



Agriculture and Natural Resources
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NOTE to editor: This is one in a series of articles produced by University of Wisconsin-Extension agents and specialists to address farming through difficult times. More articles can be found on the Extension Responds website at:
www.uwex.edu/ces/ag/farmingindifficulttimes.html

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Managing through Difficult Times: Capital Assets

Madison, Wis. – Capital assets are those that are expected to last beyond one production cycle and, more importantly, their employment is the foundation of future farm income. Capital assets are the assets that are put to work to earn future income such as cows, tractors, or land.

“When profits are tight, there is often a temptation to look at the sale of capital assets as a means to cover negative cash flow,” notes Kevin Bernhardt, University of Wisconsin-Extension farm management specialist. “However, that is a decision that should be analyzed carefully.”

First, during a down economy is often when capital assets are worth less, thus a sale may not return what might be a better average value for that asset. Second, any sale of a capital asset is a sacrifice of that asset’s future income earning potential. As an example, selling a cow (other than a cull situation) during a down economy may 1) bring less than that animal’s average value and 2) gives up all future milk and calf income that would be generated by that cow.

Nevertheless, when profitability is tight and bills need to be paid the sale of inefficient, unused, or underused capital assets is a potential source of cash flow. Capital assets are a cost to the farm. It costs to keep and maintain the cow, tractor, and even land. If the revenue that can be generated from the use of the asset is less than the cost of keeping and maintaining the asset then its sale can improve current cash flow and may improve future potential earnings.

Capital assets fall into one of the following:

-- Unused Capital Assets: If there are capital assets no longer being used, then any cost of keeping them is a drain on cash flow. The timing of the sale then becomes a decision. Ideally

the sale would occur in an upturn in the economy when the asset's value may be nearer the higher end of the range. However, if cash flow is needed it may be a quick source of income. Renting or leasing out the asset may also be an option.

-- Underused Capital Assets: Some capital assets may be underused, e.g., a bigger tractor than needed or excess building capacity. The analysis question is whether downsizing can generate cash flow without overly disrupting future earning potential. Renting or leasing out the asset may be an option.

-- Inefficient Capital Assets: There is more than one way to harvest crops, feed cows, or handle farm waste. The analysis question is whether your current means of accomplishing these production activities can be done by an alternative more efficient means? It may be leasing versus ownership, custom hire, or custom work. In all cases it is an analysis of how to get the most income for the least capital investment. Well thought out decisions may lead to both short-term cash flow and improved earnings potential in the long-run.

-- Efficient Capital Assets: This group of assets is one whose use in the business provides a profitable return compared to the cost of the asset. Selling these assets, especially during a down economy, to meet cash flow needs must be very carefully evaluated.

One ratio that is a measure of the efficiency of capital assets is the Asset Turnover ratio (ATO). The ATO is calculated by dividing total gross revenue by the value of total assets. It is interpreted as the amount of gross revenue being generated for each dollar of assets. All else being equal, the higher the ratio the better.

There are three primary ways to increase the ATO ratio:

- Increase gross revenue with the same amount of assets
 - Better or more efficient production practices
 - Higher quality inputs
 - More favorable prices
 - Renting or leasing out underused or unused assets
- Decrease total assets while maintaining the same amount of gross revenue
 - Sales of unused, underused, or inefficient capital assets
- Or, a little of both

The attached table shows data from the Center for Dairy Profitability's AgFA database for 2007. The data was sorted for herds of size 50-125 cows. Three farm types are shown: 1) all observations of farms with herd sizes from 50-125 cows, 2) those herds of that size that did not use pastures or pipeline milking systems, 3) and those herds of that size that did use pasture management. In all cases, those farms with higher rates of return on assets had higher Asset Turnover (ATO) ratios. There is much more to profitability than a single ratio, but certainly the analysis of the ATO shows that efficient use of capital assets is part of the recipe for profitability.

The table also shows the depreciation expense ratio, which shows the amount of depreciation expense for every dollar of gross revenue. It is a measure of how much depreciable capital assets cost compared to the revenue they generate. If this ratio is high then it might be an indication that there is room for greater efficiency of capital assets.

