# Financing A Farm: Financial Feasibility

Damona Doye
OSU Extension Economist
damona.doye@okstate.edu
405-744-9836

Financing a farm can be a challenge. It is one thing to dream of farming, quite another to make it a reality. It is important to be realistic in thinking about farm investments. In this segment, we'll highlight some important factors to consider, which include the notion that you don't have to buy farmland or even machinery or equipment to be a farmer. You may be thinking, seriously? She must be joking… but I'm not. Many producers start out renting assets so that they can build equity that can then be invested in asset purchases. It's important to explore the different methods of controlling assets and getting operations done and their associated costs in developing farm plans that are financially feasible.

## Alternative means of gaining use of assets

- Purchase
- Lease
  - Tax lease
  - Conditional sales contract (also referred to as capital lease or lease-purchase agreement)
- Custom hire

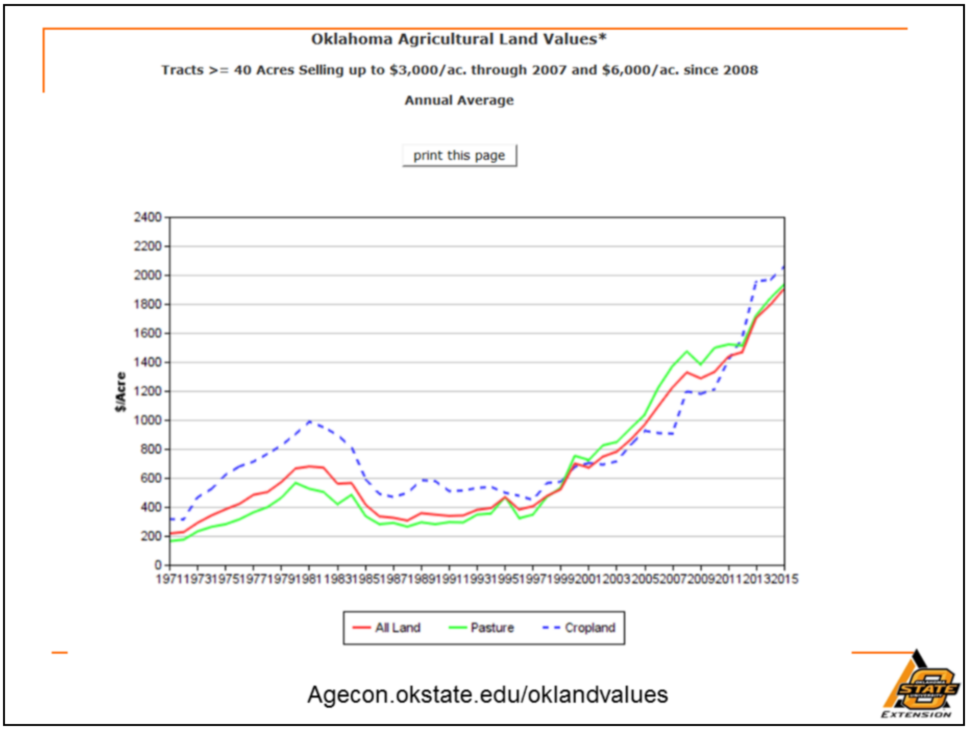
Some options for gaining access to assets and services include purchasing, leasing and custom hiring work done. Purchases for land may be made through auctions or private treaties. You may be able to rent land from retired farmers, off-farm heirs to farmland, or the School Land Commission. Machinery and equipment can be bought from dealers, other farmers, Craig's list and other sources. Leases might also be available. Some machinery and vehicle leases provide an option to buy and so are considered differently for tax purposes as conditional sales contracts or capital leases. Rather than purchase or lease machinery or equipment, you could also choose to hire a custom operator to do work for you. It might be a private individual or someone associated with a cooperative for instance. Livestock may be purchased or leased as well. While livestock leases are perhaps less common, they have the same benefits to the two parties as leases for other farm assets.

