Evaluating Farm Financial Performance - Case Farm No-Till Drill Purchase

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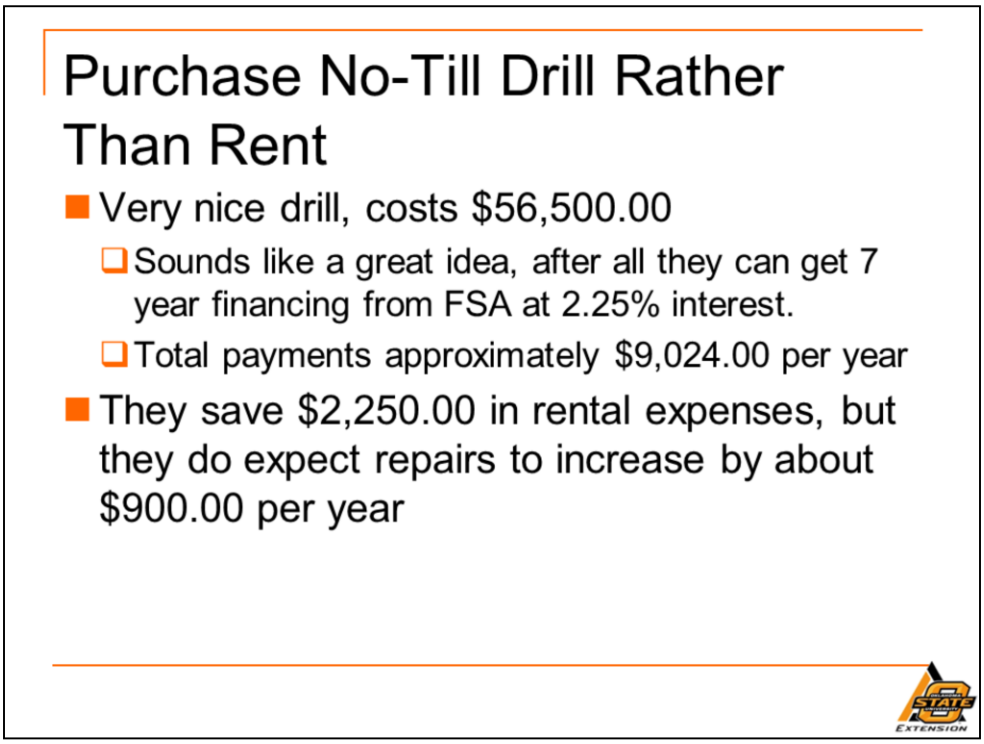
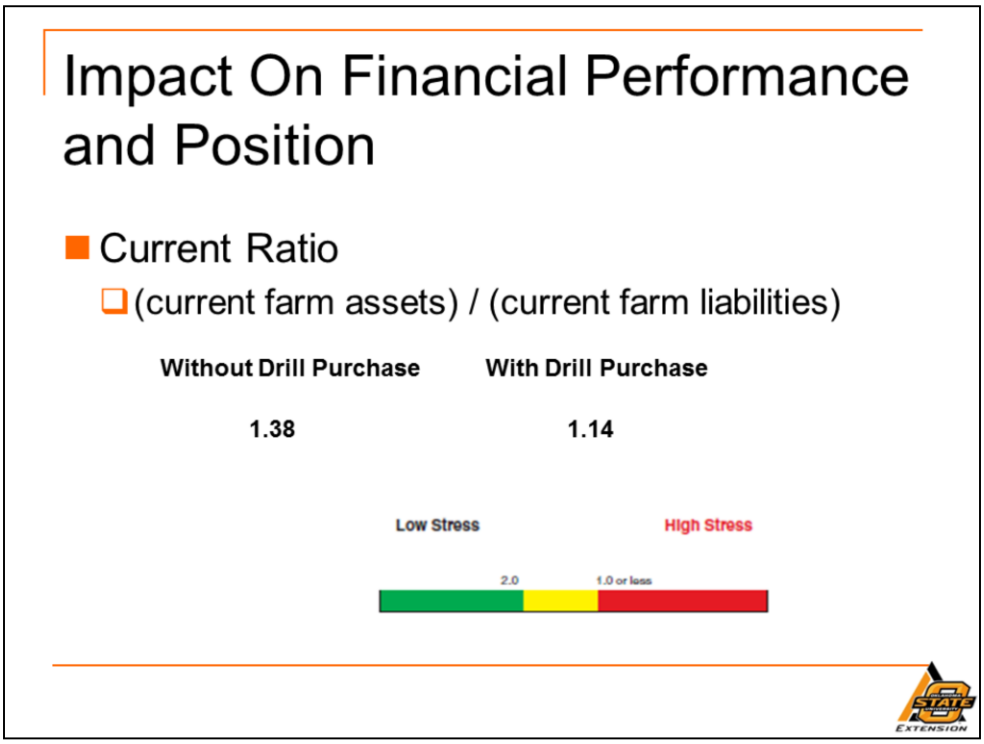
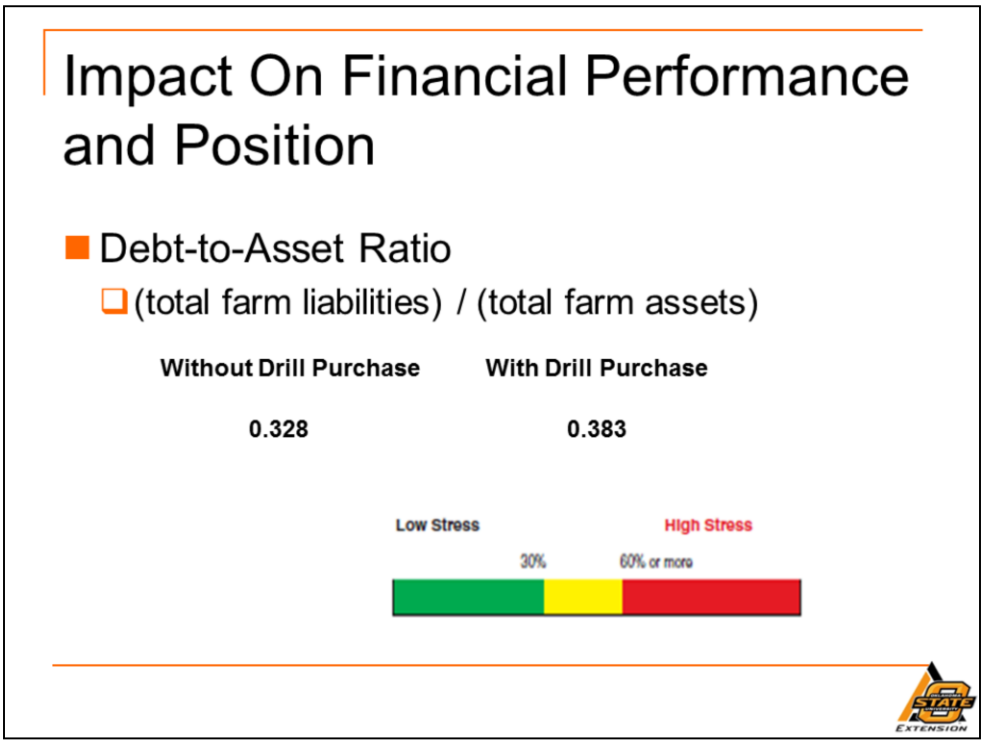
Welcome to the third video in the evaluating farm financial performance section of our farm management educational series. I'm Rodney Jones, and in this segment I want to walk you through an evaluation of an equipment purchase for the example case farm from the standpoint of the 5 categories of farm financial position and performance that we have been talking about. Recall that the case farm represents a modest scale combination crop and livestock farm that currently owns relatively little farm equipment, since they no-till their crop land and hire the spraying and harvesting done on their 450 crop acres.



