm Financial Benchmarking Tool”. This tool will be updated in early summer each year as KFMA summaries are available for the past year.

Both a most recent year available (currently 2015) and 10-year average are given for each financial ratio so comparisons can be made in a “current” and “long-run” setting. Another unique aspect of this benchmarking tool is that these values are shown as distributions, not just averages. Figure 1 gives an example of this:



**Figure 1. A Benchmarking Example of the Net Farm Income Ratio**

Figure 1 displays a distribution of the Net Farm Income Ratio (Net Farm Income/Accrual Gross Farm Revenue) for all 500-1000 acre KFMA farms in Kansas without a livestock enterprise. The 10-year average of this measure is shown in blue, indicating almost 43% of farms have a NFI ratio near .30, which means NFI is 30% of Gross Farm Income. The orange line shows the NFI ratio in 2015, where the distribution has slipped to a majority of farms around .15, edging towards a vulnerable financial position, and having a tail of farms that have a negative ratio. Keep in mind that lower commodity price also decreased Gross Farm Revenue, so some farms may actually be in a worse position than these ratios indicate. Below the table, the average of NFI (in dollars) shows an 86.4% decrease, leaving farms with only \$8,027 for unpaid labor, management and return to equity. If a farm does not have off-farm income, they will need to rely on saved funds to pay family living expenses and principle on loans.

A distribution, like the one shown in Figure #1 above, is available for 11 different financial ratios; Current Ratio, Working Capital Ratio, Debt-to-Asset Ratio, Operating Profit Margin Ratio, Rate of Return on Farm Assets, Rate of Return on Farm Equity, Asset Turnover Rate, Operating Expense Ratio, Depreciation Expense Ratio, Interest Expense Ratio and Net Farm Income Ratio. Ratios for repayment capacity measures were not available due to the fact that information on the current portion of intermediate and long-term debt is not consistently available in the KFMA data.

To be in the 10-year average farms needed at least 6 out of 10 years of data, which totaled 1,289 KFMA farms. Farms included in the 2015 benchmarks totaled 1,172. Sixty-three different combinations of KFMA farms are available to benchmark against. At the state-level, users can choose farm groups based on “Dairy”, “Operator Age”, or “Crop Acres” (Figure 2). Depending on the selection, other options appear such as “Category” and “Cattle”. One must work in order from top to bottom of the dropdown menus, or may get an N/A message in the distributions. The “Start Over” button will clear all selections and allow you to start fresh.

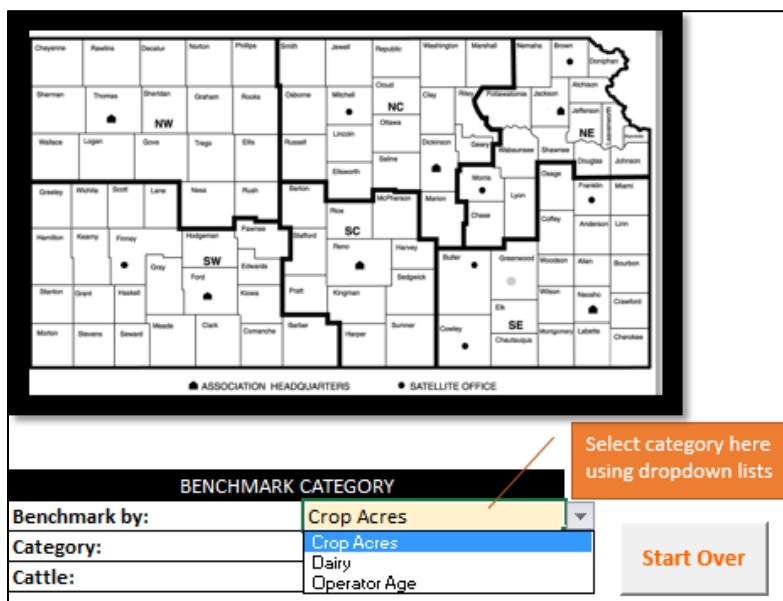


Figure 2. Using dropdown menus to select Benchmarking Group

Each KFMA region also has a tab where the user can select cohort groups by number of crop acres and cowherd. Depending on the number of farms in that association, different options are available. If an N/A displays, you may have selected a category with not enough farms to make a reliable benchmark.

Finally, each tab gives you the option to enter “Your Farm Values” (Figure #3). These default to the 2015 average and are shown by the vertical black line in the distribution graphs. By overriding these values with your own in the green boxes, the graph will then show “Your Farm” as the black line (Figure #4). Use the buttons to the right of the green boxes to “Return to 2015 Averages”, “Enter Your Farm Values” (which clears all green boxes), “See Ratio Calculations” to review formulas, or “Print Summary” to see a 4-page document of all financial measures in that benchmark.