## Factors to consider

- Capital available
- Cash flow
- Ownership costs
- Operating costs
- Labor availability
- Reliability and timeliness
- Pride of ownership
- Equity growth potential
- Risk

The financial dimensions of different strategies for acquiring assets like land or breeding livestock include thinking about what money or capital you have available, the cash flow implications, the long term costs of ownership and the annual operating costs. If you don't have a lot of cash, you may not be able to afford an outright purchase but may have enough for a down payment. If you can't afford to subsidize the investment from off-farm income or savings, or can't subsidize it much, you need for cash flow to be positive or very close to it. The cash flow associated with an acquisition will be different if you finance it with borrowed funds as you will have principal and interest payments in addition to operating costs. Ownership costs include taxes, insurance and depreciation. But you should also consider the opportunity cost on those funds by estimating what they could have earned in an alternative investment.

If you have limited labor supplies, paying for custom work may be a viable option. There are of course tradeoffs if you aren't doing the work yourself or don't have ownership of the asset. Work may not get done exactly when you want it or in the way that you want it done. On the other hand, if you are a beginning farmer, having someone experienced doing the work initially could be beneficial. Some people place a high value on asset ownership and derive satisfaction from that. Some assets have the potential to appreciate in value. How risks are shared can also be an important factor in analyzing how to gain use of an asset. We'll talk through some specific examples that may be helpful in thinking about your plans…



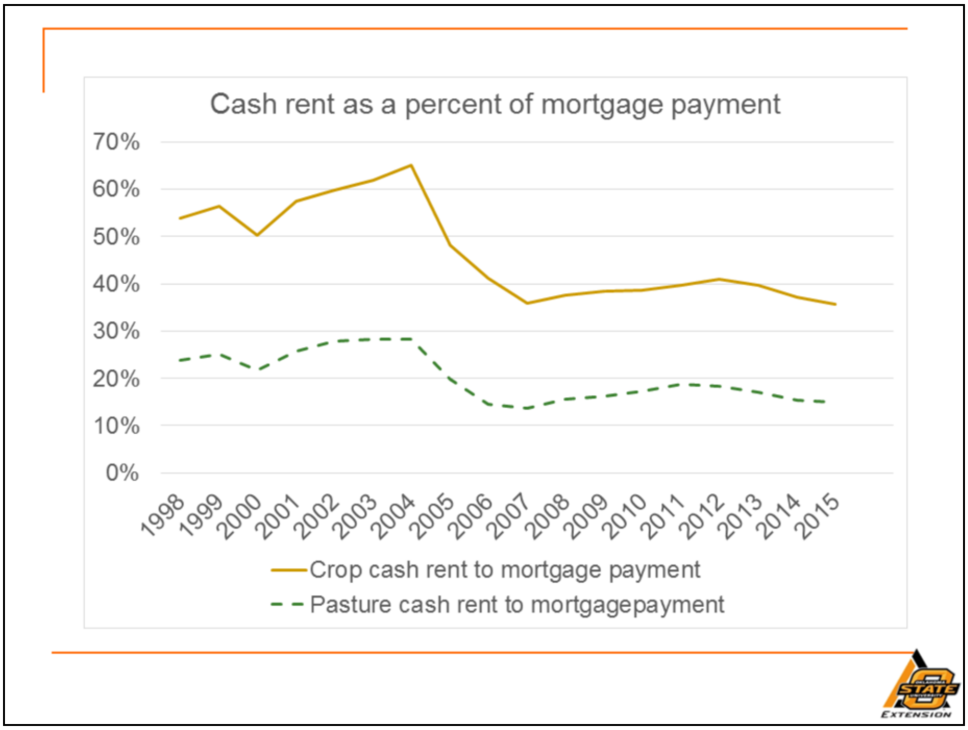

Some people think that land values always go up and therefore buying land is an essential first step and a sound business decision because of the potential for increase in net worth. As this chart shows, it is true that on average over long periods of time Oklahoma land values have gone up about 3 percent per year. However, if you bought land in the early 1980s at its peak price, it took almost 20 years for it to recoup that value. So, the lesson is don’t buy land counting on it to appreciate significantly in a short time period. And, you must be willing to sell it when it does appreciate to realize any gains (plus you’ll have to pay tax on the gain).