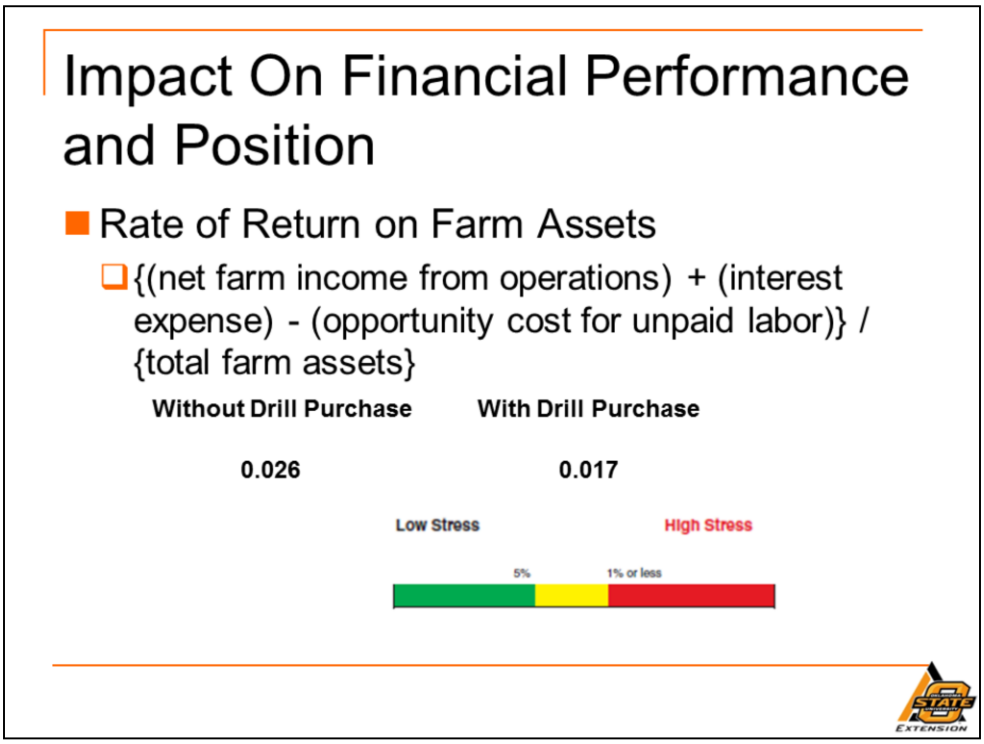
Assume for a moment that, like many farmers, they would really like to have a little more equipment so they do not have to rent, lease, and custom hire for so many operations. Recall that they do have a modest sized tractor and they have been renting a no-till drill for their planting operations. They really like the looks of a nice no-till drill they have been eyeing, and reason that it might be a good purchase since they know they can get low interest financing from FSA, and they would save the $2250 per year that they are currently spending to rent a drill. They do realize that if they owned the drill they would be responsible for all of the repair and maintenance issues, which they project would cost about $900 per year. They calculated the payments on the drill they are considering, and over a 7 year loan the principle and interest payments would be about $9024 per year. Lets look at the projected impact on financial position and performance measures if they were to purchase the drill. In order to calculate the comparison measures, we created financial statement projections representing what would happen in a typical year following the drill purchase based on recent year's production performance