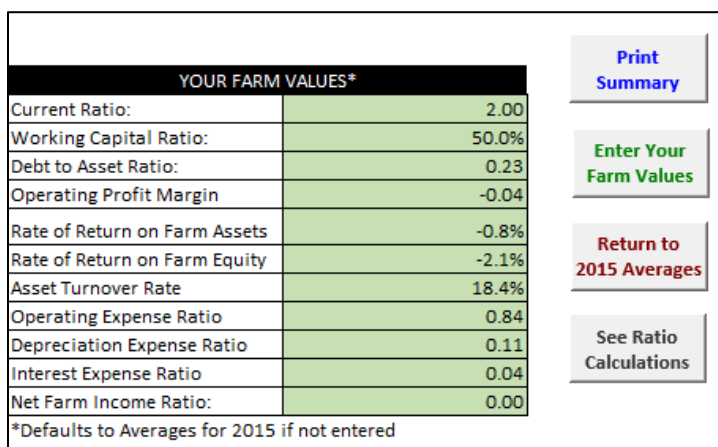


Figure 3. Entering “Your Farm Values” to display against benchmarks

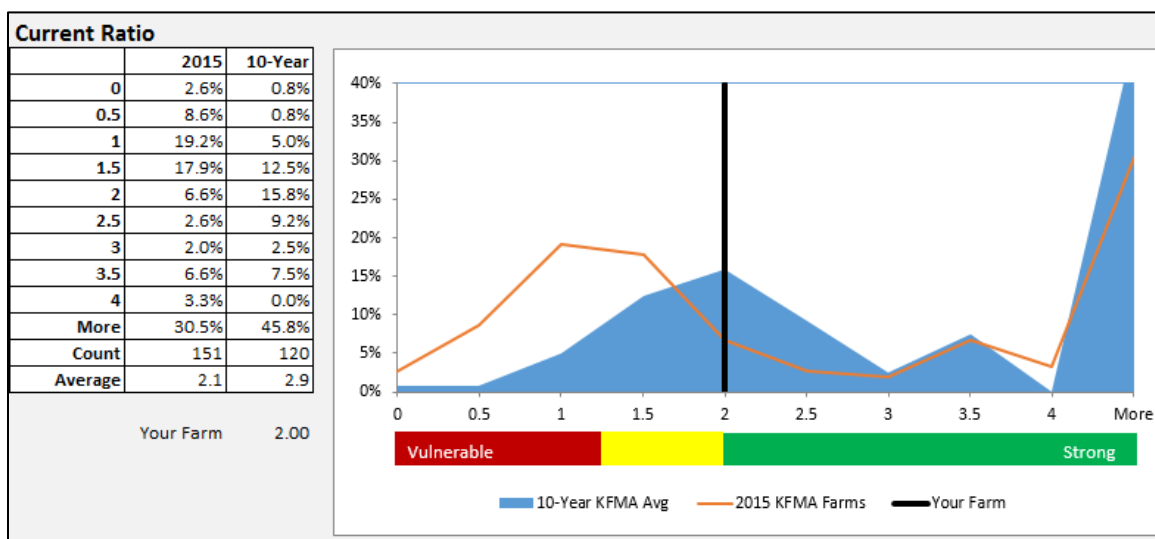


Figure 4. “Your Farm” values displayed on the distribution graph

When comparing to benchmark values, caution should be taken to ensure financial ratios are calculated in the same manner. Accrual accounting methods are used for the analysis completed on all KFMA farms. This means that all income and expense items are recognized (accounted for) in the year in which they physically occur, with adjustments being made for accrued income and expenses, and any changes in inventory quantities or values. While cash accounting methods are utilized for tax purposes on most farms (including KFMA member farms), appropriate adjustments should be made to utilize accrual accounting for financial analysis. This will allow an operation's true financial position to be analyzed. Without the accrual adjustments, the financial ratios and measures will be inaccurate and could give misleading results. For example, if grain is carried over into the next calendar year and marketed with next year's crop, the gross revenue in a cash accounting system will be artificially low in the current year and inflated in the following year which will then impact a number of the financial ratios in both years.

While "Value of Farm Production" is used rather than "Gross Farm Revenue" in the financial analysis completed for KFMA member farms, Gross Farm Revenue is utilized in this tool. Value of Farm Production is calculated by subtracting the value of purchased feed from Gross Farm Revenue. Making this adjustment allows for the ability to compare different farm types with one another, particularly livestock feeding operations. As you use this tool, check the "Ratio Calculations" tab in the spreadsheet to see which measures are used in each ratio, and see exactly how they are calculated.

Benchmarking against similar farms is informative in any setting, but may be of particular value when times are tough. At the current time, many farm managers find themselves in a vulnerable financial position, regardless of how "good" of a manager they may be. The KSU-Farm Financial Benchmarking tool will give farm managers the opportunity to compare their values with KFMA cohorts, and hopefully gain traction with lenders who may be hesitant to give access to credit when a farm's financials are looking bleak.

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