# Farm and Ranch Realities

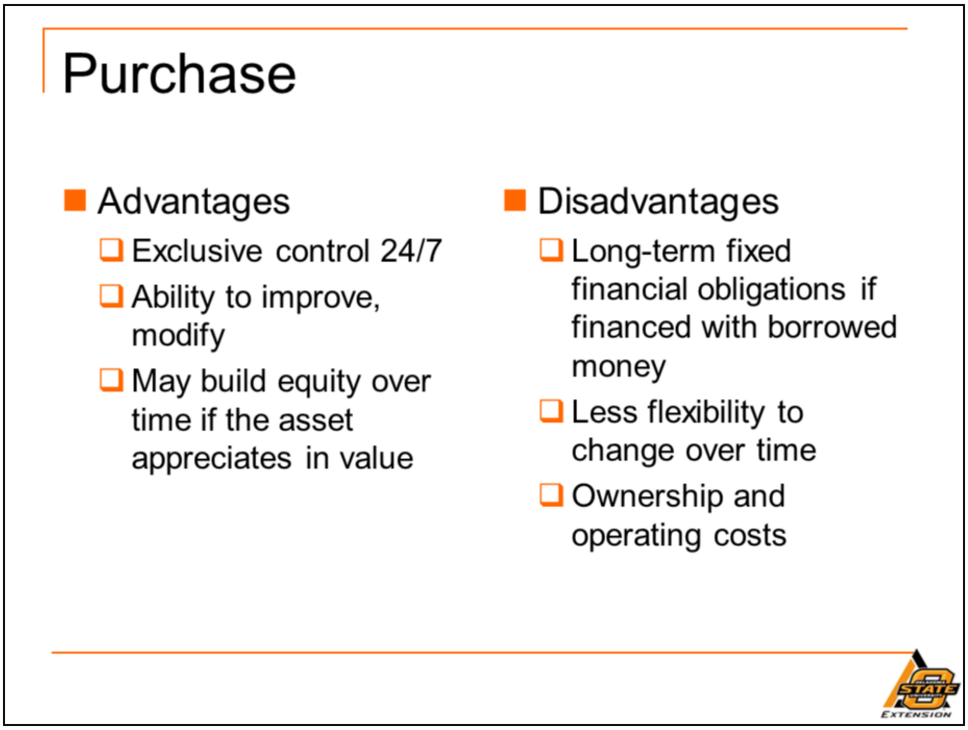
Annual per acre payments: 20 year loan, 20% down

| | | Interest Rate | | |
|---|---|---|---|---|
| Land Price | Loan | 5% | 6% | 7% |
| $1,000/a | $800/a | $64 | $70 | $76 |
| $1,500/a | $1,300/a | $96 | $105 | $113 |
| $2,000/a | $1,600/a | $128 | $140 | $151 |
| $2,500/a | $2,000/a | $161 | $174 | $189 |

In this slide, I used Quicken's financial calculator to estimate the annual principal and interest payments associated with land loans of various amounts per acre and under different interest rates. If you think about the land payment relative to potential income per acre from many agricultural enterprises, you see the potential cash flow problems. For instance, let's say that it takes 6 acres per cow to meet the forage requirements and the land cost $1,500 per acre. At a 7% interest rate, land payments alone are $113 x 6 = $678; some years, a cow won't wean a calf that brings that much. Hence, it is impossible for the cow to make land payments and also cover other expenses; at best, the cow may be able to contribute some to loan payments. It should be noted that pasture can typically be rented for $10-20 per acre depending on the type of forage and location in the state. So, there are other ways to control the land necessary to have a beef operation without owning land. Research shows that profitable cow/calf producers rent relatively more land.