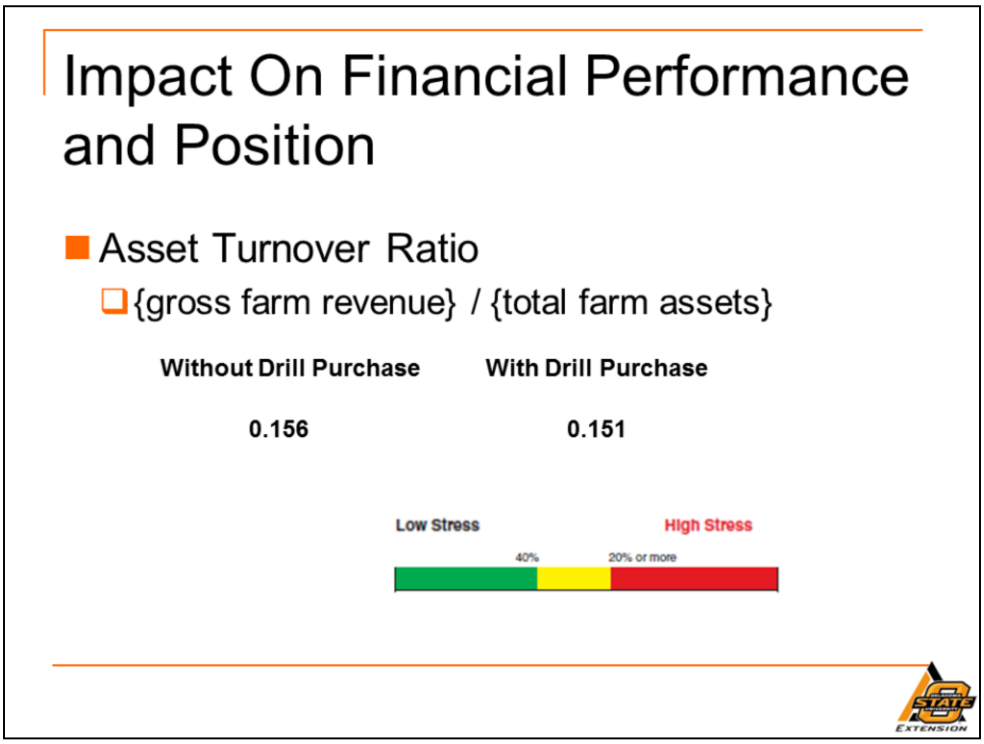
First, let's look at the impact on liquidity (the projected impact on the current ratio). Recall that without the drill purchase, the current ratio was at about 1.38. If they were to follow through with this particular capital purchase the current ratio is projected to decline to about 1.14 after the purchase. This is of course the result of the principle and interest payment that would need to be made in the next year. The projected 1.14 number appears dangerously close to creating a high stress liquidity situation for this farm.



