

Need to consider multi-year effects of decisions

Agriculture Tax Issues Fact Sheet

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For 2004 there are very generous depreciation allowances on tax returns¹. This may make purchasing equipment look attractive, especially if you only consider the consequences of the current year. However, equipment is normally financed over multiple years and to make a good decision on whether to purchase equipment or not, a farmer should really consider the consequences of future years as well as the current year.

This article goes through a few examples to show how not considering the full consequences of the purchase can be misleading and may increase and operation's financial risk in future years.

Truck Example

For our first example, suppose on a snowy December day a farmer stands in his automobile dealer's showroom and imagines having a nice, new shiny 4-wheel drive, quad-cab ¾ ton truck of his very own. He wonders, if he buys a red one, will it count as decorating for the holidays? It sounds like a good idea. His accountant has told him he can write off the entire cost of the truck on his 2004 tax return using a section 179 depreciation deduction. Buying a \$30,000 truck, would save him over \$11,000 in 2004 income and self-employment taxes. The dealer has offered to accept \$0 down

and finance the purchase over 4 years using a 2.9% interest rate. Should he buy the truck?

The answer depends. If the farmer considers only the 2004 consequences, purchasing the truck is a good idea. Especially with many programs offering \$0 down and low interest rates. However, no matter how much the farmer initially saves on taxes he must still eventually pay for the truck. Because this will happen in future years, the farmer should consider the effects of purchasing the truck on this year and the next three to five years he will be paying for the truck.

Tables 1 and 2 give some detailed annual information for this example. Table 1 shows that by using the section 179 deduction (example 2), the farmer saves over \$11,000 during 2004 on his taxes. However, during the next four years the farmer must generate over \$12,000 in revenue each year to pay for the taxes on that revenue and still have enough to make the loan payments.

For example, in 2005 the farmer must generate \$12,324 in revenue to pay taxes and the loan payment if he used section 179 to deduct the full cost of the pickup in 2004. If the farmer had \$12,324 in revenue he would be able to deduct \$870 in interest and pay taxes on \$11,454 (12,324-870). At a tax rate of 37.3%, this means paying \$4,272 in taxes. The loan payment of \$8,052 plus the income and self employment taxes of \$4,272 equal the \$12,324 needed in revenue (Table 2).

Looking at the consequences over multiple years gives a different picture than just considering what happens in 2004.

¹ For information on 2004 depreciation rules see Ward, R. "New Depreciation Rules for 2004." Utah State University Extension. Econ/tax-2005-01.

Table 1. Information on taxes, depreciation, and loan payments from the purchase of a \$30,000 truck in 2004.

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | Total |
|---|--------|--------|--------|--------|--------|-------|--------|
| Loan Payments ^a | | | | | | | |
| Interest | | 870 | 662 | 447 | 227 | | 2,206 |
| Principal | | 7,182 | 7,390 | 7,604 | 7,825 | | 30,000 |
| Example 1: Using MACRS Depreciation | | | | | | | |
| Depreciation ^b | 4,500 | 7,650 | 5,355 | 4,998 | 4,998 | 2,499 | 30,000 |
| Tax savings ^c | 1,679 | 3,178 | 2,244 | 2,031 | 1,949 | 932 | 12,013 |
| Revenue needed ^d | | 7,773 | 9,262 | 9,602 | 9,733 | | 36,370 |
| Example 2: Depreciating the entire cost of truck during 2004 | | | | | | | |
| Depreciation ^e | 30,000 | | | | | | 30,000 |
| Tax savings ^c | 11,190 | 325 | 247 | 167 | 85 | | 12,013 |
| Revenue needed ^d | | 12,324 | 12,448 | 12,575 | 12,706 | | 50,053 |

^a. The total payment is \$8,052 each year based on 2.9% financing for 4 years with annual payments. Because interest is tax deductible the principal and interest portion of the payments are separated here.

^b. The truck is depreciated using MACRS (normal amounts the IRS allows for depreciation).

^c. Tax savings are based on a marginal tax rate of 37.3% multiplied by the depreciation and interest that can be deducted for the year. 37.3% is based on 15.3% for self-employment taxes, 15% for federal income taxes, and 7% for state income taxes.

^d. This is the amount of revenue that must be earned each year in order to pay that year's loan payments and taxes.

^e. The entire cost of the truck is written off on the 2004 tax return using a section 179 deduction.

