
Risk Management Tools: Farm Financial Performance Analysis

Ag Decision Maker
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How well does your farm business perform?

File C3-59

In the late 1990s, the swine industry took a tremendous hit. The market was in the tank. At that time, the Iowa Pork Producers Association implemented an educational program to teach pork producers how to analyze and manage their business. The principles learned were fairly simple and not only fit pork operations, but all farm businesses. How efficiently do you convert gross revenues to profits and how are the profits spent?

Efficiently converting gross revenues to profits is key in generating cash flow to provide funds for interest payments, living expenses, debt payments, and growth in the business. Funding these four areas is the key use of profits.

Our calculation for Operating Profit is the same as EBITDA (earnings before interest, income taxes, depreciation and amortization). If you think of your Schedule F, it would be the **Net Profit** on line 34 plus interest and depreciation. Depreciation is a noncash expense and interest is analyzed as a separate line item.

Total Revenue or Gross Profit (Value of Farm Production) (*whichever is less*)
Minus all expenses except interest, depreciation, and amortization
Equals Operating Profit

To calculate the efficiency of the operation we divide the Operating Profit by the Gross Farm Revenues or VFP (value of farm production), whichever is less. VFP is Gross Farm Revenues minus feed costs, or think of your Schedule F and it would be line 9 minus your feed costs if you have a livestock operation.

Operating Profit
Divided by Total Revenues or Gross Profits (VFP) (*whichever is less*)
Equals Operating Efficiency Percentage

The higher the percentage, the better the efficiency.

Again, think of your Schedule F
Take your Net Profit (add back; interest, depreciation)
Divided by Gross Revenues (minus feed costs if livestock operation)

There can also be other adjustments to income and expenses. If breeding livestock is sold this income needs to be added to the Gross Farm Income. If the farm operation is paying the spouse rent or wages and deducting the health insurance as a business expense, these expenses should be subtracted from the farm expenses. The goal is to evaluate the farm as much as a farm operation as possible.

An example grain farm operation with \$750,000 of Gross Revenues and \$487,500 of expenses before interest and depreciation would have an efficiency factor of .35 ($\$750,000 - \$487,500 / \$750,000$). For each \$1 of Gross Revenue they are converting \$.35 to profits. The higher the efficiency the better the operation. Those who are below .25 will struggle to grow the operation and in a depressed farm economy will find it hard to maintain the operation. To properly evaluate the farm business the efficiency should be looked at over a 3- to 5-year period. As with most ratios it is best to look at the trends and not just one year.

Once the Operating Profit (EBITDA) is calculated, the next step is to determine how the profits were used. Keep in mind, there are only four uses of the profits; interest, living expenses, debt payments and growth. What percentage of the profits were used to service these four areas? A rule of thumb is that no more than 60% of the Operating Profits should be used to service interest and living expenses. This leaves 40% to service debt and grow the business.

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The example above has \$262,500 (\$750,000-\$487,500) of Operating Profit. Sixty percent of \$262,500 is \$157,500. This would be the maximum amount that the farm should spend for interest and living expense. If the farm is contributing \$80,000 toward living expenses, this leaves \$77,500 that could be spent for interest. This also leaves \$105,000 (\$262,500-\$157,500) or 40% of \$262,500 for debt payments and growth. If you start exceeding the 60% rule, you have less to service debt and growth. In low profit years, growth may have to be sacrificed in order to service debt. Keeping below 60% for interest and living expenses allows more for debt service and growth.

Once you know the efficiency of your business and the percentages spent for interest, living, debt payments, and growth, you can start to manage your business and make adjustments. If efficiency is low, you might need to dig deeper into your operation and evaluate enterprises separately to identify problems.

Also, you can work backward once you know your numbers. For example, if the farm is contributing \$70,000 toward living expenses and your efficiency factor is 25%, how much gross revenue does the operation need? If you want the living expenses to be no more than 30% of profits, then you need \$233,333 ($\$70,000/.30$) of

operating profit. If you are 25% efficient then you need \$933,333 ($\$233,333/.25$) of gross revenue. If generating this amount of gross revenue is not possible, then is there a way to increase the efficiency? At 34% efficiency you would only need \$686,273 ($\$233,333/.34$) of gross revenue. As you can see, the efficiency of the operation can have a tremendous effect on the funds available not only for living expenses, but also interest, debt payments, and growth.

A Decision Tool has been developed to assist with these calculations. The [Farm Financial Performance Analysis Decision Tool](http://www.extension.iastate.edu/agdm/wholefarm/xls/c3-59financialperformanceanalysis.xlsx), www.extension.iastate.edu/agdm/wholefarm/xls/c3-59financialperformanceanalysis.xlsx, allows you to enter information from a Schedule F for up to five years and calculate multiple financial ratios to determine the financial health of a farm operation.

If you feel your farm operation is not operating efficiently, the ISU Extension and Outreach Farm Financial Associates are available for one-on-one financial counseling. See the [Farm Financial Planning Program website](http://www.extension.iastate.edu/farmanalysis/), www.extension.iastate.edu/farmanalysis/, for more information on the Farm Financial Planning Program or connect with your [Farm Management Specialist](http://www.extension.iastate.edu/ag/farm-management), www.extension.iastate.edu/ag/farm-management.

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