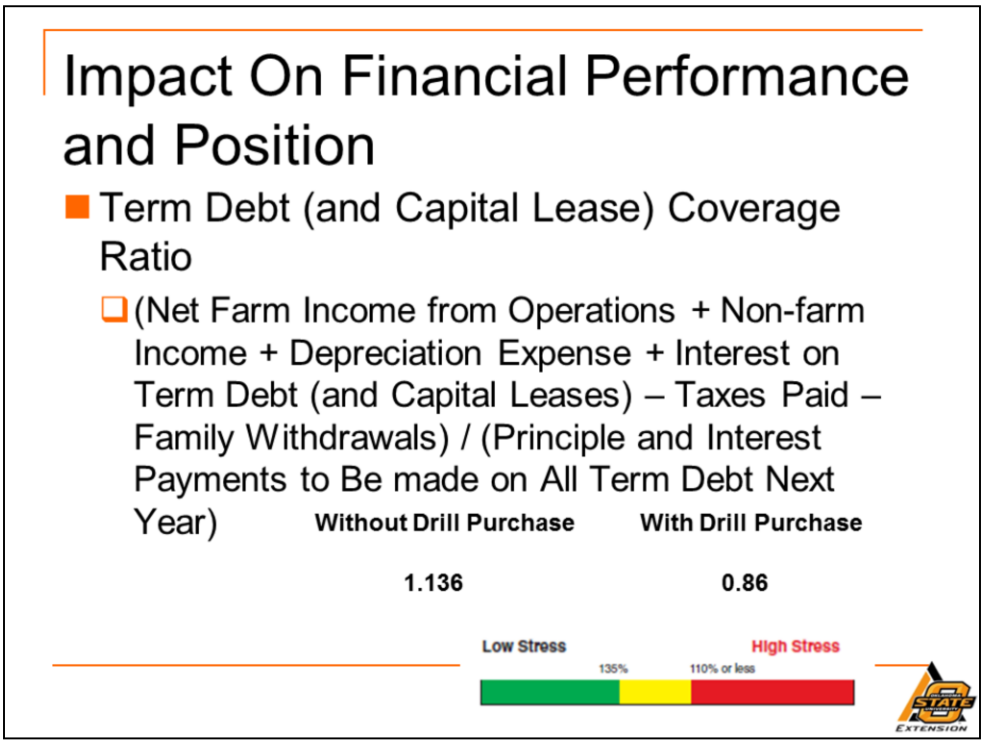
Now lets look at the projected impact on overall solvency, by examining the projected impact on the debt to asset ratio. Because the drill purchase would be financed with debt, the solvency position would be projected to deteriorate from about .33 to about .38. This would not be an extreme change in the solvency position, but certainly would be a move in the direction of creating a more financially vulnerable position.