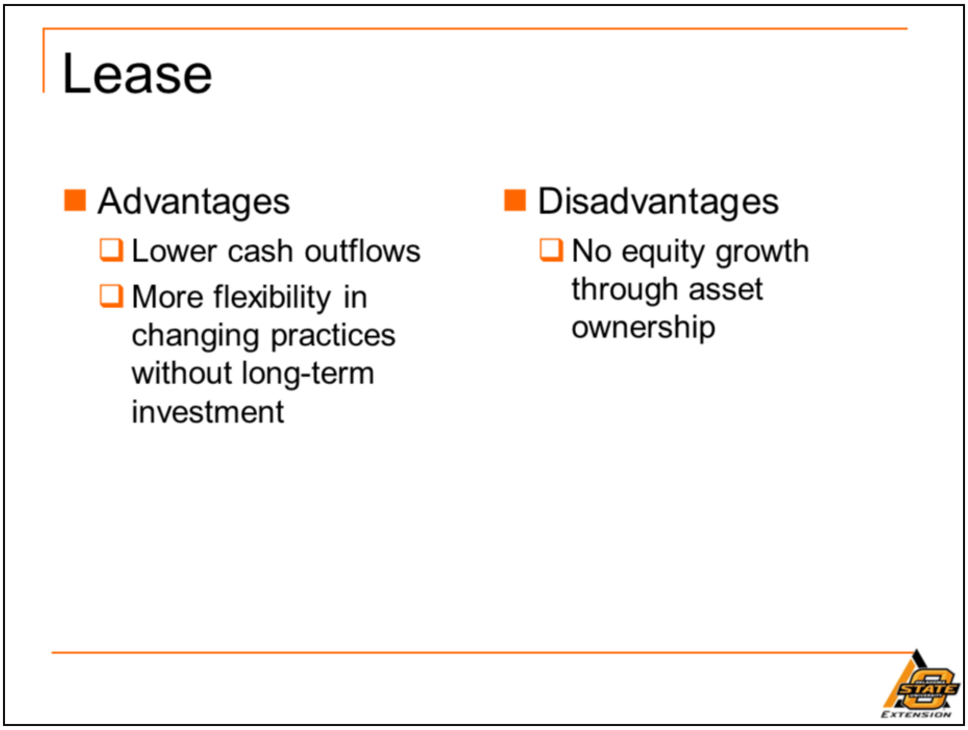



Here's another view of cash rents relative to mortgage payments over time. We calculated the annual payment on a 30 year note using the prevailing interest rate in Oklahoma at the time with a 20 percent down payment and compared it to the state average rental rate for that year. As you can see, crop cash rents were at most 65% of the loan payment since 9185 and in recent years has been less than 40%. The pasture ratio is even lower with pasture cash rents at most 30% of a loan payment and around 15% in recent years.




If you buy something, it's yours to do with as you please, within legal bounds of course. On land, you can add buildings, fences, introduce conservation measures, convert to organic and so on. Even if you aren't extremely profitable, you might gain some wealth if the asset appreciates in value. Asset appreciation is mostly expected, or at least hoped for, with land. It can happen at certain times with livestock, depending on market prices; infrequently with machinery and equipment. As the saying goes for cars, many assets decreases the minute it leaves the sales lot….

Disadvantages associated with purchases are that you are saddled for the life of the asset with ownership and operating costs. If you borrow money to finance the purchase, you may also have long-term commitments for principal and interest payments. You have less flexibility to change how you do things if you make a big investment that is hard to convert. For instance, producers who purchased new equipment before affordable no-till equipment was introduced may have found it impractical to make the switch for many years until the machinery is fully depreciated.




As we showed with the land example, cash rents are often much lower than the principal and interest payments associated with a land purchase. Renting assets gives you an opportunity to try things out, whether it is farming generally, or using a specific tractor or drill, before purchasing. The downside is that you only have cash outlays associated with the lease and no potential for asset appreciation and thus growth in equity.

## Custom hire

- Advantages
  - Quality operations with experienced operators
  - Lower labor requirements
  - Lower cash outflows relative to ownership
  - More flexibility in changing practices without long-term investment
- Disadvantages
  - No equity growth through asset ownership?

