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Weekly Farm Economics: Balance Sheets on Grain Farms from 2005 to 2011

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The period of high grain farm incomes since 2006 has led to an overall strengthening of balance sheets on grain farms. Some concerns exist that much of this strengthening could erode quickly during a period of lower returns and declining farmland prices. While these concerns are legitimate, farmers have generally prepared themselves well to withstand lower returns. How much financial stress farms face likely will depend on the ability to curtail capital expenditures and family living withdrawals once a lower returns environment occurs.

Assets Values, Liability Values, and Debt-to-Asset Ratios from 2005 to 2011

Table 1 shows balance sheet information for a select group of grain farms enrolled in Illinois Farm Business Farm Management (FBFM). These grain farms receive a majority of their incomes from grain farm operations and have balance sheet and income statement information that are certified usable by FBFM field staff. In Table 1, per acre values of selected asset categories, total assets, and total liabilities are shown. All assets are valued at their fair market values. Also shown is the debt-to-asset ratio. This information is summarized through 2011. Data for 2012 has not been summarized yet. Inclusion of 2012

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likely will not change trends illustrated in Table 1.

Table 1. Assets and Debt on Grain Farms Enrolled in Illinois Farm Business Farm (FBFM) with Completed Balance Sheet and Income Statement Data.

	Select Assets					
Year	Crop and Feed Inventories	Machinery	Farmland	Total Asset	Total Debt	Debt-to Asset Ratio
	$ per tillable acre					
2005	168	245	488	1,267	365	0.29
2006	223	248	565	1,410	382	0.27
2007	328	271	607	1,619	402	0.25
2008	359	311	629	1,759	409	0.23
2009	339	355	678	1,851	442	0.24
2010	373	377	770	2,026	452	0.22
2011	450	433	944	2,385	500	0.21

As can be seen in Table 1, debt-to-asset ratios have decreased from 2005 to 2011. The debt-to-asset ratio in 2005 is .29. The debt-to-asset ratio then decreases to .21 in 2011. Over this time period, both debt and assets have increased. Decreases in debt-to-asset ratios mean that asset values have increased more than debt values.
As noted above, total debt has increased on these farms from $365 per tillable acre in 2005 up to $500 per tillable acre in 2011. Debt has increased across all categories. Operating loans, intermediate notes, and real estate mortgages have all increased over the time period.

Total assets also have increased from $1,267 per tillable acre in 2005 up to $2,385 per tillable acre in 2012. This represents an 88% increase in total assets from 2005 to 2011. In Table 1, values of three asset categories are given: crop and feed inventories, machinery, and farmland. These three categories account for roughly three-fourths of total assets. Notes on these specific assets are:

- Crop and feed inventories have increased from $168 per tillable acre in 2005 up to $450 per acre in 2011. This increase does not reflect an increased in inventory quantities. Rather it reflects an increase in market prices that are used to value grain inventories.
- Machinery asset values have increased from $245 per acre in 2005 up to $433 per acre in 2011. Since 2006, many farmers have made large machinery purchases, leading to the higher machinery values on the balance sheet.
- Farmland values have increased from $488 per tillable acre in 2005 up to $944 per acre in 2011. For the farms summarized in Table 1, the proportion of farmland owned versus rented has remained relatively stable over the 2005-2011 time period. Owned farmland represents 16.3 percent of total acres farmed. Thus, farmland value increases represent increases in the value placed on farmland.

Causes for Concern?

Overall, the asset and liability situation has strengthened over the 2005-2011 time period; however, some concerns still exist. Debt has increased, potentially causing cash flow problems in a lower income environment. However, there are several reasons why debt has increased. Operating and equipment costs have increased over the time period which could necessitate larger operating and machinery loans. Perhaps more important, interest rates have been low in recent years, which could provide an incentive to use debt capital rather than equity capital.
Some concern exists that much of the increase in total assets is related to farmland price increases. Forty percent of the increase in total assets from 2005 through 2011 is accounted for by an increase in farmland asset values. A decline in farmland prices would reduce asset values and increase debt-to-asset values. For example, a return to 2005 farmland asset values in 2011 would increases the debt-to-asset ratio from .21 to .26. The .26 debt-to-asset value is above the 2011 value, but would not represent

a return to the 2005 debt-to-asset ratio of .29.
Machinery values have increased during the entire time period. This may represent a source of financial strength during a lower income environment. Many farmers have built machinery inventories such that machinery purchases may not be needed. Therefore, machinery purchases may be able to be reduced when low incomes return.
Overall, average asset and liabilities shown in Table 1 suggest that the grain farm sector is relatively strong. On average, farmers have stronger financial positions today than in 2005 and could withstand lower incomes. Note, however, that these values are averages. There are farms with much higher debt-to-asset ratio values than those shown in Table 1. Those farms could face financial stress during a downturn.

Summary

Overall, the asset and debt situation presented by averages across farms present few warning signs. When grain farm returns inevitably become lower, the initial responses to low prices likely will set up the ability of farms to withstand financial adversity. A recent report by the Kansas City Federal Reserve Bank (here) suggests that farms have difficulties reducing cash flows during the first years of lower returns, leading to a worsening financial situation. This suggest the ability to curtail capital expenditures and family living withdrawals in the face of lower returns may be critical to avoiding financial stress when returns fall.