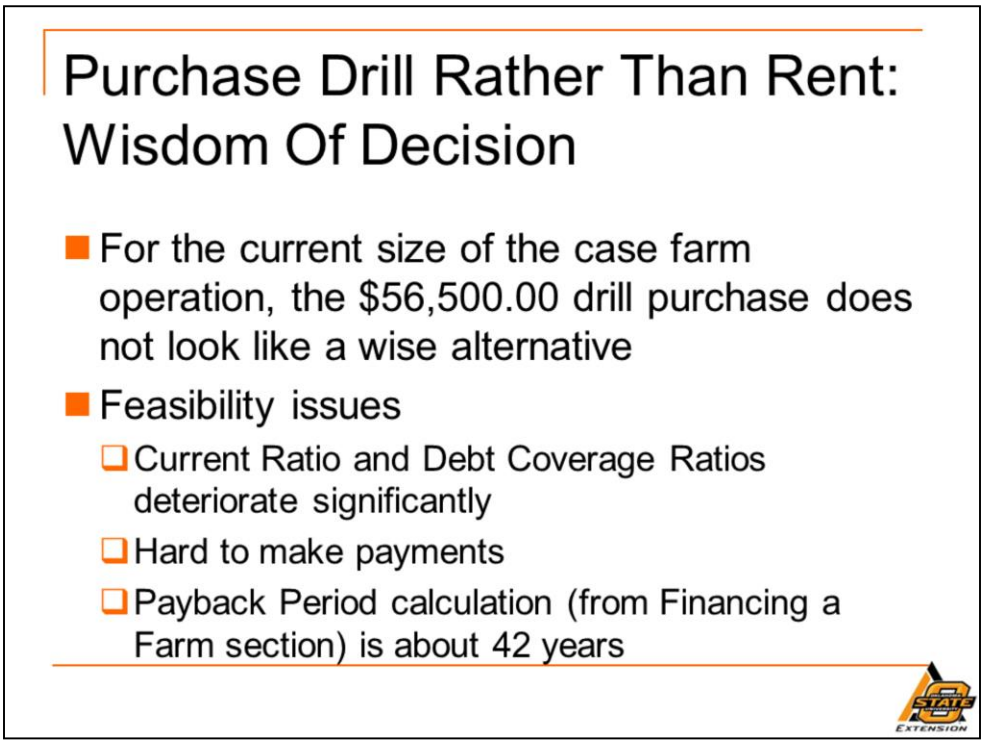
From a "profitability" perspective the ROA would be expected to decline from an already cautious number of 2.6% down to about 1.7%.



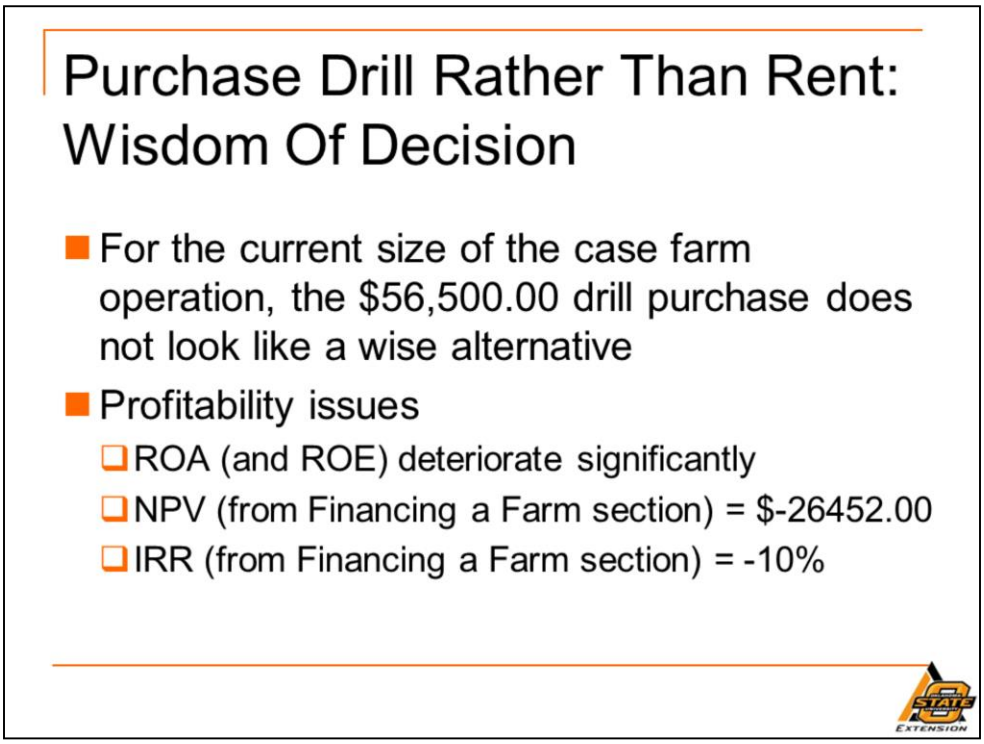
Looking at a common financial efficiency measure, since the drill purchase in not “a huge percentage” of the overall asset base of the farm, the impact on the asset turnover ratio is not very large, however, the ATR is projected to deteriorate slightly if this particular capital investment is made.