Table 2. Annual cash flow information corresponding to example 2 in table 1.

| | 2004 | 2005 | 2006 | 2007 | 2008 |
|---------------------------|----------|--------|--------|--------|--------|
| Revenue | | 12,324 | 12,448 | 12,575 | 12,706 |
| Cash Outflow | | | | | |
| Loan payment | - | 8,052 | 8,052 | 8,052 | 8,052 |
| Income taxes ^a | (11,190) | 4,272 | 4,396 | 4,524 | 4,655 |
| Total cash outflow | (11,190) | 12,324 | 12,448 | 12,575 | 12,706 |
| Net cash flow | 11,190 | - | - | - | - |

^a. Income taxes are based on a 37.3% marginal tax rate. Taxable income includes the revenue less deductions for depreciation (annual amounts can be found in table 1) and interest. The amount for 2004 is negative indicating that \$11,190 are saved on the tax obligations.

Examples in Tables 1 and 2 show significantly different levels of revenue that will need to be generated in future years to make the loan payments depending on how the vehicle is depreciated. In example 1 the depreciation deductions are closer to the principal payments. Because there are more deductions (lowering the taxes), less taxes needs to be paid on the revenue. This mean less pretax revenue is needed to have enough to pay for the principal. From the banker's standpoint, example 1 is less risky financially.

Example Purchasing \$250,000 of Equipment

In our next example, we consider a farmer purchasing \$250,000 worth of farm equipment during the later half of 2004. Information on various depreciation methods and financing is given in Table 3. The only difference in Examples 3 and 4 is whether all the additional depreciation is taken. Initially in 2004, the tax savings from the additional depreciation will cover the down payment, where without the additional depreciation the farmer would need over \$60,000 in revenue to generate enough after tax profits to make the \$50,000 down payment. During years 2004 through 2009, over \$87,000 more revenue will need to be generated to cover the loan payments (because of less tax savings from depreciation). Additional risk from the higher depreciation levels really is seen in 2005 where \$20,000 extra revenue is needed for example 4 than example 3. During later years the difference in needed revenue drops to less than \$13,000. While these differences are not as dramatic, it may still be difficult for the farmer to generate an extra \$20,000 in revenue.

When the farmer does not pay anything down and takes all the depreciation possible,

the results are dramatically different. The farmer gets over \$68,000 in tax savings during 2004 and does not pay anything on the equipment. By not paying \$50,000 during 2004 for a down payment, the farmer ends up needed an additional \$14-15,000 each year in revenue to service the debt payments. The additional revenue needs of example 5 versus example 3 are over \$27,000 each year.

The additional revenue requirements get larger when there are bigger differences in the timing of depreciation and paying off the equipment. While example 5 is the most attractive up front (no payment and over \$68,000 savings in taxes), it also leads to a larger strain on financial resources during later years.

Tax management vs. financial management

The decisions on tax management and financing need to be considered simultaneously. Often a farmer goes to his accountant to manage his taxes and his banker to get financing. The decisions the farmer makes with each often are made independently without considering how one affects the other. Over time, a farmer's decision to use additional depreciation and other methods of minimizing taxes may increase financial risk in future years.

This doesn't mean that using additional depreciation deductions during the first year are bad. It only means that to make optimal tax and financial decisions, the farmer should consider the effects on future years both in terms of tax liability and financial risk. Some other things to consider in making tax management decisions are discussed below.

Marginal tax rate. A marginal tax rate is the percent of taxes you pay on an additional \$1 of taxable income. This is different from an average tax rate that takes the income tax paid and divides it by taxable income. The average tax rate is normally smaller than the marginal tax rate because you do not have to pay income taxes on every dollar earned. A

farmer is considered self-employed and so must pay 15.3% self-employment taxes on every dollar earned on schedule f. The farmer then figures his income tax. The lowest income tax bracket is 15% for federal. Many states charge flat rates of 7-8% of the taxable income on the farmers

Table 3. Information on taxes, depreciation, and loan payments from the purchase of \$250,000 of equipment in 2004 using different depreciation methods.