Custom hiring some or all operations can be a way to learn about farming from experienced operators or to gain the services of a certified pesticide applicator, for instance. It may alleviate labor shortages or allow you to choose not to become a specialist in everything. If you are a small producer, hiring custom operators for things like baling hay makes a lot of economic sense compared to buying a tractor, swather, rake and baler that is used infrequently on few acres. Again, you have more flexibility in adapting what you do and how you do it if you aren't heavily invested in a piece of machinery or equipment. The downside is that you don't have an asset on the books; but machinery and equipment typically depreciates rather than appreciates.

*Situation: Purchase and operate a combine for harvesting 500 acres of wheat per year.*

| | | | |
|---|---|---|---|
| ***Additional Costs*** | | ***Additional Returns*** | |
| Annual Fixed Costs | | Custom work | ??? |
| Depreciation | $ 11,500 | Combining other crops | ??? |
| Interest | 8,550 | | |
| Taxes | 490 | | |
| Insurance | 180 | | |
| Operating Costs | | | |
| Fuel: 500 acres x $3.27/acre | 1,635 | | |
| Repairs: 500 acres x $3.34/acre | 1,670 | | |
| Labor: 500 acres x $1.77/acre | 885 | | |
| ***Reduced Returns*** | | ***Reduced Costs*** | |
| Reduced seed loss | ??? | Custom combining: | |
| Timeliness factor | ??? | 500 acres x [$23/acre + (.23/bu. x 9 bu.)] | $ 12,535 |
| Total annual additional costs and reduced returns | $24,910 (A) | Total annual additional returns and reduced costs | $ 12,535 (B) |
| | | | - $24,910 (A) |
| | | **Net change in income (B - A)** | **- $ 12,375** |

A partial budget is a tool that can help you think through the differences between two alternatives. With a partial budget, you lay out the situation then spell out the added costs, reduced returns, added returns and reduced costs associated with the alternative. In this case, the existing practice of hiring a custom operator is weighed against the purchase of a used combine, because, darn it, we're tired of writing that big check to the custom operator… Without spelling out every assumption in our calculation (you can review OSU Fact Sheet 240 for the details), you can see that we've noted the additional fixed and operating costs that we'd have if we buy the combine. They include depreciation, interest, taxes, insurance, fuel, repairs and labor. No, you don't want to supply your labor for free… Would we have less seed loss or get work done more timely? Would we use it to do work for other producers? We would avoid writing the check to the custom operator. Summing up all those items, in this example, it shows that we're better off hiring the work done rather than buying the combine. But different prices and assumptions could yield a different result, so do your own analysis.

## Tax differences

- Purchase
  - Deduct interest expense associated with loan, if any
  - Depreciation
- Lease
  - Deduct lease expense
  - Be aware of rules related to conditional sales contracts
- Custom hire
  - Deduct custom hire expense

In addition to the items discussed already, I'd be remiss if I didn't mention that there are implications for income taxes as well with the different strategies. If you finance the asset, interest expense is deductive. If you buy a depreciable asset, you have tax depreciation choices that impact taxable income for one or more years. Lease expenses are deductible as are custom hire expenses. You'll also want to be aware of specific provisions that apply to conditional sales leases. A fact sheet reference is provided with others on the next slide. For more information related to tax differences, consult the Farmers Tax Guide or talk to an accountant or tax preparer knowledgeable about farm rules.

## References

**At osufacts.okstate.edu:**

- Oklahoma Farm and Ranch Custom Rates, CR-205
- Oklahoma Pasture Rental Rates, CR-216
- Oklahoma Cropland Rental Rates, CR-230
- Machinery Ownership versus Custom Harvest, AGEC-240
- Capital Leases, AGEC-935
- Tax Aspects of Leasing, AGEC-940

**Investment Analysis course segment**

We encourage to you to learn more about financing a farm but reviewing some of these OSU fact sheets and current reports. ….Other segments in this course also complement this presentation, particularly the segment on investment analysis. And don’t overlook the financial statement series, including the discussion on cash flow statements. Please contact your local Extension office or area agricultural economics specialist if you would like more information or are interested in having a program on this topic in your area.