The most serious problem with the proposed drill purchase shows up in the term debt coverage ratio, which is of course a measure of debt repayment capacity. The farm only had about a 13 percent cushion regarding their ability to make principle and interest payments on existing term debt to begin with. The drill purchase would add enough anticipated term debt payments to that burden that the term debt coverage ratio would be projected to fall to .86, indicating that the farm would fall short of having enough cash available to make all of it term debt payment obligations.

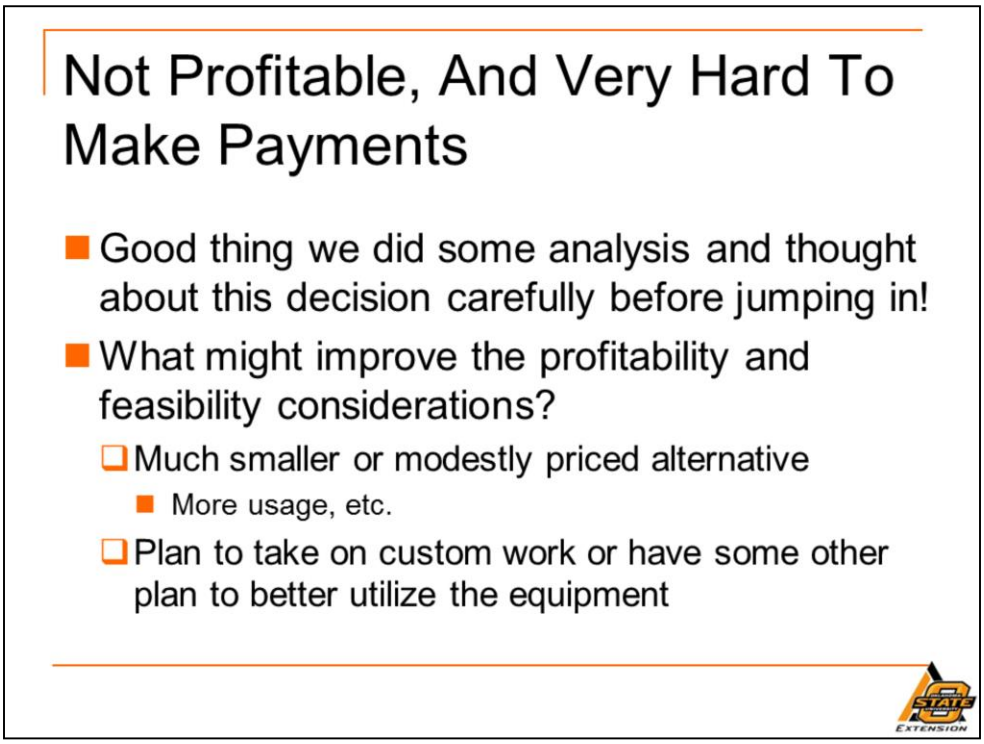


Overall, the wisdom of this particular capital purchase decision appears to be very much in question. From a "feasibility" perspective, both the current ratio and and term debt coverage ratio would be projected to significantly worsen. It is clear from this analysis that it would be very difficult for this farm to make the payments on this proposed purchase. Another "feasibility" indicator that will be discussed in the financing a farm section of this educational series is called the "payback period" calculation, which basically provides an indication of how long it would take for the investment to pay for itself. We will save the details of that calculation for the later session, but in short the payback period for the drill purchase decision in this case is about 42 years -- far longer than the drill would be expected to last, and much longer than the terms of any loan that could be obtained to purchase the drill.