To access more information and/or tools to help analyze your situation, link to the Extension Responds web page at: www.uwex.edu/ces/ag/farmingindifficulttimes.html

For assistance in making these tough decisions, contact your UW-Extension county agent, your Farm Business and Production Management Instructor in the Technical College or the DATCP Farm Center at 1-800-942-2474.

Table 1: Indicators of Capital Asset Use and Efficiency.

	Observations	ATO (1)	Depreciation Expense Ratio (2)
50-125 Cows, no pasture, milking system other than pipeline			
All Observations	21	.329	.090
ROROA less than 4.5%	6	.263	.111
ROROA greater than 10%	6	.447	.061
50-125 Cows, Pasture			
All Observations	178	.343	.085
ROROA less than 4.5%	61	.266	.100
ROROA greater than 10%	36	.505	.059
50-125 Cows, No restrictions			
All Observations	309	.336	.085
ROROA less than 0%	28	.295	.105
ROROA less than 3%	66	.273	.101
ROROA less than 4.5%	95	.274	.098
ROROA greater than 10%	63	.470	.063
ROROA greater than 12%	48	.505	.060
ROROA greater than 14%	26	.575	.058

- Source: Center for Dairy Profitability AgFA database. All measures are based on market value of assets.
- (1) ATO: For each dollar of assets how many dollars of gross revenue is generated.
- (2) Depreciation Expense Ratio: For each dollar of gross revenue generated how much is going back out as an expense on depreciable capital assets.
- Note: The evaluation of the ATO and the depreciation expense ratio should take into account the amount of leased assets versus owned. For example, a business that leases assets compared to owning them would be expected to have a higher ATO since the denominator (total assets) is less.

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File: risk management, farming in difficult times

Sidebar:

Using the AgFA database or other sources of benchmark information can be valuable in comparing your situation to your more profitable peers. A variety of information and analysis tools are available to assist in the analysis of capital decisions. The following is a partial list

from the UW-Extension Center for Dairy Profitability, Iowa State University Ag Decision Maker, and the University of Illinois farmdoc.

- Center for Dairy Profitability: <http://cdp.wisc.edu/Welcome.htm>
 - Lease versus Buy spreadsheet: Provides a person cost information needed to determine whether it is less or more costly to lease an asset (Bruce Jones).
<http://cdp.wisc.edu/wk1/leasevbuy.xls>
 - “Leasing as an Option for Acquiring Assets,” Bruce Jones, April 2000.
 - <http://cdp.wisc.edu/pdf/leasevbuy.pdf>
 - Own versus custom hire spreadsheet: To help determine your forage harvesting costs vs. custom operator charges (Gary Frank).
<http://cdp.wisc.edu/wk1/ownvscust.xls>
 - “Evaluating the Custom Harvesting Decision: Pros and Cons,” Gary Frank, Nov 1999.
 - <http://cdp.wisc.edu/pdf/ownvscustharv.PDF>
 - Culling Guide. Determine when to cull a non-pregnant cow by calculating her contribution to fixed cost per day. When her contribution to fixed cost becomes negative she should be culled. This calculation requires knowing her current production (pounds per day), butterfat test, protein test and SCC. Other pieces of information required are the base milk price and the feed, labor and miscellaneous costs per hundredweight. <http://cdp.wisc.edu/wk1/cull.xls>
 - Estimating the rental value of Dairy Barns and Other Farm Buildings. May 2005. Dr. Bruce Jones, UW-Extension.
<http://cdp.wisc.edu/wk1/BuildingRentalValueV2.xls>
- Iowa State University Ag Decision Maker: Whole Farm Decisions - Leasing:
<http://www.extension.iastate.edu/agdm/wdleasing.html>
- Iowa State University Ag Decision Maker: Crop Decisions - Machinery:
<http://www.extension.iastate.edu/agdm/cdmachinery.html>
- University of Illinois farmdoc-Management:
<http://www.farmdoc.uiuc.edu/manage/index.asp>
 - Machinery costs
 - Farm Leasing and rent forms
 - Other
- University of Illinois farmdoc-FAST tools:
<http://www.farmdoc.uiuc.edu/fasttools/index.asp>
 - Variety of spreadsheets and other software tools for farm management decision analysis

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