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | Total |
|--|---------|--------|--------|--------|--------|--------|--------|--------|---------|
| Loan payments ^a | | | | | | | | | |
| Interest | - | 9,000 | 7,660 | 6,260 | 4,797 | 3,268 | 1,670 | - | 32,654 |
| Principal & down pmt. | 50,000 | 29,776 | 31,116 | 32,516 | 33,979 | 35,508 | 37,106 | - | 250,000 |
| Example 3: Using Regular Depreciation | | | | | | | | | |
| Depreciation ^b | 26,775 | 47,825 | 37,575 | 30,625 | 30,625 | 30,625 | 30,625 | 15,325 | 250,000 |
| Tax savings ^c | 9,987 | 21,196 | 16,873 | 13,758 | 13,212 | 12,642 | 12,046 | 5,716 | 105,430 |
| Revenue needed ^d | 63,816 | 28,038 | 34,933 | 39,900 | 40,771 | 41,681 | 42,631 | - | 291,771 |
| Example 4: Using all depreciation deductions possible | | | | | | | | | |
| Depreciation ^e | 183,925 | 14,156 | 11,122 | 9,065 | 9,065 | 9,065 | 9,065 | 4,536 | 250,000 |
| Tax savings ^c | 68,604 | 8,637 | 7,006 | 5,716 | 5,170 | 4,600 | 4,004 | 1,692 | 105,430 |
| Revenue needed ^d | - | 48,068 | 50,670 | 52,726 | 53,597 | 54,507 | 55,457 | - | 315,024 |
| Example 5: No down payment, using all depreciation deductions possible. | | | | | | | | | |
| Loan Payment ^f | - | 48,470 | 48,470 | 48,470 | 48,470 | 48,470 | 48,470 | - | 290,818 |
| Depreciation ^e | 183,925 | 14,156 | 11,122 | 9,065 | 9,065 | 9,065 | 9,065 | 4,536 | 250,000 |
| Tax savings ^c | 68,604 | 9,477 | 7,720 | 6,300 | 5,618 | 4,905 | 4,160 | 1,692 | 108,475 |
| Revenue needed ^d | - | 62,190 | 64,991 | 67,256 | 68,344 | 69,481 | 70,670 | - | 402,933 |

^a. The total loan payment is \$38,776 each year based on 4.5% financing for 6 years with annual payments and a 20% down payment. Because interest is tax deductible the principal and interest portion of the payments are separated here.

^b. The equipment is depreciated using regular depreciation rates based on a 7 year life.

^c. Tax savings are based on a marginal tax rate of 37.3% multiplied by the depreciation and interest that can be deducted for the year. 37.3% is based on 15.3% for self-employment taxes, 15% for federal income taxes, and 7% for state income taxes.

^d. This is the amount of revenue that must be earned each year in order to pay that year's loan payments and taxes.

^e. During the first year a section 179 deduction of \$100,000 is taken. A special depreciation allowance of 50% of the remaining cost is taken (\$75,000). The remaining cost of \$75,000 is depreciated using regular depreciation rates. This results in most of the depreciation being deducted during the first year.

^f. Loan payment based on financing \$250,000 at 4.5% interest for 6 years.

federal income tax return. This gives a marginal tax rate of 37.3% for a farmer. If the farmer's income is above a certain level the federal income tax rate increases. Use of additional depreciation deductions to keep a farmer out of higher income tax brackets may be useful. The examples given in this article did not consider changes in the farmer's marginal tax rate from differences in depreciation. Rather than taking all the allowable depreciation possible, the farmer may want to just take enough to keep them out of higher tax brackets.

Deferred taxes. Tax management including choosing depreciation method, only defers (delays) income tax payments. The taxes will still need to be paid at some point. Through aggressive tax management some farmers end up with tax returns with revenue from selling the previous year's crop and this year's expenses. During a bad year, a farmer may end up needing to sell part of this year's crop this year to pay bills. The farmer then ends up with a large tax liability for the current year that was caused not by what happened during the year, but through many previous years of deferring taxes. Deferred taxes may not catch up with a farmer until they retire. Then during the final year the farmer may have 2 years worth of revenue, but only 1 year worth of expenses, pushing the farmer into a higher tax bracket and creating huge tax payments. Deferring taxes can be useful, but at the same time comes with future financial risk. There is a need to recognize the financial risk a farmer faces from deferred taxes.

Conclusions

The decision to purchase equipment should be made looking at more than the down payment and initial tax advantage. The equipment comes with future financial obligations for loan payments. Making a

good decision about purchasing equipment needs to consider the future revenue that must be generated to service the loan payments and the increased financial risk the farmer faces.

Income tax management decisions have consequences for future years both through future tax obligations and financial risk. Income tax management should take into account more than the current year's tax bill. Future financial risks from current tax management decisions can be significant.