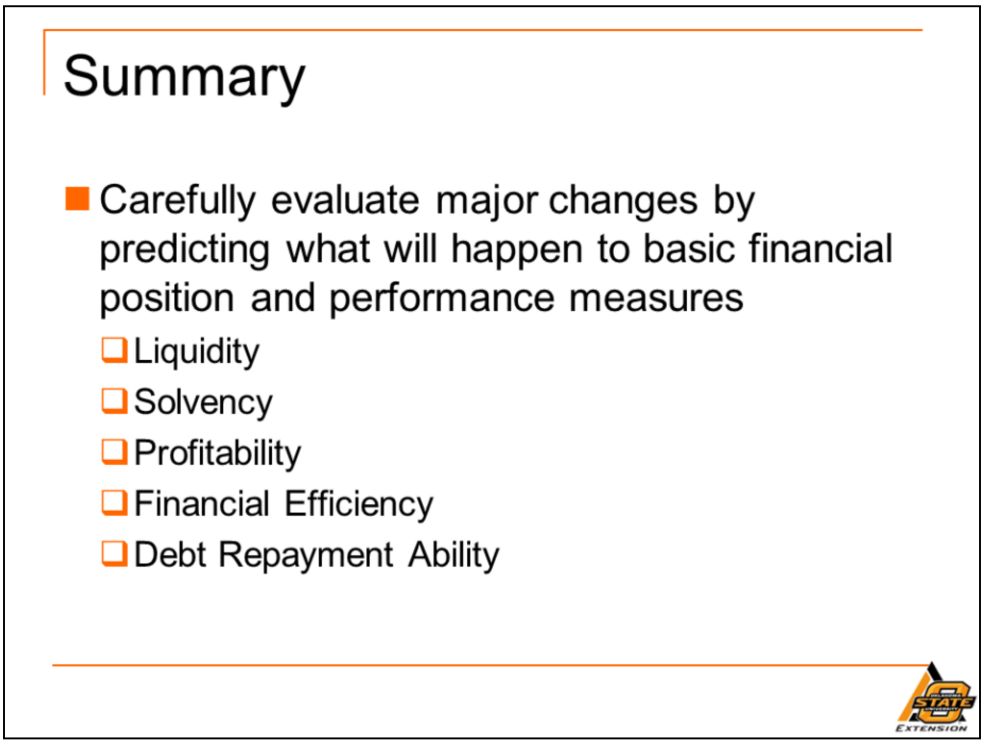
From a profitability perspective the proposed drill purchase presents some challenges as well. As previously demonstrated, ROA would be projected to deteriorate significantly. While not shown here, we also calculated the Return on Equity. If this particular capital investment were made, ROE would be projected to turn negative, meaning that farm equity would be expected to drop over time.

More detail will again be provided in the "financing a farm" section, but briefly a couple of profitability measures that are designed to evaluate capital investments on their own merit do not appear very positive for the drill purchase. The Net Present Value (NPV) of the drill purchase is projected to be more than $26,000 to the negative side. This essentially means that purchasing the drill would be expected to reduce farm wealth by over $26,000. Similarly, the Internal rate of return (IRR) evaluation of the drill purchase turns out to be about -10%, meaning that the drill purchase by itself is projected to generate a significantly negative return on investment.



While this example was of course designed specifically to demonstrate some extremes, the exercise does show that it is always a good thing to do some analysis and give careful consideration to significant financial moves for a business. This example revealed some significant liquidity, debt payment, and profitability concerns associated with the proposed drill purchase, so the decision appears to be unwise from both a "feasibility" and a "profitability" perspective.

Analysis of this type always leads to questions regarding what could be done differently to make a more financially sound decision? Of course there are an unlimited number of possibilities (certainly continuing to rent a drill is one option if that remains an alternative). If the farmer is still convinced that they would like to own their own drill, then they might consider evaluating a much less expensive option, more used, smaller etc. They might also consider whether or not there would be any opportunity in their proximity to use this as an opportunity to diversify, to take on some custom planting work for example to better utilize the capacity of any equipment purchases.



In this example we provided an illustration of how to evaluate a proposed significant change (in this case a significant capital purchase) by projected what would happen to financial position and performance in each of the five categories discussed previously. Monitoring and projecting position and performance in the areas of liquidity, solvency, profitability, financial efficiency, and debt repayment ability will help the farm to run much more smoothly, and can sometimes provide a needed caution signal that prevents the farm from moving forward with big changes that could prove unwise. In the next video in this section, we will take a look at some things the farm can do when faced with a financially stressful situation.