

Is it Feasible for my Farm to Add an Operator or Hired Employee?

By Michael Langemeier

As a farm expands, it is important to evaluate the feasibility of adding an operator and/or hired employees as well as the feasibility of purchasing or renting additional land, and machinery and equipment. The feasibility of augmenting labor on a farm depends on two critical factors: gross revenue and profitability.

Let's start by discussing gross revenue. Most accrual income statements include a line for gross revenue. To compute gross revenue we add crop and livestock sales to government payments, crop insurance indemnity payments, and miscellaneous income (e.g., patronage dividends; income from custom work) and subtract beginning crop and market livestock inventories from ending crop and market livestock inventories.

Profitability can be measured using the net farm income ratio, the operating profit ratio, return on assets, or return on equity. For definitions of these ratios see the publication entitled "Benchmarking Profitability and Financial Efficiency" which can be found on the web site for the Center for Commercial Agriculture ([here](#)). I recommend using the operating profit margin to gauge profitability. This measure is computed by adding interest expense and subtracting family living expenditures from net farm income and dividing the result by gross revenue or value of farm production. A commonly used benchmark for the operating profit margin ratio is 20 percent or higher. Using the FINBIN database (Center for Farm Financial Management, 2020), the average operating profit margin from 2007 to 2019 was 14.9 percent. Based on profitability, the 2007 to 2019 period can be broken into two distinct periods: 2007 to 2013 and 2014 to 2019. From 2007 to 2013, the average profit margin was 21.3 percent. In contrast, from 2014 to 2019, the average profit margin was only 7.3 percent. Notice that the 20 percent profit margin target is above the long-run average. Moreover, it is important to examine the feasibility of adding another operator or employee using long-run profitability rather than short-run profitability.

Using gross revenue and the operating profit margin, along with information on family living expenditures and machinery and equipment needs, we can come up with a benchmark feasibility measure. Most of our machinery and equipment needs are covered using depreciation, which is a non-cash item. We are including machinery and equipment needs in our computation of the benchmark to reflect the fact that our farm is growing. If a farm was not growing, we could rely on depreciation to replace machinery and equipment. Continuing our computation of the benchmark, if we need \$100,000 to pay an additional operator or employee, and to help purchase machinery and equipment needed to expand and we had a long-run average operating profit margin of 20 percent, our farm would need at least \$500,000 to cover this additional person. Another way of stating this benchmark, is to say that our farm needs at least \$500,000 of gross revenue per worker to fully cover labor expenses. So, if our farm currently has two operators, and an average gross revenue of \$1,350,000 over the last several years, adding another operator or full-time employee does not appear to be feasible because after adding the individual to our operation average gross revenue per worker declines to

\$450,000, which is below the benchmark. Note that without the addition of another individual gross revenue per worker is \$675,000.

A couple of caveats to the analysis above should be noted. First, it is important to include seasonal or part-time workers in our gross revenue per worker computations. If the farm above has two part-time employees that work one-quarter of the year (i.e., during planting and harvesting seasons), these two employees should be included in the computation. In this case, instead of just dividing by 2 operators before the addition of another person, we need to divide by 2.5 workers (2 operators plus 0.5 full-time equivalent workers). With 2.5 workers and an average gross revenue of \$1,350,000; the gross revenue per worker would be \$540,000 rather than \$675,000, before the addition of another full-time operator or hired employee, and \$385,714 after the addition of another full-time operator or hired employee. Second, if long-term profitability is not 20 percent, the gross revenue benchmark needs to be adjusted accordingly. For example, if the long-term profit margin is 10 percent, instead of 20 percent, our benchmark becomes \$1,000,000 per worker (\$100,000 divided by 10 percent).

REFERENCES

Center for Farm Financial Management, University of Minnesota, [FINBIN web site](#), accessed August 17, 2020.

Langemeier, M. "[Benchmarking Profitability and Financial Efficiency](#)." Center for Commercial Agriculture, Purdue University, April 2017.